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The Graduate University for Advanced Studies, SOKENDAI is a graduate university with no undergraduate programs that consists of departments housed in affiliated Inter-University Research Institutes and the School of Advanced Sciences attached directly to SOKENDAI. The Inter-University Research Institutes are research centers for joint use by universities throughout Japan in their various research fields. As such, these institutes serve as centers of advanced research in their respective research fields and as nodes of scholarly communication that support international joint research. The School of Advanced Sciences, which is located in Hayama and has no such parent institute, conducts advanced research into the evolution of life and the relationship between science and society.

SOKENDAI was founded in October 1988 on the internationally unprecedented idea of educating graduate students at outstanding centers of research to cultivate future generations of scholars. We are very happy to announce that we were able to successfully cerebrate SOKENDAI's 30th anniversary, in 2018.

At SOKENDAI, students are educated at Japan's leading centers of research. Their lives are very different from those of students in graduate programs attached to ordinary undergraduate faculties, especially for students who enroll in our five-year programs straight from their undergraduate studies and pursue their graduate studies and research surrounded by professional researchers and scholars. Faculty outnumber students by more than two-to-one. Students have access not only to equipment and materials unavailable elsewhere but also to a community of top-ranked scholars. While this environment provides amazing opportunities for doctoral dissertation research, it may also be more stressful in some ways than an ordinary university.

This is why every department, with the full support of SOKENDAI, looks after its students and takes steps to ensure that time spent in the department is productive and enjoyable. All our students are encouraged to take full advantage of this distinctive research environment as they pursue their doctoral dissertation research.

“Advanced specialty and expertise”, “broad perspective” and “international competitiveness” have been the educational goals of SOKENDAI since its founding. As mentioned above, students are educated at centers of research, so “advanced specialties and expertise” and “international competitiveness” are perhaps something they naturally learn. But what of a “broad perspective”? A “broad perspective” entails the ability to explain one’s object of research in the broader terms of human intellectual activity in general and to envision new horizons that transcend current disciplinary boundaries. Acquiring these abilities in the course of writing a doctoral dissertation can be hard. Still, I hope students will endeavor to gain this broader perspective at every opportunity by taking full advantage of SOKENDAI’s unique characteristics, including its various departments that collectively encompass a broad range of intellectual fields, from energy, materials, space and life to information, history and culture.

Universities and basic research in Japan today face challenging circumstances. Likewise, there are issues regarding SOKENDAI's future growth as an institution of higher learning that need our serious attention. Yet, whatever difficult challenges may lie ahead in this uncertain age, we will face them each and every day as first-class researchers and scholars dedicated to working in cooperation with everyone concerned to produce future generations of global professionals.

April 1, 2021

Hasegawa, Mariko, Ph. D.
President
The Graduate University for Advanced Studies, SOKENDAI

Profile
Dr. Hasegawa joined The Graduate University for Advanced Studies, SOKENDAI as a professor in 2006. She went on to serve as a dean of Department of Evolutionary Studies of Biosystems in 2007, as a dean of School of Advanced Sciences in 2011, and then as an executive director in 2014. Dr. Hasegawa became President of SOKENDAI on April 1, 2017.

She earned her Ph.D. degree in Anthropology from Graduate School of Science, University of Tokyo. Before joining SOKENDAI, she worked at the Tanzania Wildlife Service, as an assistant at the Laboratory of Anthropology, Department of Biological Science, Graduate School of Science, University of Tokyo. She also taught as an associate professor and professor at Senshu University, as an associate professor at the Department of Anthropology at Yale University and as a professor at the School of Political Science and Economics, Waseda University.

Her research expertise includes Behavioral Ecology and Physical Anthropology, and she conducted research on wild chimpanzee, fallow deer and wild sheep in Great Britain, peafowl in Sri Lanka. Recently she is conducting research on human evolution and adaptation.

