Graduate School and Research Institute of
Environment and Information Sciences

Environment and Natural Sciences
Environment and System Sciences
Information Media and Environment Sciences
Innovation Management and Environmental Sciences
Risk Management and Environmental Sciences

Toward a Sustainable and Creative Society
The Graduate School and Research Institute of Environment and Information Sciences (EIS) at Yokohama National University (YNU) are located in Yokohama, a city which served historically as the starting point for the modernization and internationalization of Japan. EIS provides practical education on cutting-edge environmental issues (humanities and information sciences (sciences) integrated) EIS accepts students not only from the School of Engineering Science and the Faculty of Education and Human Sciences at YNU, but also from science, engineering and social science undergraduate programs at other universities as well as graduate schools both in Japan and abroad. It also offers adult continuing education programs. Many students who have completed a program and acquired practical expertise and global perspectives for the future are playing major roles in a wide variety of fields and contributing to the welfare of humanity and the sustainable development of society. We welcome you to our programs.

**Figure of “veto” of EIS**

Our research is focused on diverse environments surrounding mankind such as “natural environment,” “artificial environment” and “social environment.” Information science plays an important role in researching these environments and addressing relevant issues.

Shin Morishita
Dean of the Graduate School and Research Institute of Environment and Information Sciences

The word “environment” has never attracted attention more than now. Environmental issues are intertwined in a complex way with various other issues and defined as social problems. Environmental issues include a wide variety of concerns, ranging from natural environment to artificial and social environments. The mission of Graduate School and Research Institute of Environment and Information Sciences (EIS) is to promote coordination between “environment,” which is described above, and “information,” which is indispensable to present-day society. Now, ten years have passed since the foundation of EIS, and I strongly feel that the contents of our research have become increasingly rich and its significance has increased. The most remarkable feature of EIS is its interdisciplinary approach in research. EIS facilitates interdisciplinary research, which has been difficult for single-major students. For example, students may take a managerial approach to conduct research in natural science or a psychological approach in mechanical engineering. Research activities from such a variety of perspectives can provide a clue to many issues that have not been possible to be solved with a conventional approach. Another feature is its emphasis on Asian and African nations. In these countries, which are undergoing rapid economic development, many concerns are emerging, including not only environmental destruction and other natural environments-related problems but also economic and social issues. EIS collaborates with universities and research institutes in these countries with conducting research, including fieldwork. Partly for the reason that our research activities extend overseas, students from abroad account for quite a large portion, which is another feature of EIS. The environment, where outstanding students from more than 60 countries around the world gather in YNU is extremely significant in terms of achieving academic objectives. Its location in “Yokohama,” one of the most cosmopolitan cities in Japan, gives EIS another advantage; facilitating joint research among its students, companies, and educational institutions for the purpose of educating students. High schools are places to be taught and universities are places to be learned how to learn by yourself. Then graduate schools are places to conduct research under supervisors to understand and address various issues in society from your own perspective. It is my hope that, through research activities at EIS, the students will become competent leaders who can create the next generation in various fields.

Shin Morishita
Dean of the Graduate School and Research Institute of Environment and Information Sciences

The Graduate School and Research Institute of Environment and Information Sciences, Yokohama National University, integrates education and research, which has been accomplished by students from more than 60 countries around the world. It is a small society as a work place is. I learned basic social skills that I acquired before coming to Japan to study. The environment where outstanding students work fosters unique environments. It is a place where you can enjoy challenges. Professor Hallak, who introduced me to the Research Institute of Environment and Information Sciences, said: “Laboratory is a small society” I learned basic social skills that I acquired before coming to Japan to study. The environment where outstanding students work fosters unique environments. It is a place where you can enjoy challenges.

The unique features of our program is biological environmental risk research. The focus of our department is biological environmental risk on the ecosystem and accident and disaster risk in industry and urban areas. Our programs are designed to help students understand environmental risk and develop knowledge and skills that are needed to evaluate and manage environmental issues.

**Professor Keisuke Hirotsuka**

Risk Management and Environmental Sciences

*Yokohama National University*

Our research is focused on planning and implementing innovation for sustainable growth and development from a managerial perspective. Many students from abroad joined this department in the past. I encourage students who intend to conduct research into themes associated with Japan to acquire satisfactory proficiency in Japanese before enrolling in the department.

**Professor Tatsunori Mito**

Information Media and Environmental Sciences

Among the departments in EIS, there are the largest number of students from abroad in this department. Our programs are designed to encourage students to become system engineers or analysts with comprehensive expertise in social networking and accomplishing that goals, as the basis for information media technology. Our education and research are focused on computer processing techniques, analysis, security and mathematical analysis methods.

**Professor Kazuaki Hiranaka**

Environment and Natural Sciences

Our department boasts of cutting-edge research equipment of all kinds and research and educational environments that takes advantage of the divers ships in natural environments in Japan. Our ongoing research projects include large-scale national projects in environmental research, such as a global CO2 project in Asia. Students can enjoy the highest benefits that can be obtained from graduate school education in Japan.

