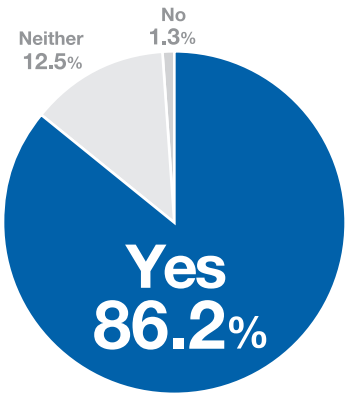
UNIVERSITY OF FUKUI

University of Fukui
Graduate School
of Engineering,
Master's Program

2019

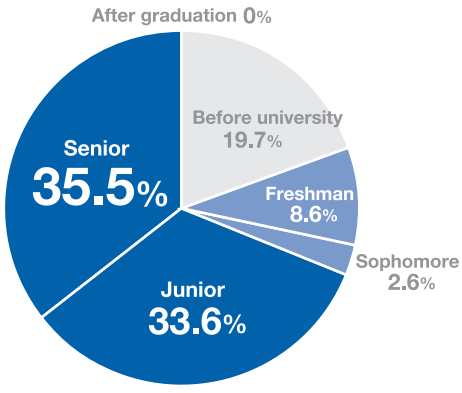
Meet your future self

Q Was your Graduate school good?



You change yourself

Q When did you decide to attend graduate school?

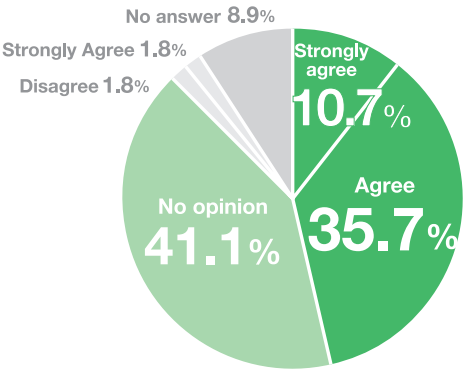








Q Graduate School should put emphasis on knowledge and building each student's capacity for adaptable potential?



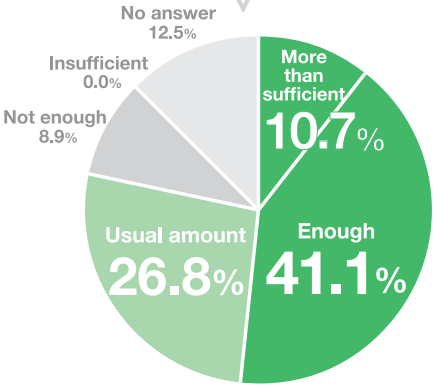

Do you grasp what to "change"? At the graduate school there are a lot of students who choose to change themselves. Actually, from my undergraduate time, I heard many "new things". To change yourself, it is not up to anyone at school; it is up to you.







Q Do graduates from the University of Fukui Graduate School have enough cutting edge knowledge and technical ability?







Education System

Our Education system turns your desire to learn into confidence to do.

Aiming at becoming a “GLOBAL IMAGINEER” turns dreams into reality.

The word “IMAGINEER” comes from combining the words ‘imagine’ and ‘engineer’. The idea of “IMAGINEER" expresses our approach to education and research where we creatively develop knowledge and then realize it pracitically. It is at the heart of our efforts to make a strong contribution to society. The faculty of engineering and the graduate school of engineering consists of a great variety of teaching staffs who are the professionals with skills and have a wide range of abilities across the engineering fields. Students and staff work in concert to improve and polish themselves. The program focuses on every students striving to improve personal and technical abilities and wishing to win success.

The master's program offers eight majors which are connected to eight different departments in the faculty of engineering. In addition to this,two master's program:Frontier Fiber Technology and Science, Nuclear Power and Energy Safety Engineering, are offered independent of the departments. There are also a number of unique partner relationships between the university and many different research facilities. These connections allow for collaboration on unique research programs outside the university. Students in the program benefit from unique educational and research experiences that support and build their confidence. The doctoral program offers a combination of diverse majors and the latest cutting edge research. The course, through a number of different research projects, aims to contribute to a sustainable society.

Graduate School of Engineering

Master's Program

- Mechanical Engineering
- Electrical and Electronics Engineering
- Information Science
- Architecture and Civil Engineering
- Materials Science Engineering
- Applied Chemistry and Biotechnology
- Applied Physics
- Human and Artificial Intelligent Systems
- Frontier Fiber Technology and Science
- Nuclear Power and Energy Safety Engineering

Doctoral Program

Advanced Interdisciplinary Science and Technology

- Applied Physics
- Molecular Engineering
- Applied Chemistry and Biotechnology
- Materials Processing
- Intelligent Information Systems
- Electrical and Electronics Engineering
- Energy Systems
- Architecture and Civil Engineering
- Frontier Fiber Technology and Science
- Nuclear Power and Energy Safety Engineering

We get top marks for our progressive educational system.

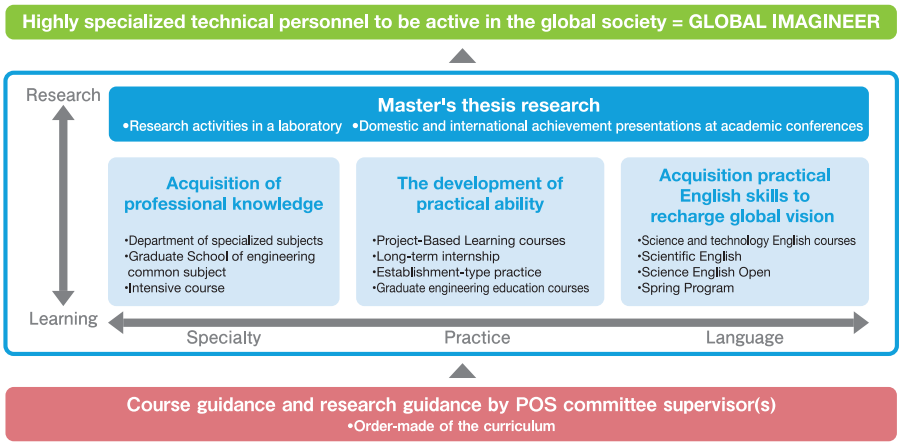
If your image of a master course is simply the completion of a thesis, then you are not seeing our program correctly. Students are granted master’s degree after the completion of advanced, well-polished and systematically organized curriculum.

The master course of engineering has two parts. The first part involves gaining an expert level of knowledge related to a specialty, and the second is the acquisition of an elite practical ability associated with that specialty. Knowledge and practical ability are both necessary to achieve success.

Students are required to acquire knowledge and at the same time to develop the ability to apply this knowledge to reality. Each major provides large number of courses for knowledge and practical abilities. So it is important to make a clear study plan during the master’s program for the well-balanced acquisition of both knowledge and practical skills. This study plan also should be constructed under the consideration of each research theme for master’s thesis.

For this purpose, our master’s program adopts a system called “made-to-order curriculum”. Teaching staff and the individual student design an individual program complete with a time table to meet the needs and goals of each students. This is a made-to-order curriculum based on the needs of the each student. A POS committee is composed by at least 3 teaching staffs for each students, and collaborates with the students to plan their curriculum.

The student and the committee discuss and formulate a study plan for two years. The development of an individual curriculum is an elaborate and time taking process and may be a first for the Japanese graduate school. But such a system ensures that students are being provided with the education that best meets their needs and goals. The Japan Society for the Promotion of Science agrees and it has awarded this system its highest evaluation possible. The master’s program at the University of Fukui uses this advanced educational system to support each student to become “IMAGINEER”.



Aiming for the best graduate education for each student

Here we nurture engineers to shape their dreams. There is a unique and reliable system that we have introduced called the “Imagineering Factory” in the Fukui Graduate School of Engineering.

A unique learning program

Not only the frame-work of education, “made-to-order curriculum”, but various courses with substantial contents are provided by our master's program. As one of such remarkable courses, we firstly introduce Project Based Learning or PBL. PBL is configured to create an individual course of study that can foster creativity, self-learning, problem discovery, problem solving and good communication skills. This serves to support the development of practical abilities that are put into practice in a number of areas including: field work and regional contributions, external institutions as human resources, exhibitions and competition. Our participating students come to the program with the expectation that they would face many problems, and in solving these problems. They would have to think for themselves. This is seen by most of them as a valuable experience that cannot be obtained in lectures. Our response to these voices is PBL. PBL courses have been compulsory in several majors since 2013 and this has led to the further enrichment of practical skills education.
In addition, the program offers a long term internship. This 2-month educational enterprise aims at fostering efforts to help students gain the practical ability needed in industry. The university provides instruction and learning opportunities both before and after a student is dispatched. In this way, students can participate with confidence and provide the institution with solid support. From students, we also heard about approaches and ideas about working. They discussed the importance and necessity to rest in life and how this has been a very importance influence of their course selection.
Our master's program provides a “Practical Human Resource Development Program” as a sub-major for training of practical skills. In this program, students develop a product or make a business plan in cooperation with the industry, academia, government and the other stakeholders, based on the seeds held by the university. The graduates of this sub-major are awarded “Technical Management Curriculum Completion Certificate”.
In addition, the “spring program” aims to nurture graduate students’ full global potential through the promotion of study abroad programs and international-orientated short-term study academic trips to designated schools in China during the spring period. As well, every year, the Graduate School of Engineering promotes a “Business Plan Contest.” This is a project designed to help students make a better connection between academic and industrial knowledge.
In this way,our master's program prepares a large number of methods that nurture practical skills for “Imaineer”. Of course our program also provides substantial courses to learn academic knowledge for each majors. It may be confusing to try to balance the combination of academic and practical skills, but do not worry. A made-to-order curriculum will be there to help.

Field work・regional contribution model

Space design between Rokken Street, Ono City


Acquisition and implementation of basic technology

Embedded system design using FPGA device as embedded processor

Outsourcing・engine application

Nuclear materials research training in nuclear facilities


Exhibition・athletic participation

RoboCup soccer・robot development challenge project

Extensive English education

English is essential in order to be active in a highly specialized technical global society. In the Graduate School of Engineering, we are also focused on English education. Each department has established science and English courses (compulsory in most majors) in which an expert of English education and native speakers provide quality language instruction. The program also has cooperative support for developing English papers and academic presentations in English.
In 2012, the Ministry of Education recommended Global Human Resources Development assistance, which at the time was only adopted by the National University of Tokai Hokuriku district. This assistance consisted of a variety of study abroad support and a short-term overseas dispatch program. We have Japan’s state-of-the-art Language Development Center, which has a number of e-learning systems and materials, and which provides an extensive self-directed learning environment in a well-equipped facility. To deepen English ability further and to improve communication skills, students can make the most use of the opportunity of studying and exchanging information with about 180 foreign students who have come from around the world to study at University of Fukui.

Flow of research life

Takuya Kitamura's case Electrical and Electronic engineering (in his first year at the time of interview)



First year

1 The study
Research is done mainly by using a computer. Based on the theme of the research, used various configuration to carry out simulations.

2 Equipment
Based on the results of the simulations, assembled the actual circuits, conducted experiments, and validated the results.

3 Participate in the Toyama Conference
In the summer, a conference was held in Toyama. As part of the conference, summarized the results obtained from the experiment and presented in Toyama.

4 Attend international conference in Switzerland
Sometimes conferences occur outside of Japan. Students may also go to international conferences held abroad. Went to Switzerland in the summer to attend a conference.

Shogo Kuroda's case Materials Science and Engineering (in his second year at time of interview)




First year

1 Entering the next grade
I will turn over a new leaf to do my research. To become a reliable senior is one of my aims because juniors become members of our laboratory.

2 Experiment
Honestly, it is fun. Although I failed sometimes, I can find my special delight in a success. As well, experiments are done in cooperation with members.

3 Data processing
I analyze an enormous amount of data. This is very tough, but I'll do my best because it is important.

4 Seminar
Unlike undergraduates, I can learn more specialized knowledge. I am having an uphill battle in English in the area of expertise.