In 2008, she became President of the Human Behavior and Evolution Society of Japan and received the Hidaka Award from the Japan Ethological Society in 2012.
Main features of SOKENDAI

- Interdepartmental education programs
- International research collaborations coordinated by School of Advanced Sciences
- University-wide “Science and Society” education program

- “SOKENDAI Freshman Course”, an intensive course for all first-year students
- Joint education among departments and schools
- Cross-disciplinary education through distance learning systems
- “Joint School Seminars” for interdisciplinary research exchanges among departments

- Education at the hub of international research collaborations
- International Joint Diploma Programs
- SOKENDAI Student Dispatch Program
- Courses focused on academic communication

Creating advanced research fields

5 Essential Features

- Unique doctoral programs
- Broadening perspective
- Fostering advanced specialties and expertise

- Education programs carried out at cutting-edge research institutes
- Tailor-made education programs
- Flexible education programs for working professionals and foreign students

- Specialized education programs in diverse fields
- Supervision by leading researchers from each field
Purpose of Establishment

In recent years, there has been a strong demand for the promotion of original and international research and the opening up of advanced scientific fields that transcend the boundaries of existing scientific disciplines. The Graduate University for Advanced Studies, SOKENDAI, the first of its kind in Japan, was established to cultivate researchers capable of responding to such demands. It offers the advantage of enabling students to carry out research in the most advanced research environment of Inter-University Research Institutes, which operate under the auspices of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). These institutes conduct advanced research in a variety of fields, and play a central role in the promotion of joint research.

SOKENDAI was established to foster creative international researchers with wide-ranging vision who are capable of leading the latest trends in research. The University will promote original and international research and open up new scientific fields that transcend the boundaries of existing scientific disciplines.

Inter-University Research Institutes

Inter-University Research Institutes house large scale, high-technical facilities, high-level laboratories, or various academic data and archives. They are accessible for any university researchers who would collaboratively interact each other, using these facilities.

Have you ever heard, either on TV or in a newspaper, of the Subaru telescope, on the island of Hawaii, or of the observation vessel, SHIRASE, heading to the South Pole? Both of them are related to Inter-University Research Institutes, affiliated with SOKENDAI, the Subaru telescope was established by the National Astronomical Observatory, and the polar observation is carried out by the National Institute of Polar Research.

Most of the research activities involve fundamental scientific studies which demand large-scale facilities and a large budget. Inter-University Research Institutes have a great number of researchers and a large amount of research grants are made available to carry out original and advanced scientific research.

Advanced Specialist Education in Research Facilities and General Education Cultivating Broad Views

Ph.D. programs at SOKENDAI provide an ideal education and research environment, offering direct access to large-scale or special experiment/observation facilities, as well as academic materials and data at world-class research institutes in Japan. In our Ph.D. programs, students can be in daily communication with cutting-edge researchers in Japan and abroad as one of the leading international research centers. Having 2-3 faculty members per student, SOKENDAI offers, in a custom-made manner, both advanced specialist education and general education cultivating broad views.
Inter-University Research Institutes participating in SOKENDAI

National Institutes of Natural Sciences
National Institute for Basic Biology
Department of Basic Biology (School of Life Science)
URL: https://www.nibb.ac.jp/en/
38 Nishigongaka, Myodaiji, Okazaki, 444-8585 Japan
TEL: 81-564-55-7000

National Institutes of Natural Sciences
National Institute for Astrophysics
Department of Astronomical Science (School of Physical Sciences)
URL: https://www.nao.ac.jp/
2-21-1 Osawa, Mitaka, Tokyo, 181-8586 Japan
TEL: 81-422-34-3600
URL: https://www.nao.ac.jp/

National Astronomical Observatory (Mizusawa)
462-2 Nobeyama, Mizusawa, Oshu, Iwate, 022-0861 Japan
TEL: 81-197-22-7111

National Astronomical Observatory (Hawaii)
650 North A'ohoku Place, Hilo, Hawaii 96720 U.S.A.
TEL: 1-808-934-7788

National Astronomical Observatory (Chile)
Alonso de Cordova 3788, Office 61B Vitacura, Santiago, Chile
TEL: 56-2-2656-9253

National Institutes of Natural Sciences
National Institute for Fusion Science
Department of Fusion Science (School of Physical Sciences)
3224-1, Oroshi-cho, Toki, Gifu, 509-5292 Japan
TEL: 81-572-58-2222 or 2042
URL: https://www.nio.ac.jp/en/