**Professor Seiya Ito**

Environment and Social Sciences

The interest of our research is focused on the creation of artificial environments. The scope of our research is covers from micro-level materials through to macro-level situations and the goals of all research are to create a recycle-oriented society. One of the unique faculties of our team is that students can pursue highly specialized research as well as acquire extensive interdisciplinary knowledge without declaring a double major.

**Professor Takahiko Ishii**

Innovation Management and Engineering Sciences

Our research is focused on planning and implementing innovation for sustainable growth and development from a managerial perspective. Many students from abroad joined this department in the past. I encourage students who intend to conduct research into themes associated with Japan to acquire satisfactory proficiency in Japanese before enrolling in the department.
Graduate school where students are encouraged to pursue research in their specialized area on their own initiative in interdisciplinary fields.

Qian: Yokohama National University is known for its higher number of foreign students in Japan. Why did you come to Japan and choose this university?

Ann: I had studied computer science in my home country Columbia and then in France. After that, I came to Japan.

Wang: I always had been interested in automobiles. The automotive development technology of Japan is one of the most advanced in the world. There are many automobile-related companies in Japan, which is why I chose here. I am currently conducting research mainly in tribology.

Lisa: I decided to study abroad because I thought there are things that I can learn only in Japan. My research is mainly focused on the support services given to small to medium companies.

Chi: I completed my master’s course in China. My major was energy systems. While I was in the master’s course, I participated in an international workshop where the Prof. Sadahara, who is my current professor, wanted me to learn. I joined Prof. Sadahara’s team to choose Yokohama National University for my doctorate.

Shrestha: In Nepal, we still don’t have many research institutes and opportunities so I was thinking of studying abroad from the very beginning. I had always been interested in Japan since my childhood and my uncle also had an experience of studying at Yokohama National University. That’s why I decided to study here.

Qian: Students from many different countries gather here to conduct research in various kinds of fields. This is one of the characteristics of EIS. There are many outstanding students.

Ann: Some study machinery like Wang and others study management like Lin. In addition to information engineering, I am studying its psychological aspect, too. In this way, we can take an interdisciplinary approach, which is one of the interesting aspects of this graduate school.

Qian: We also have opportunities to learn in the beautiful nature of Japan. I went to Shizuoka for a vegetarian survey.

Shrestha: I am conducting research on the water environment in Osaka City of Kanagawa Prefecture. It is also important for students from abroad to be provided with support for daily living. The International Student Center offers an orientation immediately after the enrollment and also helps us regarding accommodations, scholarships, Japanese language classes, procedures related to immigration etc. It’s very helpful.

Ann: I took Japanese lessons at the International Student Center.

Qian: You all seem to be satisfied with studying in Japan, but what are you going to do after graduation?

Chi: I hope to continue my research related to energy systems at a university or company in Japan.

Wang: I also hope to stay in Japan. I have already started research in a joint project with an oil company in Yokohama City and hope to be involved in developing new technology as an engineer in a manufacturing company.

Lisa: I also want to work in Japan, a job to support small and medium companies to start their business abroad.

Qian: I hope to return to China and find a job, something to do with addressing environmental issues. In China, the environmental issues are imminent.

Shrestha: I will return to my home country like Qian. In Nepal, I hope to make the best of what I have learnt here about water resources.

Ann: I will continue my research to gain deeper insights and hope to become a researcher. I have not decided which country I will choose for my research.

Chi: This is a graduate school where many outstanding students come from around the world to learn about a wide range of fields.

Shrestha: While located in Yokohama, an urban area, the natural environment is well preserved in the campus. This environment helps students to have a meaningful school life.
Environment and Natural Sciences
- Applied chemistry
- Life sciences
- Ecology
- Earth science

The Master's Program provides two courses: "Earth and Ecology" and "Life Sciences." The Earth and Ecology Course is designed for students to develop an understanding of the natural environment as a comprehensive system, learn about its mechanisms, and acquire practical expertise necessary to address a wide range of environmental issues both in the field and in research institutions. The Life Sciences Course is designed to teach students about the impact of molecules, genes, cells and chemicals on life, living and the ecological system and allow them to acquire extensive expertise necessary to play an integral role in environmental and life sciences fields. The Doctoral Program is designed to prepare students to become researchers, technicians and managers with deep academic understanding of issues in the fields pertinent to life sciences, applied chemistry, ecology and earth, and an ability to pursue issues associated with the Earth's living system.

Environment and System Sciences
- Cyclic change of materials
- Environmental harmonization processing
- Aerospace and marine environment use

Artificial materials cause significant adverse impacts on the natural environment but, at the same time, are significantly affected by the natural environment. To achieve a sustainable society, we need technicians and researchers who can address global issues related to artificial materials with the material life cycles taken into account from broader perspectives, both spatially and temporally. The Department of Environment and System Sciences aims to develop specialists who have high-level expertise to create and maintain the following with system design methods: 1) eco-materials for which recycled materials are used from a standpoint to reduce environmental impacts caused by materials used for devices, machines and structures, 2) intelligent machines with environmental adaptability using eco-materials, and 3) environmentally harmonized systems in harsh aerospace and marine environments.