Kazunari Hashiba's case Architecture and Civil Engineering (in his first year at the time of interview)




First year

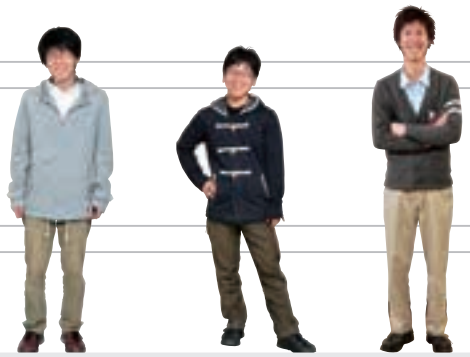
1 Creating a field notebook
Be aware of historic buildings, their elements and the materials used in order to make detailed sketches, all the time thinking about how to configure them and consider how the observation results are documented and presented in the field notebook.

2 Creating a survey map
With a CAD field notebook, used pictures to grasp structures and characteristics, such as various elements and materials, while drawing a survey map.

3 Creating a report
The deliverable: an overview of the investigated building including its history, format, technique, a report that incorporates it all in to a survey map that you create.

4 Seminars
Nationwide, 89 municipalities and 109 districts need to understand the respective features of the conservation districts of traditional buildings to deepen our knowledge.

Voice of seniors about their study in graduate school



5 Joined workshop Group in Oita

In the winter, joined workshop in Oita. From the workshop, it is possible to gain many different valuable opinions that later can become the food for a research study.

6 My laboratories appearance

A breather in between research, chatted with members of the laboratory and when free, sometimes went out together.

7 Meeting

Once a week, a collection of member of the laboratory met and reported on their research progress. This gave time to exchange of views as well as provided a chance to practice making a presentation in front of everyone in the laboratory.

8 Discussion

To advance the research study when I encountered trouble or got stalled, I was always able to get advice from my professor, and we were able to look for a solution together.

Second year

5 Conference

The biggest event in graduate school. I am very nervous about the presentation, but I can obtain a lot of ideas.

6 Drinking party

I can forget the tiredness of day-to-day research life. We enjoy chatting about a variety of stories.

7 Master's thesis, public hearing

I prepare to show the achievements of my study. I make elaborate preparations for the thesis and the presentation with no regrets.

8 Graduation

It goes fast, but it is a fulfilling 2 year. Saying farewell to the member is sad, but this is the stat of a new life.

Second year

5 Motorboat field floor design

Think about Mikuni Motorboat field floor design. The proposal considered will actually be used, so it is very rewarding.

6 Residential design competition challenge

Based on the design of a theme given by housing manufacturers, considered the plan for a house which takes advantage of the regional characteristics of Hokuriku.

7 Seminar trip

A building tour was designed based on historical monuments and famous architects, taking advantage of it with an eye to my own future designs.

8 Master's thesis

As a result of research in the Graduate School of Engineering, we have put together a master's thesis that focuses on the design of Eiheiji Temple.

01

Frontier Fiber Technology and Science
Master's Program 1st year
(in first year at the time of interview)

Masahiro Koumura

I take advantage of the characteristics of the material.

Heat is passed through, a material that does not conduct electricity.

Polypropylene and silicon carbide are involved in the research of plastic carbon fiber material. In recent years, with the miniaturization and higher performance of electronic products such as personal computers and smartphones, “heat radiation” has become a challenge. Until now, metal parts used heat sinks to release heat. Instead, if you can develop a heat resistant material that does not conduct electricity, it would improve productivity and reduce costs. The material we have under study uses a carbon fiber and polypropylene. Original carbon fiber has a high conductivity and is not used in products to conduct electricity. By combining this with an additive that does not conduct electricity, you can create a plastic that does not conduct electricity, but which releases heat. The novelty is part of the charm of this study. There are still many undetermined factors. We are exploring solutions to these by studying academic literature and in consultation with our instructor. In addition to heat, the strength of the material is also an issue. Such materials are used by hand in such products as smart phones and game consoles; thus, the intensity of use is also a problem. By examining the percentage of the material to be blended, we can influence the strength, but this also changes how heat is released.

You can convey exactly what you want to do

When I enrolled in college, I was torn between employment and enrollment in school. During a visit to a company, I was actually touched by the raw voice of graduates from the school as I heard their stories. That is when I decided to go. In the laboratory, whether researching or playing, the atmosphere is open for everyone to exchange opinions. Compared to the past, there are many more questions posed to the instructor and a deeper discussion takes place. This is a change because, being a graduate student teaching first year laboratory members, often means listening what they have to say. In another graduate student’s lab, every student studies a different theme. So, if you don’t study their theme voluntarily, it is not possible to help first year students and there is a need to come to grips with this issue.

My advice is, since research themes are decided immediately upon entry, if there is something you want to do, it is important to properly tell the teacher what it is. Graduate school and the research itself will be deeply difficult, but in your specialized research you will see the satisfaction. To enjoy research, you have to find the part you like. I think that is the charm of graduate school.

02

Information Science
Master's Program 1st year
(in first year at the time of interview)

Sakie Horiuchi

The learning I gained from my internship changed me.

Aiming for a comfortable communication environment

Currently, the information society is gradually developing; wireless LAN has come to be used everywhere, in the entire building, even in the same room as a regular connection. The problem is that if you use multiple wireless LANs at the same time, the frequencies may interfere with each other. As a result of this situation, radio waves do not get passed along well, and communication is choppy or slows down. This is what I am taking a close-up at because it is not really the comfortable network environment we are hoping for. To think of a solution to this case is the research I am doing now. More specifically, I hope to improve the communication environment for people who move the location of their terminal. This "proposal of user's cooperative moving" is, I believe, a clue to solving the problem. The study of the user's cooperative moving itself has a long history. So I have made a new attempt to optimize the performance of data transmission by considering the utilization situation of Wireless LAN, i. e., the capture effect. Part of this study involves participating in an internship at a company. At this stage, I am trying to evaluate the performance of a cooperative moving with computer simulation for the limited situations where three users utilize those specified Wireless LANs. The future goal is to extend my proposal to a more generalized situation. In this study, I need the knowledge of physical layers such as wireless communication that is outside of my specialty in order to make a simulation program. To obtain such knowledge, I need to ask questions of more people, and speaking of such things will be a struggle.

Chance for fun from a surprising place

Honestly, there were also times when was I am not able to have confidence which did not lend themselves to research. However, I was encouraged after receiving an award from the research committee. I think what leads to rewarding research, from among the projects that many people are involved in, is the joy that comes from contributing by fulfilling a role. I was considering going on to a master from about the time I started job hunting in my third year of undergraduate studies.

I thought that maybe I was too immature to enter society, and this feeling pushed me to enroll. I did not have a close relationship with the professor of the laboratory before enrolling, but after repeated discussions, our relationship has become much closer. Honestly, I did not know at all what research I would do when I started in the laboratory. But, by the experiences I had through the internship, it became possible to understand my attitude towards doing research. I became to firmly believe in myself and, at the same time, was able to act, and I was keenly aware I had just relied on other people until then.
Through research, graduate school can bring you face to face with yourself. I feel it was a very good opportunity.

03

Architecture and Civil Engineering
Master's Program 2nd years
(in first year at the time of interview)

Miyuki Kanbe

While being involved with various people, I think about the future of the community.

How can we use vacant houses commensurate with the community?

My research themes are related to promoting a project within the entire laboratory from three perspectives: Urban Planning, Urban Design, and Community-led Town Planning. We are conducting joint research with the prefecture and municipality administrations and holding meetings with residents to determine the direction of the vacant house study since it involves the future vision of the neighborhood. These discussions are not limited to the building sector. There has also been active involvement with the area's elementary schools, and simulated stalls, which has included tailored T-shirts and hand designed towels.

At the heart of the use of vacant houses project is the desire to incorporate the needs of local residents, and this is reflected in our promotion efforts. These activities take advantage of the position of students, to become involved with various people in order to consult with local residents and government. Also, the sense of accomplishment that comes from working on something together for a long period of time is the most attractive aspect of this study. In my laboratory, this project is the one that is most dear to first year students' hearts. I think, for myself, this project is really fun, but on the other hand, there is also a great deal of responsibility. When I reach second year, I hope to see the first year students take over this project and I want to think that we did a good job last year. The use of vacant houses is a national issue, and the problem is different for each region. It cannot be successfully resolved in the same way even when towns are very similar. Commensurate with the region, we need to go looking for optimal solutions. This is also advice for students who must continue to rapidly propose solutions to future challenges.

Encounter × Practice = Valuable time

When I was in my first year, the center of graduate school life, despite what year we were in, was to take part in a project in the manufacture of something. After deciding to enroll, we met the second year students on the project. The laboratory second year students have a wealth of knowledge and an active ability to take action. I thought: "I want to be like that." I wanted to ultimately know more technical things, and that is when I really decided to get involved. Every year, in summer for two to three weeks, there is a project related to community life which, once completed, creates a sense of unity within the entire laboratory. It becomes a harmonious place. For better or worse, a graduate student is in between being a working person and being a student; it is such an indecisive period. I think to capitalize on this period is to maximize this unique position. It is such a valuable chance to see other people; it's a chance to be able to know yourself again.

04

Mechanical Engineering,
Master's Program 1st year
(in first year at the time of interview)

Tomohiko Kon

The Life of lubricating oil can be diagnosed by the color.

When is it efficient to change lubricating oil?

My thesis is about the development of a lubricating oil deterioration diagnosis system. The degradation lubricating oil is said to be the leading cause of machine failure; it is very important to the operation of machines. It is used in the bearings of the gas turbines for high thermal power generation. The lubricating oil used in power generation deteriorates easily. Until now, the diagnosis of lubricating oil took a long time because it was sent to specialized laboratories. Furthermore, the lubricating oil has been exchanged experimentally so far. The purpose of this study is to determine the degree of deterioration at the work site more frequently and thus increase the life of lubricating oil. When the new oil is filtered, the filter paper is still white, but when degraded, the lubricating oil in the filter is black or brown. The difference in the degree of coloring of the new oil was quantified as a method of evaluating the oil. This study has been underway for more than 10 years. To date, diagnosis machines have been developed, but no standards and management methods for using the machines have been decided. The issue now is to establish an operational protocol for the actual equipment. The sample oil will actually undergo the same conditions and drops in quality as machines in the real world. This work is very time-consuming, and there were more than a few days when the tests ran through the night. Research is most difficult work but, that said, doing it is my choice. When I need a change of pace, I come to the laboratory and chat or summarize data. I decided to participate in an international conference, and although my work is not so good, I'll do my best to communicate the points of my research.

Positive critical thinking

When I was in my first year of university, I met a graduate student in my extracurricular activity who was very intelligent and attractive. I thought about what it would be like to study in the same laboratory, and this is when I decided to enroll in graduate school. A decisive factor was an interest in doing original research. I also heard that it was an advantage in finding employment. Since entering the laboratory, we were taught to "Look at everything with a contradictory eye." This also got incorporated in my everyday life. I felt, "Why?" It became attached to how I looked at even trivial things. Compared with my undergraduate days, this perspective has increased, and it is the part that seems to have been able to grow. Most of the benefit of entering graduate school is that you can grow and you can freely study.

Active graduate student × Master Degree teachers;

From people who have experienced a graduate school, to the people who have not yet done so

Many people recommend going to graduate school. However, the opportunity to specifically hear their opinions about “why” is rare. Therefore, we have gathered 4 people who have experienced the University of Fukui’ s Graduate School of Engineering program and 2 instructors from the program, and asked them, “what is the appeal?”

What are the good points about entering graduate school?

It is an experience that cannot be obtained through only undergraduate study. It increased my self-confidence when I went job hunting. (Mechanical Engineering) ／ **To think on my own, I learned the importance of conduct (because research necessitates independence).** (Mechanical Engineering) ／ **Through various presentations, I got accustomed to presentations, and now I can think about the best way to get my message across to a partner.** (Electrical and Electronics Engineering) ／ **Working steadily through my fourth year and in to my master’s, I spent 3 years on the same study.** (Electrical and Electronics Engineering) ／ **With university instructors and students, through discussion and joint research at those research institutes, I always was able to have a stimulating college life.** (Electrical and Electronics Engineering) ／ **There were many times that could be used to improve problem-solving ability, so I always was gaining new knowledge.** (Information Science)

A Symposium

Can you find something you like in only four years of undergraduate study?