Japan Aerospace Exploration Agency
Institute of Space and Astronautical Science
Department of Space and Astronautical Science
(School of Physical Sciences)
3-1-1, Yoshinodai, Chuo-ku, Sagamihara, Kanagawa, 252-5200 Japan
TEL: 81-42-759-8012
URL: https://www.isas.jaxa.jp/en/

High Energy Accelerator Research Organization
Tsuchuba Campus
Department of Accelerator Science (School of High Energy Accelerator Science)
Institute of Materials Structure Science
Department of Materials Structure Science
(School of High Energy Accelerator Science)
Institute of Particle and Nuclear Studies
Department of Particle and Nuclear Physics
(School of High Energy Accelerator Science)
1-1 Cho, Tsukuba, Ibaraki, 305-0801 Japan
TEL: 81-29-864-1171 or 5126
URL: http://www.kek.jp/

Tokai Campus
203-1 Oaza-Shirakata, Tokai-Mura, Naka-gun, Ibaraki, 319-1106 Japan

Research Organization of Information and Systems
The Institute of Statistical Mathematics
Department of Statistical Science (School of Multidisciplinary Sciences)
3-1-3 Midori-cho, Tachikawa, Tokyo, 190-8562 Japan
TEL: 81-50-5533-8500
URL: (https://www.ism.ac.jp/index_e.html

National Institute of Polar Research
Department of Polar Science (School of Multidisciplinary Sciences)
10-3 Midori-cho, Tachikawa, Tokyo, 190-8518 Japan
TEL: 81-42-512-0608
URL: (https://www.npr.ac.jp/

Syowa Station (Antarctica)
Department of Polar Science (School of Multidisciplinary Sciences)
Research Organization of Information and Systems
National Institute of Informatics
Department of Informatics (School of Multidisciplinary Sciences)
2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo, 101-8430 Japan
TEL: 81-3-4212-2110
URL: https://www.nii.ac.jp/en/

Research Organization of Information and Systems
National Institute of Genetics
Department of Genetics (School of Life Science)
1111 Yata, Mishima, Shizuoka, 411-8540 Japan
TEL: 81-55-561-6720
URL: https://www.nig.ac.jp/
The Graduate University for Advanced Studies, SOKENDAI

Outline

School of Cultural and Social Studies
School of Physical Sciences
School of High Energy Accelerator Science
School of Multidisciplinary Sciences
School of Life Science
School of Advanced Sciences

Education & Research Activities

DATA

(C) NIPR  (C) NAOJ  (C) NAOJ

Campus Map

Tokyo

Antarctica

Kauai

Island of Hawai'i

Maui

Oahu

Chile

Tokyo
The Graduate University for Advanced Studies, SOKENDAI

History

An informal committee of the directors general of international university research institutes issues an appeal for the introduction of postgraduate courses in the institutes.

An informal committee of the directors general of inter-national university research institutes produces a summary of the basic concepts of a postgraduate school for advanced studies based on the results of an investigation by a working group set up to investigate issues related to postgraduate schools. An Office and Committee for the Investigation of the Preparation of the Establishment of a Postgraduate School for Advanced Studies are established at Okazaki National Research Institutes.

The Committee for the Investigation of the Preparation of the Establishment of a Postgraduate School for Advanced Studies produces a summary of the basic concepts of a postgraduate school for advanced studies.

An Office and Committee for Preparation of the Establishment of a Postgraduate School for Advanced Studies are established at Okazaki National Research Institutes.

The Committee for Preparation of the Establishment of a Postgraduate School for Advanced Studies produces an interim summary on the preparation of the establishment of a tentatively named Graduate University for Advanced Studies.

An Office and Committee for Preparation of the Establishment of the Graduate University for Advanced Studies are established at Okazaki National Research Institute.

The “Law to amend part of the National School Establishment Law” (Law No. 63, 1988), which stipulates the establishment of the Graduate University for Advanced Studies, is announced and enacted.

The Committee for Preparation of the Establishment of the Graduate University for Advanced Studies produces a summary of the preparation of the establishment of the Graduate University for Advanced Studies.

