Outline of the entrance examination

This five-year integrated course has existed since 2006 and is open to students who have completed four years of university undergraduate studies. In addition, it is also possible to transfer in the third year, when that year corresponds to the first year of a traditional doctoral course. Admissions are twice a year and based on a document screening process, a written examination, and an interview.

For more information on the entrance examinations, please refer to the student application guidebook or visit the web page. If you are interested in this course, please attend the "Graduate School Entrance Examination Information Sessions" held every spring and autumn and the "Trial Enrollment " held in the summer. By listening to specific explanations from faculty members and senior students, you can get a clearer image of what you can expect after joining the course.

Admission period	Enrolled in October of the current year	Enrolled in April of the following year	Enrolled in October of the following year
Application period	Early July	Early July/Late November	Late November
Date of entrance examination	Mid-August	Mid-August/Late January	Late January
Examination result announcement	Early September	Early September/Mid-February	Mid-February

Entrance examination guidelines

Classification	5-year integrated doctoral course	Doctoral course
Application eligibility	Graduate (Bachelor's Degree) Completion of major course at technical college, etc.	Completion of master's course at graduate school (master's degree)
Selection Methods	Document screening (including English score), Written examination (specialized subjects), Interview	Document screening, Written examination (English essay), Interview (Focusing on research)
Degree to be awarded	Academic (Science or Engineering depending on the content of the doctoral thesis)	

Financial support program

The following financial support programs are available for students on this course. Therefore, you can concentrate on your own studies through those support programs.

1 Exemptions of tuition fee, etc.

Students who have difficulty in paying tuition fees for financial reasons and whose academic performance is recognized as excellent, will be exempted from paying full or half tuition fees after a prescribed screening by the university.

2 JASSO Scholarships

This is one of the scholarships provided by the Japan Student Services Organization (JASSO). Students can apply for Type 1 (interest-free) and Type 2 (interest-bearing) scholarships.

3 The JSPS Research Fellowships for Young Scientists (only students in their third year or above can apply)

This is one of the fellowships with the purpose of providing the opportunity for students to concentrate on individual research. If you are selected as a JSPS Research Fellow, you will receive a research incentive grant (living expenses) for up to three years. At the same time, you can also apply for Grants-in-Aid for Scientific Research (Grant-in-Aid for JSPS Fellows), which are awarded every year after screening.

4 Associate Researcher Program

This program focuses on promoting effective research activities, enhancing the research scheme, and improving the ability to carry-out studies as a young researcher by participating in excellent graduate research projects, etc. If you are selected as an associate researcher, you will receive a research incentive grant.

5 Introduction to various scholarships, research grants and support for travel expenses

In addition to the above support, you can apply for various scholarships and grants. If you are selected for this assistance, you will receive grants to cover your research and living expenses. This financial support is available to all on an open competition basis. However, some of them are designated for the fusion science program students. In addition, travel expenses are covered by the institute or the university when you participate in conferences.

Access

>> By car

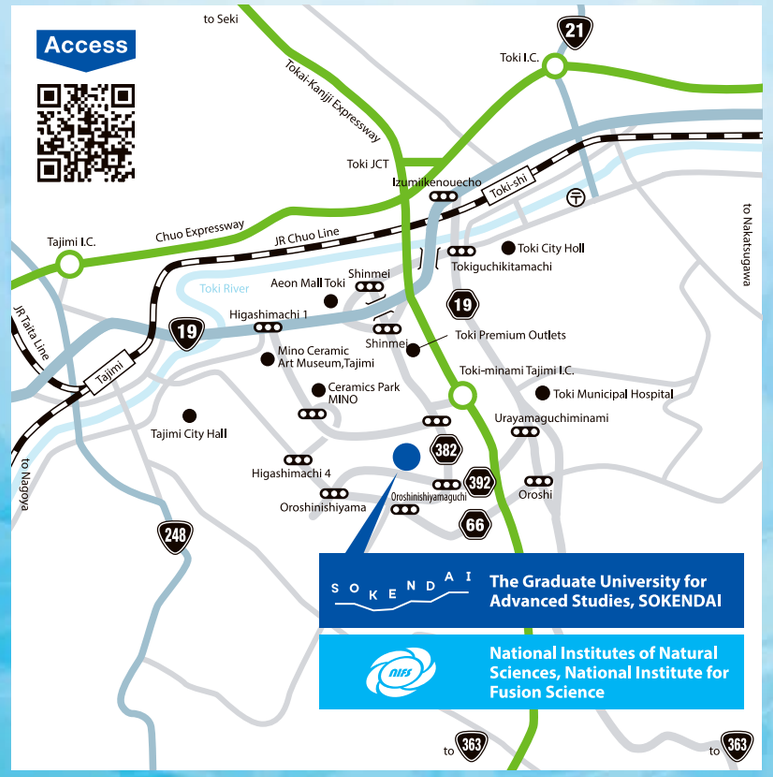
About 5 minutes from "Toki-Minami-Tajimi" I.C. of the Tokai-Kanjo Expressway
Free parking available (can accommodate large buses)