Applied Chemistry and Biotechnology Master's Program, second year. **Kei Taniguchi (left)**
Applied Physics Master's Program, second year. **Takaki Yamamoto (middle)**
Nuclear Power and Energy Safety Engineering Master's Program, first year. **Koumei Muranaka (right)**
※ Year at time of roundtable (March 2015).

Frankly, how was it to go on to graduate school?

Ms. Taniguchi: It was fun. I took advantage of what I was good at. The researched match the nature of my character and, since my teacher gave me a free hand, I was able to put an emphasis on the things I was interested in.

Mr. Yamamoto: I think I was able to have a big time. More than people who went job hunting, I had 2 years more of freedom, not just English and study, but the research itself obviously really improved my ability. Moreover, even if I had gotten a job, I don't think I would have had the time to understand myself the way I do now.

Mr. Muranaka: That's right. In my case, for Mechanical Engineering, there is often an employment relationship to automotive and heavy industry. The rest of the options, you don't really know about. Enrolling in the program changed my world. Various field trips and internships opened my eyes to lots of different options.

Ms. Terai: I was in the group that was frustrated by looking for employment. Job hunting itself was hard because my hopes and abilities were pretty vague. The result now, after two years in hand, it has become a valuable time. I wanted to do everything. I took on the challenge, and I was pushed along the way by instructors.

Assoc. Prof. Hirogaki: Looking back, going at graduate school, now I think it was a decision that led to uncomplicated fun. I have many memories and experiences that are completely irreplaceable. I think that, more or less, anyone who personally experiences graduate school comes away with the same type of feelings you are talking about.

How to make and present material to people, that is the capacity required to be out in society; such methods you always carry with you. (Information Science) ／ **The application of knowledge and technical capabilities in a specialized field was polished further by leadership and communication skills provided through the guidance of the TA and older graduate students.** (Architecture and Civil Engineering) ／**It seems like in undergrad life I did not think about too much but, after going on to graduate school, I began to consider things from multi-facets.** (Architecture and Civil Engineering) ／ **Of course, through teaching and research, systematic knowledge about a specialized field is obtained. I was able to gain valuable experiences through study sessions with companies and exchanges with international students. I think that it was good. Another good point is that I could take my time looking for work.** (Materials Science and Engineering)

Active graduate student × Master Degree teachers;

I've never heard of anyone regretting going to graduate school. But I have heard the opposite.



Human and Artificial Intelligent Systems Master's Program, First year, **Rika Terai (left)**
Frontier Fiber Technology and Science, **Kazumasa Hirogaki, Associate Professor (middle)**
Architecture and Civil Engineering, **Yoshinobu Kikuchi, Associate Professor (right)**
※ Year at time of roundtable (March 2015).

When was the time you decided to go to graduate school?

Ms. Terai: It was my original hope to attend. My parents also felt the same. It was about the time I started job hunting. However, I had second thoughts, and again I had to convince my parents. I managed to cover the cost of the application and entrance fees by myself. That was in May of my fourth year.

Mr. Muranaka: Graduate admission was extended somehow, but in my second year of undergrad, 3.11, the Great East Japan Earthquake, changed things. I felt that whatever decommissioning, whatever operations needed to be done for nuclear power, someone has to do. Nuclear power plants are a big part of Fukui, and as someone who lives here I thought it was up to me.

Mr. Yamamoto: For me it was in my fourth year, I didn't know what I wanted to do as I went about job hunting, and I couldn't see any merits in it. The experiences I had in my fourth year got me thinking that research was the right thing to do. In terms of cost, I was saved, because there was a half exemption of tuition fees at the University of Fukui.

It is difficult to aspire to research positions once you are in society with only an undergraduate degree. Was offered a research position by going on to graduate school. (Materials Science and Engineering) ／ **In 2 years, I found what I really wanted to do.** (Applied Chemistry and Biotechnology) ／ **Acquired expert knowledge; it was nice to go on to graduate school because I was able to leverage it into future work.** (Applied Chemistry and Biotechnology) ／ **It was very good to learn more about specialized areas.** (Applied Physics) ／ **An understanding of communication skills and my research was deepened in the course of teaching research with first year students.** (Applied Physics) ／ **Problems were thrown into relief and that was good to know before entering the working world society.** (Human and Artificial Intelligent Systems) ／ **The most fun, above all, was to be able to work on things at my own pace.** (Human and Artificial Intelligent Systems)

Assoc. Prof. Kikuchi: I also remember somehow enrolling in a master program. I intended to get out in society with my own dream. I began job hunting at the beginning of the second grade, and my instructor told me to think about enrolling in a doctorate program. Without doubt, I thought you only live once, and I felt that, since I liked it, I should give it a try, at least once. At any rate, it's for sure that if I didn't enroll in a master program, I would not be here now.

When you decided to enroll, what problems did you face?

Ms. Taniguchi: I decided without hesitation. However, money was a problem. My parents were told I couldn't get a scholarship. A result, the only way was a tuition waiver.

Mr. Muranaka: I also had trouble. I decided without much knowledge of nuclear power, I didn't have a surface understanding of nuclear reactors. It's a complex thing. I was feeling anxiety about whether I could do it.

Ms. Terai: I also worried, so I consulted various people. My laboratory professor's advice was, "If you don't go because of job hunting, won't you regret it?" Anyway, I decided, even with the regret, I might as well try.

Assoc. Prof. Hirogaki: When I speak to students, if you want to work in development and technology, it is much better to go to graduate school. To be frank, if you are not picky about the type of job you want, it doesn't really matter.

Assoc. Prof. Kikuchi: In our department, undergrad students have been used to work for many years. However, the fact is that people "still want to go to graduate school" even after finding employment. So students who come in for a consultation find that graduate school can really refine their ability even in such a broad field of study.

Has your attitude towards study, your relationship with your instructor, changed?

Ms. Terai: Yes, it's changed. Especially related to English. I went abroad and keenly felt the necessity of it.

Mr. Yamamoto: Dealing with research itself changed. Unlike in undergrad, in graduate school, I had to do the investigations myself to make any progress.

Mr. Muranaka: Tsuruga campus has as many as 30 instructors for only 20 students. The relationship between fellow students and instructors is pretty close. This is one of the benefits of the Tsuruga campus that you don't know unless you go. There is lots of charm about the Tsuruga campus that makes you want to enroll in the program. (Laughing)

Ms. Taniguchi: It feels like the distance between instructors and me has shrunk. On Bunkyo campus, also, compared to my undergraduate era.

Assoc. Prof. Hirogaki: From the faculty side, when you are in the laboratory, because the chance to communicate is so high and the working relationships so close, there is a natural decrease in the distance between people.

Assoc. Prof. Kikuchi: In our laboratory, we often have the impression of working on projects within a circle of friends.

Assoc. Prof. Hirogaki: Certainly, members of the same laboratory have an awareness of an uncommonly close relationship.

Are you looking forward to the future? Are you anxious?

Mr. Taniguchi: During job hunting last year, while in an interview, I felt as if I was an interviewer (laughs). Now I think I'm going to apply for a teaching position.

Mr. Yamamoto: Well, I'm not particularly anxious. Compared to my undergrad, I have two years of research under my belt, and my thinking and problem solving skills are well polished.

Mr. Muranaka: I'm looking forward to going to work whether or not I go to the company I want.

Ms. Terai: Now it is job hunting season, but there is no anxiety. Certainly, I gained experience, so I don't have the same uneasiness I did as an undergrad. I'm looking forward to getting into the work force because I know there is something I can do.

Undergraduate to graduate enrollment discussions. How do you answer?

Mr. Yamamoto: I liked doing research. It is only a matter of whether or not you want to do well. It is not only the advantage in getting a job; there was a number of other attractions.

Ms. Taniguchi: If you're wondering, it's better to do it. If I thought differently, I think that, on the way, I would have changed courses.

Assoc. Prof. Kikuchi: As to enrolling in graduate school, it is better to decide for yourself if you will buy time for yourself, but I have never heard of anyone every regretting going.

Assoc. Prof. Hirogaki: Your graduate school time is a time when you are young and gaining experience by tackling basic research; it is a time you will treasure for the rest of your life.

It is possible to deepen my knowledge in technology areas of my expertise. I was also able to increase my knowledge of other disciplines as well. (Frontier Fiber Technology and Science) ／ **Acquired high presentation skills through research presentations, etc. Also, I capitalized on knowledge, technology and abilities when I became a member of society through overseas exchanges and experience with working people.** (Frontier Fiber Technology and Science) ／ **It was possible to participate in seminars and study sessions. We were able to deepen our knowledge by ourselves. In addition, was able to improve specialized field knowledge and technology by conducting research.** (Nuclear Power and Energy Safety Engineering) ／ **It is possible to carry out richer studies than in undergrad, and I gained confidence in doing studies. In addition, I acquired the power of expression through lecture presentations and research articles.** (Nuclear Power and Energy Safety Engineering)

Please confront a lot of hurdles in the master program and come to company.

There are “walls” that you should overcome.

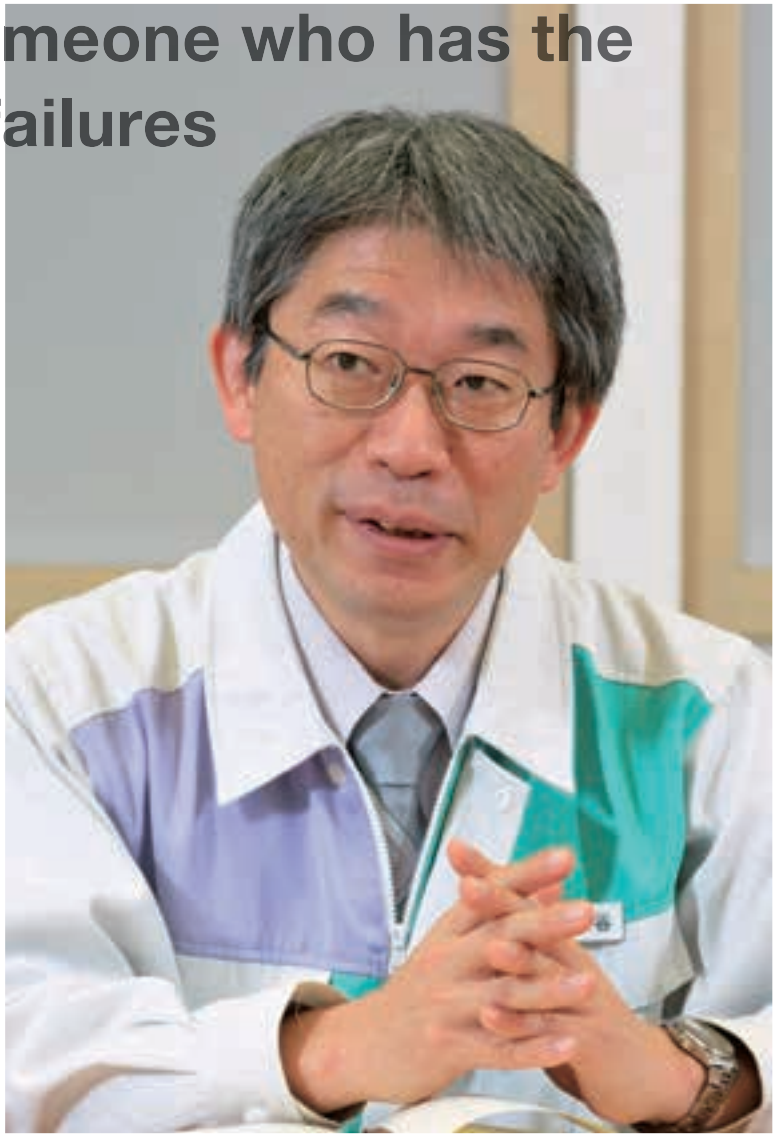
The big difference between a master student and an undergraduate would be the experience of a presentation at an international conference, and it is very important, I think. An international conference is a valuable place to share your latest study and to find your position compared to other studies. It’s exceedingly good training. In the preparation stage, there are many hurdles: summarizing the results of the research, analyzing the audience, devising the presentation in English, and so on. The master program surely provides you with presentation skills, a spirit of challenge and wonderful experiences. In business, selling which is one of the bases, also requires the same skills like offering your own developed products and proposing to the customers. So the experience of the conference in the master program is also quite worthwhile in business.