The Graduate University for Advanced Studies is inaugurated. The central administration office is established at the Tokyo Institute of Technology (Nagatsuza Campus).

The School of Cultural and Social Studies is established with the coordination center for research and education. The School of Cultural and Social Studies establishes the Department of Cyber Society and Culture.

The Coordination Center for Research and Education is established.

The Department of Japanese Studies (School of Cultural and Social Studies), and the Departments of Astronomical Science and Fusion Science (School of Mathematical and Physical Science) are established; matriculation begins.

The Department of Molecular Science (School of Life Science) is established; matriculation begins.

The Department of Polar Science (School of Mathematical and Physical Science) is established; matriculation begins.

Land in Hayama, Kanagawa (27,000m²), is donated by Mitsui Fudosan Ltd. to allow the construction of the University’s central administration office, as a result of the mediation services of the Kanagawa prefectural government.

Construction of the central administration office (4,205m²) begins at the Hayama Campus.

The Information Center for Research and Education is established.

Administrative functions are transferred from Nagatsuza Campus to Hayama; construction is completed on the central administration building.

Dr.Eizi Hirota is appointed as the second Vice President. Dr.Kazuo Moriwaki is appointed as the second President.

The Department of Biosystems Science and the Department of Photo Science, and the School of Multidisciplinary Sciences have implemented a unification of the University Library and the Information Services and Technology Center.

The School of Advanced Sciences, with the Department of Biosystems Science, is established at the Hayama Campus (matriculation begins in April 1999).

The Department of Photonscience (School of Advanced Sciences) is established; matriculation begins in April 1999. The Department of Synchrotron Radiation Science changes its name to “The Department of Materials Structure Science”.

Construction of the School of Advanced Sciences building for research (3,060m²) begins at the Hayama Campus.

The School of Cultural Studies changes its name to “The School of Cultural and Physical Studies”. The Department of Japanese History is established in the School of Cultural and Social Studies, and The Department of Particle and Nuclear Physics is established in the School of Mathematical and Physical Sciences; matriculation begins in both new Departments. The School of Advanced Sciences commences matriculation.

Construction completed on the research building for the School of Advanced Sciences.

Dr.Koichi Kostada is appointed as the third President. Dr.Naoyuki Takahata is appointed as the third Vice President. The Department of Society and Culture (School of Cultural and Social Studies) is established; matriculation begins.

Construction begins on the Hayama Campus Library (1,427m²).

Library construction completed.

The Department of Informatics is established in the School of Mathematical and Physical Science; matriculation begins.

The Department of Spanish Literature (School of Social and Cultural Studies), and the Department of Space and Astronautical Science (School of Mathematical and Physical Science) are established; matriculation begins.

The National University Corporation Law (Law No. 112 of 2003) is promulgated and enforced.

Reformation into the National University Corporation, Graduate University for Advanced Studies Dr. K. Kostada is reappointed as the President of the University. The School of Mathematical and Physical Science is reformed into three schools: the School of Physical Science (including the departments of Structural Molecular Science, Functional Molecular Science, Astronomical Science, Fusion Science and Space and Astronautical Science), the School of High-Energy Accelerator Science (including the departments of Accelerator Science, Materials Structure Science, Particle and Nuclear Physics), and the School of Multidisciplinary Science (including the departments of Statistical Science, Polar Science and Informatics). The School of Life Science has reformed a three-year doctoral program into a five-year doctoral program.

The name of the Department of Molecular Biomechanics at the School of Life Science has changed to the Department of Basic Biology.

The School of Physical Sciences, the School of High Energy Accelerator Science, and the School of Multidisciplinary Sciences have implemented the five-year doctoral program system. The Schools have begun to accept students.

The School of Advanced Sciences is reorganized to establish the Department of Evolutionary Studies of Biosystems (providing a five-year doctoral program), in stead of its two existing departments, the Department of Biosystems Science and the Department of Photo Science (providing three-year doctoral programs), matriculation begins.

Dr. Naoyuki Takahata has been appointed as the fourth President.

The Department of Cyber Society and Culture has stopped accepting new students.