>> By public transportation

About 20 minutes by Tohtetsu bus (Gakuen-Toshi Line. Please get off at the bus stop: Kakuyugo-Kagaku-Kenkyujyo) from Tajimi station (JR Chuo Line)

We welcome applications for facility tours at any time. Please feel free to apply in advance and visit us. Please contact us for application details.

If you would like more information about the Fusion Science Program, please request it by phone, email, or visit our website.



For inquiries, please contact.

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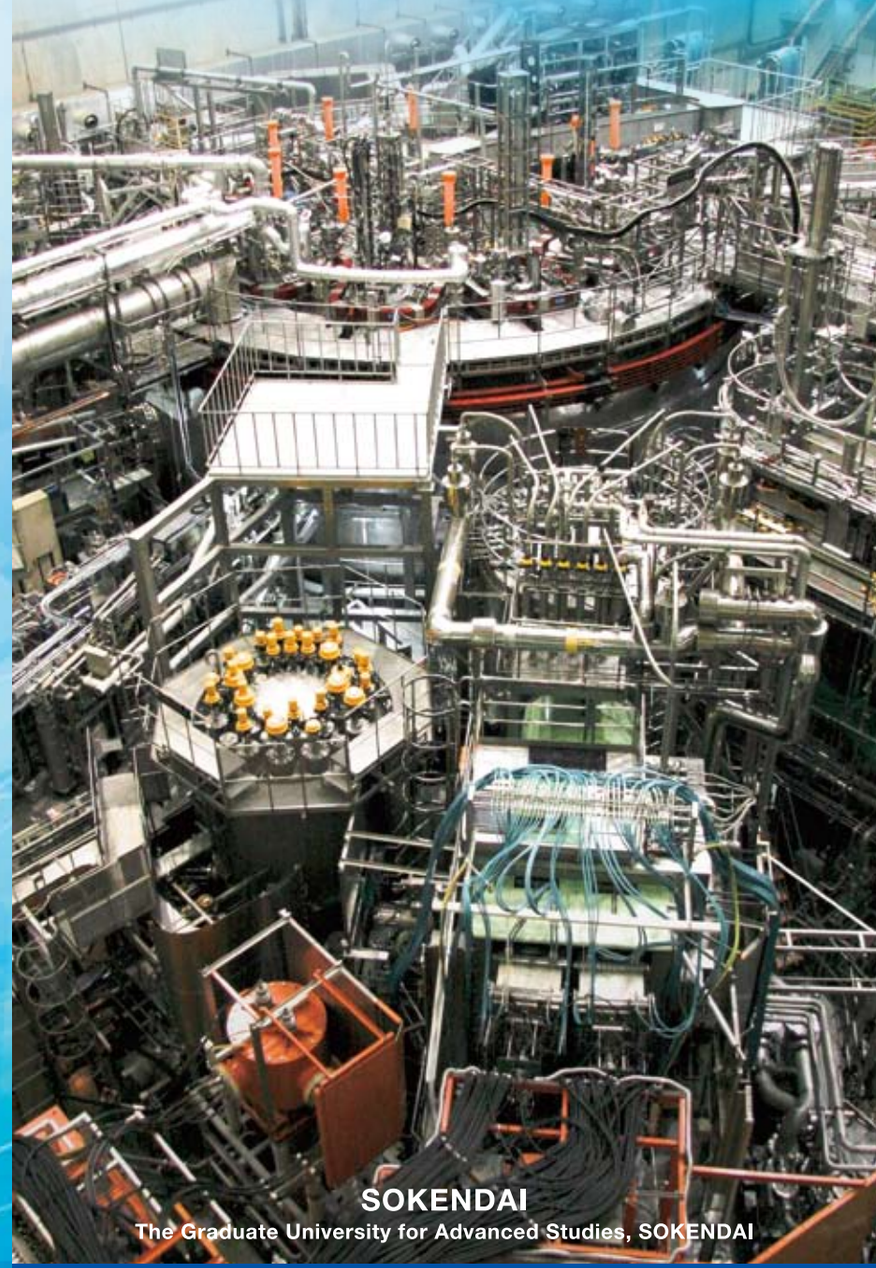
SOKENDAI