Keep a “challenging spirit.”

I told the experience of international conferences, but I think that is because companies are recruiting globally competitive people. Nowadays, many who want to be a researcher are gathered not only from Japan but also from abroad. It’s important that you’ll be seen more competitively against such people from abroad. In the world, a person who doesn’t have Ph.D. isn’t treated as a full-fledged researcher. It’s up to your choice in your life; however, if you want to be a true researcher, the master degree is necessary. It’s not only a choice of going into a Ph.D. course following a received master degree, but it’s also never too late to obtain the Ph.D. after getting a job. In graduate school, I want you to keep a spirit, such as with challenges, and to develop expertise and competence to be able to compete on the global stage.

Dr. Hideki Osaka
Department manager,
Electric System Research Department, Hitachi Ltd., Research and Development Group

A researcher is someone who has the power to change failures into pleasure.



Use knowledge and gain experience.

I expect a graduate student to acquire specialty as well as to gain experience of being buffeted by the laboratory which is like a little company. Both of these are necessary, and you should find the answer to the difficult problems of your research. You can face the research during your graduate school days, although your research may fail. Therefore, I think it is important for you to have a conscience of planning and creating yourself. I know that research is very difficult, but you have little to gain if you study vaguely. I think it is worth challenging difficulties at graduate school.

Don't limit yourself.

Our work in the company is mainly to solve problems from customer. Of course, there are occasions when we cannot do the research that we want. I think researchers in a company don't should come to like their research that has to be done. It is very tough if you think "I want to do the different research", and, needless to say, you won't succeed if you make a compromise. It is important to see things from various points of view when you face difficult problems. You should think out or change your way of thinking. Don't warry about making mistakes. It is important that you don't limit yourself. By all means, you do experience a lot of mistakes, and you master an indomitable researcher's spirit that you can enjoy your mistakes.

Dr. Toshihide Tsukatani
Assistant Director,
Corporate Research & Innovation Center
Nicca Chemical Co., Ltd.

That time,
starts now

Instructor's turning point

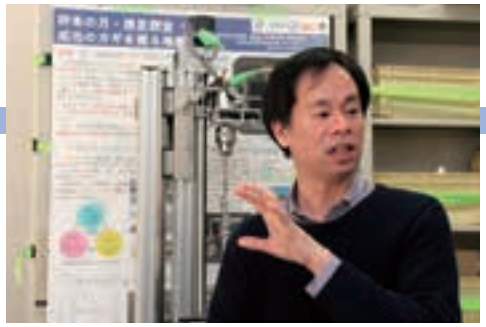
As researchers, we engage in
research while as instructors,
we warmly watch over students.
Those instructors also wish everyone
had the same days as students
Instructors, to the present day,
are at the crossroads of life.

Operation of excavators is difficult.

I am now studying the efficient automatic operation of hydraulic excavators by using computer simulation techniques. When entering the laboratory, I was introduced to the research topic which a senior was studying. I was very interested in the possibility of computer simulations. Because it was a pleasure to me, I decided to move on to graduate school rather than to enter a company. In graduate school, thanks to a scholarship, I could continue to study and actively participate in academic meetings and joint research with companies. There is no loss in your entering graduate school. If you like studying, I want you to challenge yourself.

Tatsuya Yoshida
Senior Assistant Professor
Mechanical Engineering

Taizou Kobayashi
Associate Professor
Architecture and Civil Engineering



If possible, I'd like to go to the moon.

Specializing in civil engineering, I research the foundations that support buildings. In parallel with earth-based research, we also carry out research for construction of a base on the lunar surface. In graduate school, I asked my instructor about experiments related to the extraction of resources from the lunar surface. In graduate school, of course, you forge technical knowledge, but you also gain your own opinions, implementation practice, and the power to present ideas. After this, you steadily advance the research. Now we have actually opened a hole in the drill on the moon and we have developed a robot to investigate the characteristics of the resources and soil. If I didn't go to a master program, I would not have encountered this study, and I think it would not have been developed. Graduate school is about finding life's dreams and getting the basic skills needed to achieve it. I think that it is a great place. By all means, take the challenge.

Students live on nothing but liberty.

Since I was a child, I have liked to investigate many things; my researcher's aims at awareness come from that time. The master program era is without listening at all to the instructor, freedom itself. When the fourth year university student, who should be exploring on their own, meets a theoretical physics instructor called "Moomin Papa," they have a chance to enter a laboratory in the theoretical physics field and are led into research on lasers. The research process for lasers is close to that of companies, and we feel that is best for an education theme, so together we work with laboratory students. Graduate school is not limited. You decided "here is the limit," and the bounds are decided; otherwise, it is no good to try so hard.

Sakae Kawato
Associate Professor
Electrical and Electronics Engineering

Whistling saves the world?

After graduating from school, I worked at the central government for 2 years. After that, I came back as an instructor at the University of Fukui. We are conducting research on sound that travels through bone. Over the past few years, we study the principles of human whistling sound production because whistling requires no musical instrument and it can be viewed as having no national borders; thus, it is a means of world peace and education. A good understanding of these principles would be very beneficial to both the trainer and the trainee. In my undergraduate time, I was thinking of a job at the local public office. But, I enrolled in graduate school and various people's thinking rubbed off on me; my thinking changed. Everyone, by all means, please go on to graduate school. It will expand your world.

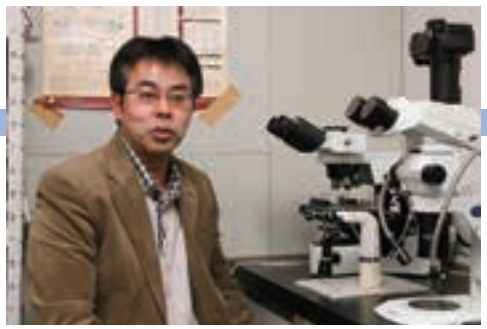
Mikio Mori
Associate Professor
Information Science

Hidetaka Tobita
Professor
Materials Science and Engineering

Willingness + environment + a big-hearted mentor = miracle occurs

I am doing research on polymer reaction engineering. Although the research theme for my master's degree was biotechnology, the company I joined put me in charge of research and development of polymerization processes in which I had no experience. At the company, I felt I needed a solid foundation of polymer science and engineering, so I decided to study abroad.
My doctoral adviser overlooked my shortcomings and always encouraged me, accentuating the positive. I had an excellent studying environment, and I was immersed in research all day long. One night when I was about to sleep in bed, I had a flash of new mathematical model. Next morning, I just devised and packed into mathematical formulas. Since then, I was hooked by the charm of developing new mathematical models. Graduate study may bring out your hidden talent. If you don't want afterword to regret, now is the time to take the plunge in.

Masaya Oki
Professor
Applied Chemistry and Biotechnology



I don't want to talk about a fortunate error but...

In my university days, I was going nuts about badminton and injured myself, and this put me on the road to research. Now, I study epigenetics which is variations in gene expressions. I took a strong interest in this in my university days when I saw my twin in class: we had identical faces. Monozygotic twins, despite having the same DNA, have individual differences. I felt that there is something other than DNA at work; that is why I aimed at this area.
Rather knowing what I was interested in, until my graduation, I was looking for that something at work, and I think that was my motivation for entering graduate school. To find the thing you want to do, graduate school is the way to go.

The fact is that useless things are not useless.

We conduct basic research on the physical properties of magnets. Basic research can go hand in hand with desolation and danger as you, step by step, challenge an unexplored domain. In my undergraduate days, graduate students and professors in my laboratory were fighting against the world in basic research. It was a lively engagement. The great thing about research is that, with one discovery, the truth of research is turned regardless of academic background or country; it is something to vie for. I also wanted to be on that stage myself, and this has led to today's research. Graduate school research may not necessarily be immediately useful to society. But confidence obtained on your own through research is always useful in the future. I think that confidence is valuable property.

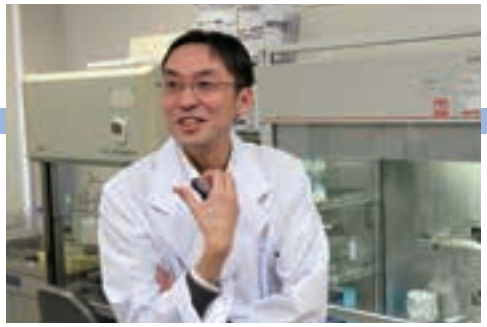
Takayuki Asano
Assistant Proffessor
Applied Physics

Active people, please get in touch.

Robot vision, or robot's using an artificial eye, is my context sight recognition for artificial intelligence• undertaking computer science research. When I did my master degree, I eagerly met an instructor who studied robot vision It was my first international conference and I was ecstatic; that started me on research. I worked jointly with the instructor, and to encounter people who are soundly devoted to research is like meeting a new world. Even now I feel it was a valuable experience. Perhaps, only aspiring to a research position makes graduate school research, in a sense, pointless. But I think seriously engaging in a discipline is not pointless; there are not so many things we do like that. The true benefits of graduate school come from understanding the true feeling of doing research.

Kanji Tanaka
Associate Professor
Human and Artificial Intelligent Systems

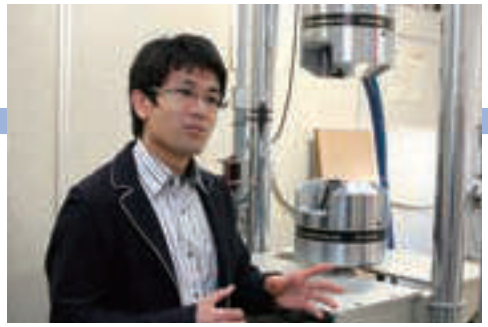
Satoshi Fujita
Associate Professor
Frontier Fiber Technology and Science



Take your road, following your own interests.

When I enrolled in a master course, I had decided to work for a company after graduation. I became a company researcher as I had hoped, and I enjoyed research job. However, I made up my mind to return to university because the free research what I imagined was a little different from what I did in the company, which was close to the development of products, not pursuing the fundamental knowledge which my professor and collaborators had done in the universities. Fortunately, I am still continuing to research following my interests, and this is my turn to give a chance to students as future researchers. My current interest is developing the possibility of nanofibers as biomaterials for clinical use. Whatever road you take, if you are even a little interested, you should do as much as you want. Experiences in graduate school make the possibilities grow. Learning in graduate school offers a bundle of valuable potential futures.

Keigo Suzuki
Associate Proffessor
Nuclear Power and Energy Safety Engineering



In graduate school you don't just acquire experience.

You can visualize the inside of reinforced concrete, to monitor its health, by using a smartphone to bridge the surface. In this way, we study how to diagnose the health of a structure. I was interested in civil engineering from my childhood. There were many large-scale civil engineering projects such as the Seto Ohashi Bridge and Seikan Tunnel construction, and this created strong aspirations. The shape of what you want to do is as important as the feelings you have, and so I decided on entering graduate school. Graduate school is the only institution that, for a time, you can go heart and soul into. Among students, an individual is not alone; as a person, there is the opportunity to firmly engage in discussions with faculty. Having experienced the time in the hospital as unique, I think I want you to thrive. The experience of graduate school is very unique. I want you thrive on it.

Learning Support System

Firmly support your motivation

"It must be difficult for me to become a graduate student, given my family circumstances..." It seems many people think like this, but the University of Fukui has economic support systems for graduate students.

Tuition fee exemption

Never give up for economic reasons

Tuition for graduate students is the same amount as for undergraduates, ¥535,800/year. This amount is supposed to be paid half in April for spring semester and half in October for fall semester (¥267,900 each), but there is a system of tuition waiver. Under this system, if payment of tuition fees is difficult due to economic reasons, and the student is recognized for academic excellence, then the Examining Authority may grant a tuition fee exemption in full or in part (half) based on a student's application. In addition to economic reasons, when a student experiences financial difficulty due to a death of his/her sponsor or natural disaster within six months before tuition payment, a tuition exemption can be applied. In the academic year 2014, among 148 applicants, 42 were granted a total exemption, 94 were granted a part (half) exemption, which means that 90% of applicants received an exemption.