Construction of the Center for the Promotion of Integrated Sciences (1,033m²) begins at the Hayama Campus.

The name of Hayama Center for Advanced Studies has changed to the Center for the Promotion of Integrated Sciences.

Construction of the Center for the Promotion of Integrated Sciences is completed.

Information Services and Technology Center is established.

Dr. Yasunori Okada has been appointed as the fifth President.

The Center for Academic Information Services is established by unification of the University Library and the Information Services and Technology Center.

Department of Cyber Society and Culture abolished.

(Dept. operation period from 2001.4.1 to 2017.3.31).

Dr. Mikiro Hasegawa has been appointed as the sixth President.

The Center for Educational Development is established.

The Center for the Promotion of Integrated Sciences is abolished.
## Organization

### Administrative Board

**President**
Hasegawa, Mariko
Watanabe, Yoshihito
Nagata, Takashi
Ogawa, Yuiro
Okamura, Sadanori
Inagaki, Masato

**Vice President**
Nagata, Takashi

**School of Cultural and Social Studies**
Dean: Ito, Takayuki
Nobuta, Toshihiro
Suzuki, Motoi
Cryns, Frederik
Higuchi, Takehiko
Saito, Maori

**School of Physical Sciences**
Dean: Namiki, Noriyuki
Aono, Shigetoshi
Yokoyama, Toshihiro
Kawai, Maki
Tsuketa, Saku
Yoshida, Zensyo
Dotani, Tadayasu

**School of High Energy Accelerator Science**
Dean: Iso, Satoshi
Honda, Tohru
Kamitani, Takuya
Kumai, Reiji
Nishimura, Jun

**School of Multidisciplinary Sciences**
Dean: Miyasato, Yoshihiko
Motoyama, Hideaki
Fujisawa, Hironori
Kadokura, Akira
Sugimoto, Akihiro

**School of Life Science**
Dean: Fujimori, Toshihiko
Niimi, Teruyuki
Hanaoka, Fumio
Agata, Kiyokazu
Nabekura, Junichi

**School of Advanced Sciences**
Dean: Kutsukake, Nobuyuki
Innan, Hideki
Sasaki, Akira

**University Library**
Acting Director: Watanabe, Yoshihito
Deputy Director: Yagyu, Shuji

**The Center for Educational Development**
Director: Nagata, Takashi

**The Center for Academic Information Services**
Acting Director: Innan, Hideki

**Future Planning Division**
Manager: Watanabe, Yoshihito

**Administration Bureau**
Secretary-General: Kamazuka, Satoshi
Manager, General Planning Division: Okada, Maki
Manager, General Affairs Division: Harada, Atsuko
Manager, Financial Affairs Division: Iizuka, Yasushi
Manager, Academic and Students Affairs Division: Fujiwara, Masatoshi
In order to support management of the university by the leadership of the President, Future Planning Division was established as the core functions which carries out planning and proposals relating to education/research activities and organizational management of the entire university. We are conducting IR activities and collecting information to support formulating the future vision toward the period for the 4th Mid-term Objectives as the “SOKENDAI Future Vision Project”.

- Planning and proposals relating to management of the University
- IR activities to support planning, proposals and decision making
- International cooperation activities relating to the entire University
- Public relation activities relating to the entire University
- Formulation of the policies relating to management and operations of the headquarters of the University

### Future Planning Division

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- International cooperation activities relating to the entire University
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### Education and Research Council

**As of April 1, 2021**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>President</td>
<td>Hasegawa, Mariko</td>
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<tr>
<td>Executive Director</td>
<td>Watanabe, Yoshihiro</td>
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<td>Executive Director</td>
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<td>Dean, School of Cultural and Social Studies</td>
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<td>Dean, School of Physical Sciences</td>
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<td>Dean, School of High Energy Accelerator Science</td>
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<td>Dean, School of Multidisciplinary Sciences</td>
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<tr>
<td>Dean, School of Life Science</td>
<td>Fujimori, Toshio</td>
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<tr>
<td>Dean, School of Advanced Sciences</td>
<td>Kutsukake, Nobuyuki</td>
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<td>Chair, Department of Regional Studies</td>
<td>Nobuta, Toshihiro</td>
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<td>Chair, Department of Japanese Studies</td>
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<td>Chair, Department of Japanese History</td>
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<td>Chair, Department of Space and Astronomical Science</td>
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<td>Vice Chair, Department of Accelerator Science</td>
<td>Michizono, Shinichiro</td>
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<td>Chair, Department of Materials Structure Science</td>
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<td>Professor, Department of Particle and Nuclear Physics</td>
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<td>Chair, Department of Statistical Science</td>
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<td>Chair, Department of Evolutionary Studies of Biosystems</td>
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<td>Counselor</td>
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<td>Watanabe, Yasuaki</td>
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<tr>
<td>Counselor</td>
<td>Tsubaki, Hiroe</td>
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### Administrative Council