National University Corporation

The Graduate University for Advanced Studies, SOKENDAI

Fusion Science Program



SOKENDAI
The Graduate University for Advanced Studies, SOKENDAI

Fusion Science Program

The Ultimate Energy to Create the Future

All stars in the universe shine with fusion energy. The realization of fusion energy on Earth is a challenge for mankind to obtain an ultimate energy source that is safe, environmentally compatible, and has an inexhaustible supply of raw materials.

Fusion energy has the following advantages and problems compared to conventional fossil energy, nuclear power, or other new energy sources to be actualised in the future.

Advantages

1. Fuel is obtained from seawater, is inexhaustible, and is evenly distributed in different regions.
2. When energy is generated, it does not emit much environmentally harmful carbon dioxide or air pollutants.
3. High energy output density, which can be supplied from a central power plant with high efficiency.
4. Inherently safe, since the amount of fuel stored in the reactor is small and no high-level radioactive materials are generated.

Problems

1. Many technical issues remain to be solved, such as the need to confine the fuel at high temperature and high density for a long period of time.
2. Research and development to realize this technology requires many years of experiments using large-scale equipment, and continuous investment of human and financial resources.

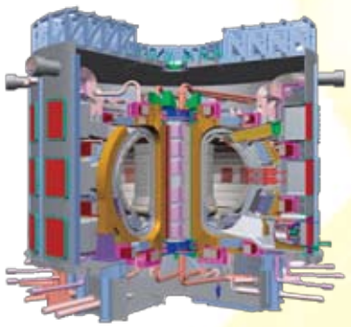
Scientific exploration and technological advances have successively solved these problems to date. As a result, we are now in a situation where the realization of fusion energy is foreseeable in the near future, approximately 30 years from now.

The larger the volume of fusion plasma, the better the confinement, and as research progresses, experimental devices tend to become larger and more expensive. In addition, the development of various reactor components, such as blankets and divertors, is also required.

For this reason, a comprehensive experimental reactor construction plan is underway through international cooperation. This reactor is called ITER, and the seven participating bodies are Japan, the European Union, Russia, the United States, China, South Korea, and India. ITER is currently under construction in Cadarache, France, with the aim of starting operation in the 2020s.

During the construction phase, material tests, simulations, tokamak experiments, etc. will be conducted in Japan as part of the "Broader Activities. The National Institute for Fusion Science (NIFS) is also conducting research in cooperation with the ITER project, with the ITER-BA Collaboration Committee serving as the contact point.

The ITER project, launched in 1985, is now in full swing. This project is the epitome of big science, a project in which huge amounts of research resources will be invested to solve critical issues for the future of mankind. The "ITER International School" for graduate students and young researchers from around the world is also being held, and through participation in this school and other activities, there will be many opportunities to become familiar with ITER.



ITER

Expansion and positioning of research fields

Fusion science is a challenging discipline that encompasses a wide range of research fields in modern science and engineering, and focuses primarily on extremely high-temperature, high-density plasmas. Focusing on experimental research using large experimental devices, simulation science, and reactor engineering, we aim to realize fusion energy by deepening academic inquiry while pioneering the cutting edge of technology.