About the tuition waiver system, make inquiries at the Student Affairs Division.

Tuition fee
¥535,800 / year

4 Apr.	¥267,900	10 Oct.	¥267,900

Full exemption
or
Half exemption

Conditions

- If it is difficult to pay tuition fees due to economic reasons, and the student is deemed to have academic excellence.
- If a student experiences a financial burden due to the death of their sponsor within 6 months before tuition fee payment.
- If a student (or sponsor) is unable to pay tuition fees due to special circumstances, such as a natural disaster.

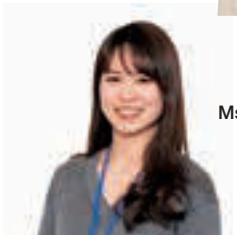
Tuition waiver status

		Master					Doctoral				
		Number of students	Number of applicants for tuition waiver	Exemption qualified student	Full exemption	Half exemption	Number of students	Number of applicants for tuition waiver	Exemption qualified student	Full exemption	Half exemption
2013	Spring semester	514	157	137	72	65	70	20	17	13	4
	Fall semester	503	140	135	47	88	66	19	18	8	10
2014	Spring semester	534	173	138	51	87	82	22	21	12	9
	Fall semester	524	148	136	42	94	79	21	21	11	10

Learning Support System

International students support

Ms. Malcolm



Ms. Iyo

Staff at the International Affairs Division give international students various kinds of student life support from visa-related applications to arrival orientation, administrative procedures, housing contracts, scholarship applications, and returning orientation. Together with the professors at the International Center, we work as a team to listen to students' problems and give advice and guidance. Please feel free to visit our office when you have any problem. Most of the staff at the International Affairs Division and professors at the International Center have a good command of English.

We also provide opportunities for international students to participate in on/off campus events and activities. These events and activities are organized by the university, university student groups, and other organizations such as the Fukui International Association, community centers, and local schools. Among them, the University of Fukui International Student Association organizes many exchanges, such as summer camp and ski trips. International students also have an opportunity to participate in a day trip to Kyoto every December. All information is given by email and notice board regularly.

Scholarship application

Privately financed international students, after admission, have opportunities to apply for a variety of private scholarships. The university notice board provides guidance and information on each scholarship. For more information, please feel free to contact the International Affairs Division in Student Commons (Bunkyo campus).

Tutor system

If an international student comes to Japan for the first time or has lived in Japan for less than 1 year, he/she can have a tutor who gives information and help to adjust to life in Japan. Throughout the semester, tutors also provide academic support, such as giving guidance in experiments and learning Japanese. Please come to the International Affairs Division if you need to apply for the tutor system.

TA system

What's a "TA?"

"TA" stands for "Teaching Assistant." Under the guidance of instructors, graduate students provide educational leadership and guidance to undergraduates, such as facilitating student experiments.

Towards deeper learning

Students who are employed as a TA support undergraduate students under the guidance of university professors. As a TA, you can learn through teaching, and proactively build up experience as a training leader. In addition, a TA is a paid position that can help support a student's life. Master's Program students earn ¥1,100/hour while doctoral students receive ¥1,300/hour. While this payment may not be large, there is a direct connection to a student's field of study which makes it a highly significant part-time job. An additional option for doctoral students is the RA (Research Assistant) system. Students accepted as an RA participate in project research related to their specialty, which increases research performance ability of the student. An RA position carries a wage of ¥1,300/hour.

A TA's voice

"My leadership skill has improved."
"I could deepen my understanding of experiments."
"I could have an opportunity to make vertical connections on campus."
"The salary was good."
"I was able to practice speaking in front of a large number of people."
"Teaching became a study review."
"I learned the importance of procedures and confirmation in the preparation of experiments."

Interested in TA or RA positions?
Contact the Office of the Faculty of Engineering.

Academic information

In the graduate school master's program, each student has a POS (Program of Study) Committee to receive collective guidance such as: ① made-to-order curriculum, and ② the promotion of project-based learning. This system enables graduate students to nurture comprehensive skills according to each student's personal strengths.

【Course registration, Grades, Completion】

You can find information about curriculum, course registration, and credits in the Study Guide Book for Graduate Students. If you have any question about these matters, please contact the Graduate Student Section, Educational Division.

Study abroad

The University of Fukui defines engineers with highly specialized skills who can be active in the global society as "GLOBAL IMAGINEER," and one of the effective means for approaching this goal is to study abroad. While enrolled in the graduate school, students can study abroad with the aim to improve basic cultural level and learning skills, and also to gain expertise that Global Imagineers are expected to have.

【Information and consultation】

The International Affairs Division provides information about study abroad programs, overseas universities with academic exchange agreements, and scholarships and other support to study abroad. There is also a study abroad consultation desk, and students are welcomed to visit anytime if there is any concern or question. You can also find latest information on our website (http://global.ad.u-fukui.ac.jp).

【Study Program】

There are two types of study abroad programs offered at the university: ① short-term study abroad programs and ② student exchange programs. We offer tuition waivers for the study abroad destination as well as various scholarships, credit transfer opportunities, and a variety of support, from pre-departure until post-returning home.

●Short-term study abroad program

These programs last from a few days to about three months at universities overseas, and include such content as language training, cultural experience, student exchanges, field work, attending lectures in specialized fields, delivering conference presentations, and research exchanges. A variety of choices in destination and training content allows students to participate in a program that suits the purpose and learning stage of each student.

Recounting experiences-1

"While studying at the University of Taiwan for two weeks, I made a research presentation and conducted experiments in English. It became an opportunity to think again about the significance of the experiment that I was involved in. It increased my motivation for future research and to learn English."

●Student exchange program

Student exchange programs operate under the academic exchange agreements between the University of Fukui and its partner universities overseas. From six months to a year in length, participants take regular courses and do research with local students, or get involved in intensive language courses. Tuition at the host university will be waived, as participants of student exchange programs are still enrolled at the University of Fukui. For the same reason, the period of study at the host university can also be counted as the required term at the University of Fukui.

Recounting experiences-2

"I studied at a university in the US for a year and learned a lot from studying in and outside of the area of my specialty. The study abroad experience made me reconsider my own self and think about my future more flexibly."

Career Support

Advantage of the graduate school

In the engineering field, where state-of-the-art knowledge and experience are required, companies appreciate workers who have received a six-year higher education in engineering. At the time of employment, also, students with a Master degree are, in general, have more advantages than undergraduates. Even if you work for the same company, it is often the case that you will be most likely to have more upscale work. In the Graduate School of Engineering, each major has a professor in charge of giving consultation about finding and getting a job.
Of course, it is a good idea to consult your supervisor, but at the University of Fukui, the Office for Career Support is also available to support graduate students as follows:

Office for Career Support

Employment information

Job information from companies/organizations and employment support information magazines are available at the office. Students can also view job information on the University of Fukui website, called the University of Fukui Career Support System. In addition, the system subscribers can receive information by e-mail.

Job Hunting Seminars

Employment guidance is delivered via lectures by experts in employment support as well as alumni. In addition, top-rated companies are invited to seminars where participants are able to listen to the representatives of each company.

Career counseling

Experienced career counselors and staff are available for individual consultation related to finding employment.

Please feel free to inquire about employment at the Office for Career Support

Mock interview

The mock interviews by career counselors are conducted every day (reservation required). The interviews provide guidance and advice on appropriate manners, attitudes, and speech content. Candidates for teaching positions and civil servant work are also welcome.

Companies Briefing

The HR staff from companies inside/outside the prefecture are invited so that students have an opportunity to collect information directly from companies. Many students find jobs as a result of attending these briefings.

Won employment support for 10 consecutive years

As of 2017, for the past 10 years, the University of Fukui has finished first in terms of “National University employment rate ranking” among national universities having several areas of undergraduate study.

Admissions Information

More than anything else, face things with motivation

"Graduate school looks interesting" for those who believe so, we'll explain the graduate school entrance examination. Graduate school is a place where you can further pursue the things you are interested in. At the University of Fukui, Graduate School of Engineering there are professors who are engaged in a variety of research over almost all areas of engineering. Once you determine the field that you want to study, please contact a professor in that field in advance. By talking with professors about the things you are interested in, you can obtain better information on specific research and advice about admissions. For research fields of professors, look up the researcher database available on the university website.

If your academic performance in your undergraduate program was excellent, the selection by recommendation is possible as a means of enrollment. If you're a university student, first please consult your adviser.

Also, there are special selections for adults and international students. For ambitious people, there is always an open road to graduate school.

Inquiries about the entrance examination, visit the Admissions Division on the second floor of the Admissions Center.
E-Mail: g-nyusi@ad.u-fukui.ac.jp

	Master's Program		Doctoral Program	
	Special Admission for International Students	GEPIS Oct./Apr. Admission (Pre-Arrival Entrance Exam)	Special Admission for International Students	GEP for R&D Oct./Apr. Admission (Pre-Arrival Entrance Exam)
Publication of Application Guidelines	Mid May	Dec.	Oct.	Dec.
Capacity	A few students	A few students	A few students	A few students
Admission period	End of Aug.	Early Apr. / Mid Oct.	End of Aug.	Early Apr. / Mid Oct.
Examination	Around September 5th	—	Around September 5th	—
Notification of Acceptance	2 weeks after the examination	End of May / End of Nov.	2 weeks after the examination	End of May / End of Nov.
Admission Procedures	Mid Nov.	End of Sep. / End of Mar.	End of Sep. / Mid Nov.	End of Sep. / End of Mar.

Application qualifications
For details, please check application guidelines. The "admissions information" on the university website (**http://www.u-fukui.ac.jp**) provides a great deal of information about graduate school entrance examination.

Student life counseling

Since research plays a central role in graduate school, you may experience a very different student life compared to that of undergraduate times. For example, long-term experiments and conference presentations tend to increase physical and mental burdens, and that could lead to a variety of other trouble. It is important to have someone to consult with even if it is over something small. By doing so, you might find a solution you missed on your own. In the Student Support and Counselling Office, you will meet counselors ready to help you about academic matters, human relations, trouble with instructors, concerns for the future, or any other issue you face. No matter how small your problem is, the student counselors are here to help you find a solution. We think about your problems with you.

For consultation and inquiries about student life, contact the Student Support and Counselling Office.
E-Mail: g-soudan@ad.u-fukui.ac.jp

Details of Courses

Mechanical Engineering

The Mechanical Engineering Course offers an excellent environment of education and research regarding manufacturing, material strength, machine design, utilization of thermal energy, fluid flow system, control, dynamics, mechatronics, and so on. We pursue hardware/software design and manufacturing for a comfortable social life in harmony with the environment.

Masaaki Otsu
Prof.

Materials, Design and Manufacturing Engineering
Development of metal forming processes in bending and stamping of sheet metals and forging of bars

Tomomi Honda
Prof.

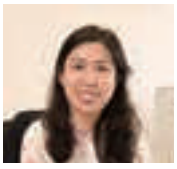
Materials, Design and Manufacturing Engineering
Design of functional surfaces, Nano/micro tribology, Deterioration diagnosis of the lubricating oils, Friction and Wear analysis of advance materials, Friction control

Masato Okada
Assoc. Prof.

Materials, Design and Manufacturing Engineering
Machining, Burnishing, Forming, Composite material, Surface enhancement

Noritake Hiyoshi
Assoc. Prof.

Materials, Design and Manufacturing Engineering
Creep-fatigue life evaluation for conventional steels and electronic materials



Xiao-Wen Lei
Assoc. Prof.

Materials, Design and Manufacturing Engineering
Function Design of Nanoscale Systems, Computational Mechanics,Material mechanics

Takuya Miura
Assis. Prof.

Materials, Design and Manufacturing Engineering
Development of welding processes for metal, Friction stir welding, Arc welding

Junichi Ohta
Prof.

Thermal and Fluid System Engineering
Effects of ultrasonic wave on multiphase flow, Flow characteristics of Multiphase flow, Acoustic streaming, Cycle for energy conversion, Microbubbles

Niro Nagai
Prof.

Thermal and Fluid System Engineering
Heat Transfer, Boiling, Heat Pipe

Takashi Ohta
Assoc. Prof.