Innovation Management and Environmental Sciences
- Innovation management
- Environment management
- Innovation policy
- Socio-cultural environment
- Creation of an ecologically sustainable society
- Environmental innovation
- Social and environmental innovation
- Corporate innovation
- Media informatics

The Department of Innovation Media and Environment Sciences provides students with training to become system development technicians, system designers and system analysts equipped with the comprehensive expertise to play a leading role in supporting information systems and information-media technologies, taking into account information system safety, information analysis and modeling. In addition to software and information processing techniques to take in information from the environment and create new information environments, some of the topics included in our education and research programs are: information analysis, modeling and expression methods with a focus on information media, information security and communication technology in the environment, and mathematical analysis methods for complex systems.

Risk Management and Environmental Sciences
- Environmental risk
- Security and safety
- Disaster prevention
- Ecosystem management
- Biodiversity

Throughout our lives, we are exposed to various risks. The level of environmental risk is evaluated based on the product of the probability of occurrence of an unfavorable environmental event and the magnitude of its outcome. In the Department of Risk Management and Environmental Sciences, research is focused on life and environmental risks occurring in humans, animals, plants and ecosystems, and on accident and disaster risks faced in industries and urban areas. Since these risks are closely associated with various social factors in today's society, we need to understand the risk structure in terms of relationships with the society. Programs offered by this Department are designed to help students understand the basic concept of environmental risk management in society, obtain information on the status in Japan and abroad, and acquire knowledge and skills necessary to establish, evaluate and improve laws and regulations so that they can address environmental issues to ensure a secure and safe society.
Interdepartmental Sub-Major Programs

The graduate school offers an interdepartmental sub-major program to provide students with the opportunity to undertake systematic learning in fields lying outside their department (course/subject), in response to the integrated, interdisciplinary nature of a knowledge-based society as well as the needs of the individual student.

Please see our website for details. >> [http://www.ens.ynu.ac.jp/english](http://www.ens.ynu.ac.jp/english)

Financial and Educational Assistance

The Graduate School provides a range of financial assistance and other educational and research support programs to enable students to devote themselves to their studies without the need for financial concerns, and to allow students to engage actively in research activities.

Financial Aid

- Research Fellowship for Young Scientists of the Japan Society for the Promotion of Science
- Scholarships of the Japan Student Services Organization
- Tuition Waiver of Yokohama National University
- Research Assistant (RA)
- Teaching Assistant (TA)
- COE-RA
- Scholarship for women in Master’s and Doctoral Programs of the Graduate School of Environment and Information Sciences

Educational and Research Support

- Yokohama National University international academic interchange promotion project
- Support project of the Research Institute of Environment and Information Sciences for research presentations at international scientific conferences
- Joint research project “Subject C” of the Research Institute of Environment and Information Sciences
- G-COE overseas research and training support project

Please see our website for detailed information on each program. >> [http://www.ens.ynu.ac.jp/english](http://www.ens.ynu.ac.jp/english)

Graduate comment

"A laboratory is a small society" I learned basic skills as a member of society in the graduate school.

At the company where I am currently employed, I develop firmware for network products. While I was at the graduate school, I learned information-system-related knowledge more than that I was able to learn basic social manners: I still remember what Prof. Okajima, my laboratory professor said: "A laboratory is a small society as a workplace. This is a place where you can improve your abilities needed both for independent and group work." I am now making good use of basic social skills that I acquired in the laboratory.

Xu Shuang From China

Information Media and Environment Sciences (completed in 2010) Currently working for FUTURO LIMITED

Zhang Ying From China

Risk Management and Environmental Sciences (completed in 2008) Currently working for National Institute of Disaster Prevention under South Korea - National Emergency Management Agency

Park, Youngjin From South Korea

Kim Miae From South Korea

Institutional Management and Environmental Sciences (completed in 2008) Currently working for Mount Consulting Ltd

Continuing education

The Graduate School of Environment and Information Sciences aims to provide continuing education and retraining for people in the workforce, and in doing so to develop greater interaction between the university and industry and contribute to the development of new learning and technologies.

Please see our website for detailed information on each program. >> [http://www.ens.ynu.ac.jp/english](http://www.ens.ynu.ac.jp/english)

Yokohama National University
Graduate School and Research Institute of Environment and Information Sciences

[Image]

2011 Edition Published by Graduate School and Research Institute of Environment and Information Sciences
79-7 Tokiwadai, Hodogaya-ku, Yokohama JAPAN Tel:045-339-4426
URL: [http://www.ens.ynu.ac.jp/english](http://www.ens.ynu.ac.jp/english) Email: kankyojicho@ynu.ac.jp

Affiliation and grade posted is current as of March 2011.