Thermal and Fluid System Engineering
Computational Fluid Dynamics, Analysis and Contol of Turbulence

Yasuyuki Sakai
Assoc. Prof.

Thermal and Fluid System Engineering
Combustion, Chemical Kinetics

Futoshi Tanaka
Assoc. Prof.

Thermal and Fluid System Engineering
Fire Safety Engineering, Tunnel Fire, Fire Suppression by Water Mist

Akinori Fukushima
Snr. Assis. Prof.

Thermal and Fluid System Engineering
・Numerical simulation for heat and mass transfer phenomena in multi scales
・Design of new functional materials by molecular simulations

Fumiyasu Kuratani
Prof.

System Control Engineering
Vibration, Acoustics, Modal Analysis, Modeling

Yasuhiro Yamada
Prof.

System Control Engineering
Mechanical System, Manufacturing System

Masayuki Kawai
Assoc. Prof.

System Control Engineering
Virtual Reality, Haptic Interface, Robotics for Nuclear Plants

Ryoji Kawatani
Assoc. Prof.

System Control Engineering
Robust control, Computer control

Masanori Shintani
Assoc. Prof.

System Control Engineering
Research and development of vibration reduction device of bed for ambulances.
Development of compact Three-Dimensional Seismic Isolation Device which Protects Work of Art from Earthquake

Tatsuya Yoshida
Snr. Assis. Prof.

System Control Engineering
Mechanical dynamics, Multibody dynamics

Electrical and Electronics Engineering

Electrical and electronic engineering has been developing as a core technology to lead the advanced information society from both sides—hardware and software. Our department provides major education and research fields: (i) advanced materials and devices, (ii) power generation, power electronics and power system, and (iii) system science, and information and communication, for growing human resources to meet the social needs.

Tadashi Kanabe
Prof.

Energy Safety and Symbiosis Engineering
Design and development for high power lasers, space solar pumped solid-state laser, solid-state lasers for fusion reactor, application for high power laser

Masaaki Kuzuhara
Prof.

Electronics and Optical Devices
Electron transport phenomena in III-nitride semiconductor heterojunctions and their device applications

Kenji Shiojima
Prof.

Electronics and Optical Devices
Evaluation of semiconductor surface, interface and defects

Kazutoshi Fukui
Prof.

Electronics and Optical Devices
Photoluminescence mechanisms of III-V nitride semiconductors, Spectroscopy system design studies for the material research, Optical constants of materials

Joel T. Asubar
Assoc. Prof.

Electronics and Optical Devices
Gallium nitride electron device and semiconductor physics, molecular beam epitaxy, semiconductor-insulator interfaces, ferromagnetic semiconductors, condensed matter physics

Sakae Kawato
Assoc. Prof.

Electronics and Optical Devices
Quantum electornics, Optelectronics, laser, optical measurements

Kohji Yamamoto
Assoc. Prof.

Electronics and Optical Devices
Speciality : Our group carries out terahertz spectroscopic studies on soft materials by terahertz time-domain spectroscopy using a femtosecond laser and photoconductive switches.

Akihiro Hashimoto
Prof.

Energy Engineering
(1)Nitride Semiconductor Crystal Growth by Molecular Beam Epitaxy & Solar Cells Applications, (2) Fundamental and Application study of Graphene & Fullerene Materials

Masakazu Ito
Assoc. Prof.

Energy Engineering
Researches to realize sustainable society. Power system analysis, measurement and control, Renewable energy system development, and Ecological footprint.

Kinji Kimura
Assoc. Prof.

Energy Engineering
Numerical linear algebra for data science, Computer algebra, Discrete integrable system

Takayuki Makino
Assoc. Prof.

Energy Engineering
Spectroscopic elucidation of the dynamics of photoexcited state for photo-energy-conversion-oriented semiconductors.

Ryuto Shigenobu
Assis. Prof.

System Engineering
Energy Management, Renewable Energy Management,Power System Analysis, Operation, Control, and Planning

Atsumi Ohara
Prof.

System Engineering
Information geometry, Control and Optimization of systems

Shoichi Hirose
Prof.

System Engineering
Design and Analysis of Cryptographic Schemes

Ronglong Wang
Assoc. Prof.

System Engineering
Softcomputing, Combinatorial Optimization Problems, Image Processing

Fuminori Sakaguchi
Assoc. Prof.

System Engineering
Statistical time series analysis,Higher-order statistics of stochastic processes, Applications of operator algebra to engineering, Relationships between localized wavepackets and differential operators, Applications of generalized coherent states to signal processing

Seiichiro Moro
Assoc. Prof.

System Engineering
Analysis of phenomena in coupled nonlinear oscillatory systems and their applications

Hidehiko Tanabe
Assis. Prof.

System Engineering
System design of error-control coding and modulation for mobile communications.

Details of Courses

Information Science

Research areas in this department generally cover all aspects of Information and Communications Technology (ICT): Communication and Computer Engineering, Computer and Information Science. Both theoretical and practical aspects of these topics can be studied systematically. Graduate students are expected to have abilities to create ideas to discover and solve various issues in the ICT field.

Takuji Tachibana
Prof.

Information Science
New generation network technology, Performance evaluation of computer networks, Network design, Network management.

Shogo Tokai
Prof.

Information Science
Dynamic Three Dimensional Scene Understanding and Visualization Based on Multiple View Information

Mitoshi Fujimoto
Prof.

Information Science
Wireless LAN,UWB, Digital Mobile Communication, Adaptive Signal Processing

Yohsuke Hosoda
Prof.

Information Science
Linear ill-conditioned problems, Ill-posed problems, Image reconstruction problems, Numerical analysis

Shinichiro Mori
Prof.

Information Science
High Performance Computer Architecture, Parallel Processing, Reconfigurable System, Visualization

Tomoyuki Yamakami
Prof.

Information Science
Complexity issues, quantum computation, cryptography, automata, optimization, fuzzy technology

Norifumi Yamada
Prof.

Information Science
Numerical simulation of quantum wave packet dynamics, Time scales of ultrafast quantum phenomena

Toshiyuki Yoshida
Prof.

Information Science
Image Prosecing ,Signal Prosecing

Ken-ichi Iwata
Assoc. Prof.

Information Science
Study on Information theory and its application

Ken Higuchi
Assoc. Prof.

Information Science
reserch of parallel and distributed database systems for large data

Shinji Fukuma
Assoc. Prof.

Information Science
Digital signal processing and its application, Embedded system design based on FPGA and CPLD

Mikio Mori
Assoc. Prof.

Information Science
Speech Information Processing, Musical Information Processing

Tatsuhito Hasegawa
Snr. Assis. Prof.

Information Science
Human Activity Recognition, Smartphone and wearable sensing, Deep Learning for sensing.

Zhang Chao
Assis. Prof.

Information Science
Computer vision, Evolutionary computation, Pattern recognition, Machine learning, Image processing

Architecture and Civil Engineering

We study for the ideal living space of the building, the city, the region, and the national land from the viewpoint of natural science, art, technology, and human sociology. In the division of environmental design and structural engineering, the elasto-plastic behavior of structural elements and systems are researched. In the division of urban and architectural design, the physiology, the human behavior, and the social action in the building and the urban space are researched.

Koichiro Ishikawa
Prof.

Environmental Design and Structural Engineering
Timber Building Structure, Metal Spatial Structue, Earthquake Resistant Evaluation, Vibration Control

Masato Iso
Prof.

Environmental Design and Structural Engineering
Reinforced Concrete Structure, Earthquake-Resistant Design

Keisuke Kojima
Prof.

Environmental Design and Structural Engineering
Estimation of subsurface structure based on observed microtremor

Keiichi Inoue
Assoc. Prof.

Environmental Design and Structural Engineering
Earthquake Response of Building, Vibration Control Structure

Keigo Suzuki
Assoc. Prof.

Energy Safety and Symbiosis Engineering
Development of Structural Health Monitoring, Study on Non-destructive Testing

Akihiro Fujimoto
Snr. Assis. Prof.

Environmental Design and Structural Engineering
Evaluation for slope failures and snow/ice disaster based on heat and water transfer analysis and its measures.

Ayato Honma
Snr. Assis. Prof.

Environmental Design and Structural Engineering
Building Materials,Materials based on Portland Cement

Hiroaki Terasaki
Assis. Prof.

Environmental Design and Structural Engineering
Development of new technology to utilize unused heat,Study on heat and mass transfer in porous media

Yukio Akashi
Prof.

Urban and Architectural Design
Advancing the effective use of light to establish safe, comfortable, and healthy lighting environment with the minimum energy for architectural and urban spaces

Shinji Nojima
Prof.

Urban and Architectural Design
Practical Study on Regeneration of Residential Area by Urban Design and Improvement of Living Environment

Yoshimi Kawamoto
Prof.

Energy Safety and Symbiosis Engineering
Infrastructure planning and community design for symbiotic regional society

Yoshinobu Kikuchi
Assoc. Prof.

Urban and Architectural Design
Housing, Residential Environment Planning

Kumiko Kiso
Assoc. Prof.

Urban and Architectural Design
Architectural/Urban design based on human behavior, Human spatial behavior simulation using Multi-agent system, Architectural/Urban design simulation evaluating impact of human spatial behavior

Yoko Harada
Assoc. Prof.

Urban and Architectural Design
Regeneration of urban and residential area, Environmental design, Public participation

Masato Nishimoto
Snr. Assis. Prof.

Urban and Architectural Design
In order to make children's activities more active for facilities used by children, we are studying and designing the use of space.

Yoshihisa Momoi
Snr. Assis. Prof.

Urban and Architectural Design
Air-conditioning system using airflow, desiccant cooling and high efficiency ventilation designing indoor air quality and thermal environment for safe, comfortable and healthy occupied spaces.

Takeharu Yamada
Snr. Assis. Prof.

Urban and Architectural Design
Japanese Architecture History and Design, Cultural Properties Shrine, Temple, Castle, Tea House and Traditional House

Shuhei Asano
Assis. Prof.

Urban and Architectural Design
Sustainable Urban & Transportation planning

Details of Courses

Materials Science and Engineering

Our department covers a wide range of fields of applied chemistry and materials engineering, and is working on education and research in this area. Some of the major topics are synthesizing methods of inorganic, organic and polymeric materials, the structure and physical properties of these materials, and the engineering analysis of the production processes. Our graduates are working actively in a wide variety of areas, and our achievements in research and fostering of talented engineers are acknowledged by communities and industries.

Tomohiro Uchimura
Prof.

Applied Materials Chemistry
Analytical chemistry, Mass spectrometry

Yuji Tokunaga
Prof.

Applied Materials Chemistry
Molecular recognition, Organic chemistry

Tamotsu Hashimoto
Prof.

Applied Materials Chemistry
Polymer synthesis, Controlled polymerization

Susumu Yonezawa
Prof.

Applied Materials Chemistry
Inorganic fluorine chemistry, Electrochemistry

Jea-Ho KIM
Assoc. Prof.

Applied Materials Chemistry
Surface fluorination on various materials with F2 gas

Toshikazu Sakaguchi
Assoc. Prof.

Applied Materials Chemistry
Functional polymer, Membrane for gas separation

Takashi Okada
Assoc. Prof.

Applied Materials Chemistry
Molten salt chemistry, Resource recycling, hydrometallurgy

Masaya Naito
Assis. Prof.

Applied Materials Chemistry
Control of Molecular Association and Aggregation by Various External Stimuli

Takashi Sasaki
Prof.

Intelligent Materials
Polymer physics, Nanomaterials

Yutaka Tanaka
Assoc. Prof.

Intelligent Materials
Polymeric Material, Rheology

Satoshi Irie
Assoc. Prof.

Frontier Fiber Technology and Science
Transmission Electron Microscopy, Organic Thin Film, Block Copolymer

Hidetaka Tobita
Prof.

Production and Processing Engineering
Polymer reaction engineering

Kiyoshi Suzuki
Assoc. Prof.

Production and Processing Engineering
Emulsion polymerization, Reaction mechanism

Applied Chemistry and Biotechnology

The department of Applied Chemistry and Biotechnology has established a chemical education and research system for a new era. This system promotes education and research that contribute to the realization of an affluent sustainable society and a peaceful life for humanity. The department produces researchers and highly specialized engineers who have high ethical standards as well as advanced knowledge and technical ability in the fields of applied chemistry and biotechnology.

Masaya Oki
Prof.

Applied Chemistry and Biotechnology
Analysis of heterochromatin boundary and development of new technology for elucidation of Epigenetics.

Akihiko Sakurai
Prof.

Applied Chemistry and Biotechnology
Development of bioremediation system using microorganisms and/or enzymes, Development of new type bioreactors, Production of useful materials from unused resources, Production of antioxidants and immunostimulators using basidomycete

Yasushi Maeda
Prof.

Applied Chemistry and Biotechnology
Spectroscopic study of macromolecules and nano materials

Yoshiyuki Konishi
Prof.

Advanced Intelligence
Molecular Biology, Cell Biology, Neurochemistry, Neuroscience

Takenori Satomura
Assoc. Prof.

Applied Chemistry and Biotechnology
Characterization and application of hyperthermophilic enzymes

Shinji Sugihara
Assoc. Prof.

Applied Chemistry and Biotechnology
Synthesis and applications of stimuli-responsive polymers, and development of new living polymerization systems

Ichiro Takahashi
Assoc. Prof.

Applied Chemistry and Biotechnology
Novel Reactions with use of Protonic Weak-Acid Catalysts

Toru Takahashi
Assoc. Prof.

Applied Chemistry and Biotechnology
Desing and development of new analytical methods based on chemical approach

Satoshi Terada
Assoc. Prof.

Applied Chemistry and Biotechnology
Improvement of mammalian cell culture for biologics production and for cell therapy/regenerative medicine; Generating novel cell lines and Developing novel culture supplement and Constructing cryopreservative solution for cells.

Yasuharu Yoshimi
Assoc. Prof.

Applied Chemistry and Biotechnology
Development of organic photochemistry

Yu Suzuki
Assoc. Prof.

Applied Chemistry and Biotechnology
Structure analysis of bio-based polymers and development of silk based functional materials

Gakushi Tsuji
Assis. Prof.

Applied Chemistry and Biotechnology
Reconstituting biological systems in extracellular condition by using liposome, for elucidating mechanisms of cell functions via bottom up approach.

Details of Courses

Applied Physics

Many modern technologies are based on physics. We offer you the opportunity to learn a variety of fields in physics and their applications to new areas of technology. The fields covered in this course are: particle physics, cosmology, nuclear physics, mathematical sciences, magnetism, quantum optics, molecular sciences, and far-infrared engineering.

Nobuharu Onoda
Prof.

Quantum Physics and Mathematical Sciences

Commutative Algebra, Affine algebraic geometry

Takeo Takagi
Prof.

Quantum Physics and Mathematical Sciences

Low temperature physics, Condensed matter physics

Naoki Tajima
Prof.

Quantum Physics and Mathematical Sciences

Theorertical study of the atomic nucleus

Takaaki Hashimoto
Prof.

Quantum Physics and Mathematical Sciences

Particle physics, Geometric quantum mechanics, Stochastic quantum field theory

Osami Yasukura
Prof.

Quantum Physics and Mathematical Sciences

Lie groups and Differential geometry

Yoshiyuki Koga
Assoc. Prof.

Quantum Physics and Mathematical Sciences

Representation theory of Lie superalgebras

Hikomitsu Kikuchi
Prof.

Experimental Applied Physics

Studies on magnetic properties of the condensed matter

Mitsutaka Kumakura
Prof.

Experimental Applied Physics

Laser cooling, Optical manipulation of atoms and particles

Takuo Yoshida
Prof.

Experimental Applied Physics

Elementary particle physics experiments

Yoshinori Tatematsu
Prof.

Experimental Applied Physics

Development of sub-millimeter wave gyrotrons

Masahiko Tani
Prof.

Experimental Applied Physics

Terahertz spectroscopy and sensing

Seitaro Mitsudo
Prof.

Experimental Applied Physics

Far-infrared technology, Solid state physics

Takayuki Asano
Assoc. Prof.

Experimental Applied Physics

Magnetism and Magnetic materials

Izumi Ogawa
Assoc. Prof.

Energy Safety and Symbiosis Engineering

Study of ultra-rare processes in Nuclear and Particle Physics using radiation detection techniques. Neutrino physics and dark matter detection.

Escaño Mary Clare Sison
Assoc. Prof.

Theoretical study of complex magnetic systems' structure, transition and transport by first-principles methods.

Yuji Sato
Assoc. Prof.

Quantum Physics and Mathematical Sciences

Particle and astrophysics, which explores the most fundamental structure in nature. In particular, string theory toward quantum theory of gravity.

Yutaka Fujii
Assoc. Prof.

Experimental Applied Physics
Study on quantum phenomena in solids at very low temperatures and under high magnetic fields by magnetic resonance measurements etc.

Takeshi Moriyasu
Snr. Assis. Prof.

Experimental Applied Physics
Study on light-matter interaction using optical and/or terahertz wave.

Yuuya Ishikawa
Assis. Prof.

Experimental Applied Physics
Development of magnetic resonance system and measurement method in very low temperature and high magnetic field region.Studies on physical properties of the low dimensional magnetic material.

Masafumi Fukunari
Assis. Prof.

Experimental Applied Physics
Development of the millimeter-wave oscillator Gyrotron. Millimeter wave applications. Millimeter wave discharge.

Takashi Furuya
Assis. Prof.

Experimental Applied Physics
Millimeter and submillimeter wave spectroscopy

Yuusuke Yamaguchi
Assis. Prof.

Experimental Applied Physics
Development of Terahertz gyrotrons

Nobu Kuzuu
Prof.

Chemical Physics
Amorphous material, Vitreous silica

Jingyuan Chen
Prof.

Chemical Physics
Electrochemistry of nanoparticle, colloid, food, conducting polymer and soft interface

Takahiro Koishi
Assoc. Prof.

Chemical Physics
Molecular simulation of liquid and soft matter

Yoshinori Tamai
Assoc. Prof.

Chemical Physics
Molecular simulation of polymers, Computational science

Toyohiko Nishiumi
Assoc. Prof.

Chemical Physics
Electrochemical measurement of multi-electron-transfer molecules

Details of Courses

Human and Artificial Intelligent Systems

The department aims to understand natural phenomena and to apply the knowledge to engineering fields in order to invent human-friendly intelligent systems. We contribute to the world by bringing up the engineers/scientists who have expertise in computer science and mechatronics as well as comprehensive ideas regarding humans.

Josuke Kuroiwa
Prof.

Advanced Intelligence
Computational Neuroscience, Cognitive Science

Hiroki Takada
Prof.

Advanced Intelligence
Applied Mathematics, Disordered Systems, Ergonomics

Takayuki Hirata
Prof.

Advanced Intelligence
Nonlinear Science, Complex Systems, Pattern Formation, Multi-Robot Systems

Masazumi Katayama
Assoc. Prof.

Advanced Intelligence
Computational Neuroscience, Cognitive Science

Tatsuya Asai
Assoc. Prof.

Energy Safety and Symbiosis Engineering
Analysis of brain function using radioactive tracers, Imaging of biological processes with PET

Tomohiro Odaka
Prof.

Energy Safety and Symbiosis Engineering
Artificial Intelligence, Computer network, Information security, Intelligence modeling

Yasutake Takahashi
Prof.

Advanced Informatics and Machinery
Intelligent Robotics, Soft Computing, Human Symbiotic System

Tomohide Naniwa
Prof.

Advanced Informatics and Machinery
Robotics

Motoharu Fujigaki
Prof.

Advanced Informatics and Machinery
Optical Measurement System, Experimental mechanics, Nondestructive inspection

Yasuhiro Ogoshi
Assoc. Prof.

Advanced Informatics and Machinery
Human Behavior Recognition, Facial Expression Recognition, Data Mining

Eiichi Shoji
Assoc. Prof.

Advanced Informatics and Machinery
Intelligent Materials Science

Kanji Tanaka
Assoc. Prof.

Advanced Informatics and Machinery
Visual Mobile Robot

Kouki Nagamune
Assoc. Prof.

Advanced Informatics and Machinery
Medical engineering, Computer-Assisted Surgery System

Yoshiaki Taniai
Snr. Assis. Prof.

Advanced Informatics and Machinery
Motion Control

〔Visiting Professor〕
Advanced Intelligence

Ryouhei Hasegawa

Frontier Fiber Technology and Science

The Frontier Fiber Technology and Science Course has a tradition of excellence in fiber processing and finishing, as evidenced by the quality of its programs, the caliber of its faculty, and the excellence of its students. The course is a leader in research related to fiber processing and innovative educational programs. The faculties in this course pursue research in all areas of fiber science. The goals of this research include: processing fiber/polymer materials, modifying the materials, manipulating colloidal matters, and controlling biological issues.

Shin-ichiro Suye
Prof.

Frontier Fiber Technology and Science
Bionanotechnology, Biodevice

Shuichi Tanoue
Prof.

Frontier Fiber Technology and Science
Polymer Processing, Textile Engineering

Koji Nakane
Prof.

Frontier Fiber Technology and Science
Nanofibers, Composites

Kenji Hisada
Prof.

Frontier Fiber Technology and Science
Surface Chemistry, Functional Materials, Molecular Architecture

Hideyuki Uematsu
Assoc. Prof.

Frontier Fiber Technology and Science
Rheology, Polymer processing, Composite

Hiroaki Sakamoto
Assoc. Prof.

Frontier Fiber Technology and Science
Nanobiotechnology, Bioelectronics, Functional fibers

Kazumasa Hirogaki
Assoc. Prof.

Frontier Fiber Technology and Science
Texitile Chemistry, Colloid andSurface Chemistry

Satoshi Fujita
Assoc. Prof.

Frontier Fiber Technology and Science
Biomaterials, Tissue Engineering

Toyoaki Hirata
Snr. Assis. Prof.

Frontier Fiber Technology and Science
Polymer Chemistry, Surface Chemistry

Hanako Asai
Assis. Prof.

Frontier Fiber Technology and Science
Studies on electric applications of fiber materials.

Eiichiro Takamura
Assis. Prof.

Frontier Fiber Technology and Science
Bioelectrochemistry, Enzyme Engineering

〔Visiting Professor〕
Fiber Industrial Engineering
Mitsuo Matsuda

〔Visiting Associate Professor〕
Fiber Industrial Engineering
Mitsuru Mizuno

Fiber Industrial Engineering
Toshiyuki Baba

Details of Courses

Nuclear Power and Energy Safety Engineering

The purpose of this course is to promote research on various issues related to nuclear power and energy based on the keywords of “safety” and “symbiosis,” aiming to develop highly skilled professional engineers with a strong sense of ethics. Practical research and education are carried out, particularly taking advantage of the fact that many nuclear power plants are located in Fukui.

Osamu Kuwazuru
Prof.

Energy Safety and Symbiosis Engineering

Solid Mechanics, Numerical Simulation, Experimental Mechanics, Synchrotron Radiation CT, Metal Fatigue, Corrosion Fatigue, Skin Biomechanics

Yoichi Tamagawa
Prof.

Energy Safety and Symbiosis Engineering

Radiation Physics, Study of Rare Decay in Nuclear and Particle Physics

Toshiyuki Meshii
Prof.

Energy Safety and Symbiosis Engineering

Structural integrity, fracture mechanics

Daisuke Kawasaki
Snr. Assis. Prof.

Energy Safety and Symbiosis Engineering

Nuclear decommissioning and waste disposal: design and analysis of systems under uncertainty (groundwater and nuclide migration, risk and cost analysis, optimization and decision analysis).

Kyohei Nakajima
Snr. Assis. Prof.

Energy Safety and Symbiosis Engineering

Radiation measurement, neutrino observation for reactor monitoring, rare decay search in nuclear and particle physics

Youichirou Matsuo
Snr. Assis. Prof.

Energy Safety and Symbiosis Engineering

Radiation biology, Radiation protection, Assessment of DNA damage.

Masaki Teranishi
Assis. Prof.

Energy Safety and Symbiosis Engineering

Computational Mechanics, Solid Mechanics, Structural Mechanics, Seismic Engineering

Yuji Arita
Prof.

Nuclear Engineering

FBR fuel cycle (Alloy fuel, Moltensalt)

Yoshinobu Izumi
Prof.

Nuclear Engineering

Radiation chemistry and radiation biology, Radiation effects on DNAs

Masayoshi Uno
Prof.

Nuclear Engineering

Nuclear Fuel. Pellet, Cladding, Material properties, Thermal property, Irradiation behavior of nuclear fuel

Ken-ichi Fukumoto
Prof.

Nuclear Engineering

Radiation effects in materials, ageing issues in nuclear power plants

Nakahiro Yasuda
Prof.

Nuclear Engineering

Radiation Measurement, Nuclear Disaster Prevention

Tadashi Watanabe
Prof.

Nuclear Engineering

Thermal Hydraulics and Nuclear Safety

Michihiro Ohori
Assoc. Prof.

Nuclear Engineering

Disaster Prevention for Earthquake and Tsunami

Van Rooijen, Willem
Assoc. Prof.

Nuclear Engineering

Nuclear reactor physics, simulation, nuclear reactor design and analysis

〔Visiting Professor〕

Nuclear Engineering
Kiyoshi Oka

Nuclear Power Plant System Safety Engineering
Masakazu Ichimiya

Nuclear Engineering
Michio Yamawaki

Nuclear Power Plant System Safety Engineering
Mamoru Konomura

Nuclear Power Plant Safety Enginnering
Masayuki Kamaya

Nuclear Power Plant System Safety Engineering
Kazuyuki Tsukimori

Nuclear Power Plant Safety Enginnering
Koji Fukuya

Nuclear Power Plant System Safety Engineering
Shinya Miyahara

〔Visiting Associate Professor〕

Nuclear Power Plant Safety Enginnering
Yoichi Utanohara

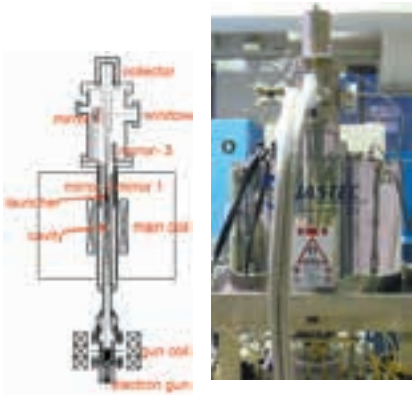
Support for education and research at the Graduate School of Engineering

To support learning at highly specialized facilities and the advanced research engineering center.

Research Center for Development of Far-Infrared Region (FIR UF)

"Far-infrared," on which FIR UF develops its research activities, is the wavelength region between radiofrequency (RF) waves and light; it also corresponds to submillimeter waves, the wavelength of which is shorter than 1 mm. This region is also called the terahertz region, according to frequencies. This wavelength region is a frontier of new research in the 21st century. FIR UF carries out novel research and development of new technologies, applied with world class "Gyrotrons," which are originally developed in FIR UF. Moreover, we have just started research on terahertz science with the combination of a novel method of terahertz wave generation and a new spectroscopic technique.

The objectives of Research and Development in FIR UF are: the further improvement of a high power terahertz wave source "gyrotron"; the development of basic technologies in the far-infrared region, such as highly efficient power transmission systems and highly sensitive detectors; the application of high frequency gyrotrons to basic physics, material science, life science, the development of material with new functions, and energy science; and research, on novel methods of terahertz wave generation and spectroscopy.



Research Institute of Nuclear Engineering

In the Reinan region of Fukui Prefecture there are abundant nuclear-related facilities which provide the foundation to utilize nuclear power, as well as proceed with basic and applied research, and improve nuclear power safety. This research contributes to the improvement of disaster prevention crisis management, the development of a strong nuclear power system that can withstand earthquakes and tsunamis, and research commenced with France and the United States related to proper and rapid radiation protection measures. We continue to promote international nuclear safety foundation research through academic exchanges with overseas research institutes. We have accepted researchers to carry out high-quality international human resource development and also exchange students from, at first, France and the United States, but, later, from China, Korea, Vietnam, and other Asian countries.

In addition, in cooperation with research institutions at the University of Hokuriku, Chukyo and Kansai area, the Nuclear-related facilities in Fukui prefecture continue to act as a core research center for the promotion of nuclear power research.

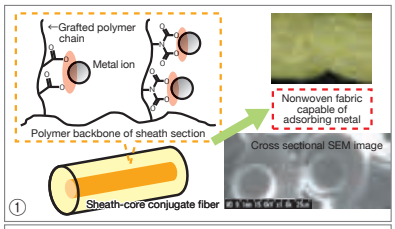
Research Center for Fibers and Textiles

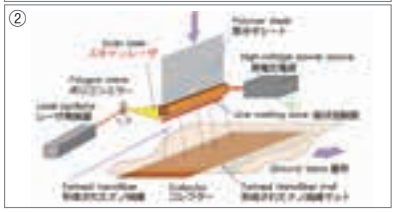
In 2007, the Graduate School of Engineering established an adjunct facility concerned with research related to the promotion of the local Fukui textile industry.

The center promotes joint university and government research relating to the fibers of the industry, by performing advanced research with companies. It supports the development of graduate students with expressive power, problem-solving skills, and self-learning ability.

Research example: ① electron beam processing technology that the University of Fukui has developed over many years, uses metal ions, such as selective rare metals, as a basis for the successful development of adsorption and recovery in non-woven fabric.

Research example: ② the development of a linear laser melt electrospinning for the successful mass production of nano-fiber mats which have high water permeable microfiltration membranes used in such areas as the food industry or medical fields.





Facilities Introduction

Organization for Innovative Research Strategy

Headquarters for Innovative Society-Academia Cooperation (UFHISAC)

This coordinating organization is sought from outside the campus for accurate and quick collaboration of activities among industry, academia, and government. This organization consists of four support units. Graduate students are influenced by many things, and the collaborative research desk becomes a liaison: the project support unit can help unearth creative ideas of students and develop them into a business. The entrepreneurial support unit provides education oriented towards starting a business since there are a lot of things to be considered even while being engaged in graduate studies. The technical support unit can analyze and provide assistance with measurement technology, and the intellectual property unit provides support with intellectual property obtained through research.

Research Administration office (RAO)

The goal of the organization is with researchers planning and managing research activities. It performs research utilization promotion and activation of the research activities, and strengthens the management of research and development. In this role, for instance, it might provide comprehensive support in the application of government research funds projects that a graduate student might participate in.

Takuji Takemoto
Associate Professor

Southeast Asia expansion of Japanese online games. SMEs and venture companies
Whether or not to act by correctly recognizing the risk is the difference between courage and recklessness in entrepreneurial education.

Center for Information Intiative

Education and research, as well as an information processing environment are required to manage a university; the management of the university network is essential for education and research. Scientific computation involves large-scale computing and large-capacity data processing, and not just for medical information processing calculations. ICT creates an environment for doing so as well as provides guidance and support for the improvement of the university. In addition, we put emphasis on guidance and support for information security—improvements which, in recent years, has become a problem. Through these activities, ICT supports the promotion of improved research and education in graduate school.

International Center

The International Center offers Japanese language programs and other related courses. It also holds academic and general consultations for international students as well as Japanese students who wish to study abroad. In addition, for the purpose of developing students as global human resources, the center implements study abroad programs to nurture students' language skills and cross-cultural understanding, and offers support grants for participants in such programs.
The University of Fukui hosts about 180 international students from approximately 20 countries. The International Center promotes their exchanges with Japanese students and local communities, and even supports graduates. The University of Fukui Alumni Society has 13 branches in 10 countries, and will continue to build stronger networks of alumni.

Get-together Party with University Faculty Members and Staff

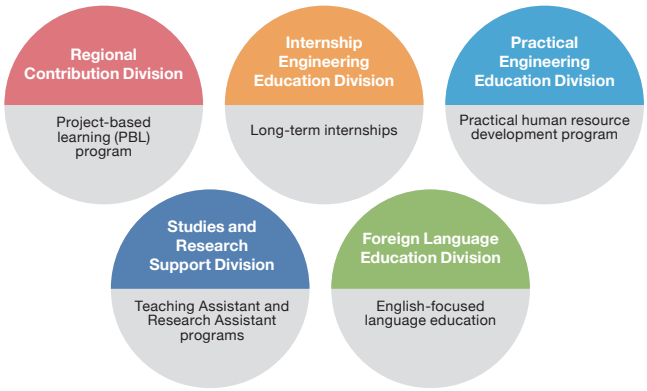
Yoshinobu Torao
Professor

Specialty: Japanese education for technical education; Support of students' international exchanges and internationalization of the local community.
We are all citizens of the earth. Let's deepen global exchanges and ties!

Center for Graduate School Education

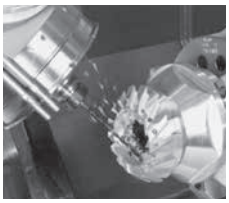
The Center for Graduate School Education is composed of five divisions. These divisions generally support graduate education at the Graduate School of Engineering so that graduate students can improve their comprehensive abilities in accordance with their personalities. The Regional Contribution Division supports project-based learning programs. The Studies and Research Division oversees the Teaching Assistant and Research Assistant systems. The Foreign Language Education Division implements foreign language education with a focus on English. The Practical Engineering Education Division, in cooperation with the Headquarters for Innovative Society-Academia Cooperation (HISAC), provides practical education to graduate students. The Internship Engineering Education Division oversees long-term internship programs. Because of such support by the Center for Graduate School Education, graduate students have opportunities to maximize their comprehensive strengths as experts with applied skills in their engineering fields.

Support system for Graduate School Education



Center for Innovative Research and Creative Leading Education

The center assists students to realize ideas and build an education to foster creative engineers and precision tools, together with multifaceted entrepreneurial support for student activities, such as robot production and urban development.



Cryogenic Laboratory

Facilities for experimental research in ultra-low temperature region use liquid nitrogen or liquid helium. Research in this area focuses on the manufacturing and recovery-after-use of liquid nitrogen or liquid helium.

Research and Education Program for Life Science

There is a broad range of areas related to life science that are beyond the scope of an undergraduate. Through the promotion of education and leading life science research, the center trains excellent technicians in the understanding and application of medical and life sciences.

Research and Education Center for Regional Environment

Investigating environmental issues in close contact with the region, the center has been conducting research in order to conserve and improve the local environment. In light of the importance the environment plays for every person, the center attaches great significance to supporting comprehensive environmental education.

University Library

Health Administration Center

Language Center

International Exchange Student Dormitory

IMAGINEER = Imagine + Engineer

Let's Imagine

Technology gives birth to things beyond people's lives.

Making things is to design a life.

Let's Imagine

Shaping your own future

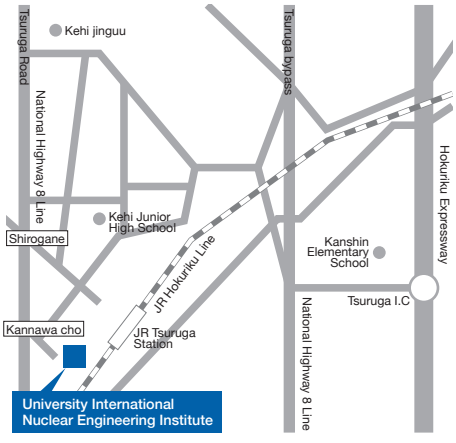
What shape are you aiming at?

Now, how should you go and get it?

Two years from now, you can evolve into your polished aspirations.

To Bunkyo Campus

[Bus] From JR Fukui Station (gate ⑩) to Univerisity of Fukui bus stop (about 10 minutes)
[Rail] Echizen Railway Fukui Station to University of Fukui West Fukui Station (about 10 minutes)
[Hokuriku Expressway] Exit Fukui I.C. or North Fukui I.C. (about 30minutes)



To Tsuruga campus
(**University International Nuclear Engineering Institute**)

[Rail] From JR Tsuruga Station (3minute walk)
[Car] Hokuriku Expressway exit Tsuruga I.C. (about 10minutes)

University of Fukui Graduate School of Engineering
Master's Program

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