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<table>
<thead>
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<td>Nagata, Takashi</td>
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<tr>
<td>Executive Director</td>
<td>Ogawa, Yujio</td>
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<tr>
<td>Secretary-General</td>
<td>Kamazuka, Satoshi</td>
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### External academics and specialists

**As of April 1, 2021**

<table>
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<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>President, Eikei University of Hiroshima</td>
<td>Arinobu, Mutsuhiro</td>
</tr>
<tr>
<td>President, Hanazono University</td>
<td>Isoda, Fumio</td>
</tr>
<tr>
<td>Professor, Faculty of Letter, Konan University</td>
<td>Inose, Kumie</td>
</tr>
<tr>
<td>Director General, National Institute of Informatics</td>
<td>KITsurgawara, Masaru</td>
</tr>
<tr>
<td>Senior Corporate Adviser, Mitsubishi Estate Co., Ltd.</td>
<td>Koseki, Tadashi</td>
</tr>
<tr>
<td>Executive Director, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency</td>
<td>Namito, Yoshihito</td>
</tr>
<tr>
<td>President, National Institutes of Natural Sciences</td>
<td>Kosugi, Nobuhiro</td>
</tr>
<tr>
<td>Fellow, Toyota Physical and Chemical Research Institute</td>
<td>Nakamura, Takuji</td>
</tr>
<tr>
<td>President, National Institutes for the Humanities</td>
<td>Inoue, Shioichi</td>
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<tr>
<td>President, Research Organization of Information and Systems</td>
<td>Watanabe, Yasuaki</td>
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<tr>
<td>Director General, High Energy Accelerator Research Organization</td>
<td>Tsubaki, Hiroe</td>
</tr>
<tr>
<td>President, Shizenkan University Graduate School of Leadership &amp; Innovation</td>
<td>Fujisawa, Hironori</td>
</tr>
</tbody>
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**The Graduate University for Advanced Studies, SOKENDAI**
SOKENDAI has 6 schools and 20 departments. School of Cultural and Social Studies, School of Physical Sciences, School of High Energy Accelerator Sciences, School of Multidisciplinary Sciences and School of Life Science together hold charge of 19 departments, which are housed in 18 affiliated research institutes and operated by 4 Inter-University Research Institute Corporations and Japan Aerospace Exploration Agency. School of Advanced Sciences, which is attached directly to SOKENDAI Headquarters and does not have a parent institute, has one department to conduct research into the evolution of life and the relationship between science and society. In addition, the University Library, The Center for Educational Development and The Center for Academic Information Services have been established as university-wide facilities for all 6 schools.
School of Cultural and Social Studies

By providing comprehensive research and educational programs on the human cultural activities and the relationship among human, society, technology and nature, the School aims to encourage outstanding researchers who can compete internationally and can offer broad perspectives as well as those who can contribute to the society by using advanced research techniques in which they were trained.

School of Cultural and Social Studies

The School of Cultural and Social Studies is the only humanities school at SOKENDAI.

The School is comprised of the following five departments affiliated with 4 research institutes: Department of Regional Studies and Department of Comparative Studies affiliated with National Museum of Ethnology, Department of Japanese Studies affiliated with International Research Center for Japanese Studies, Department of Japanese History affiliated with National Museum of Japanese History and Department of Japanese Literature affiliated with National Institute of Japanese Literature.

The School not only conducts study and research at each research institute, but also conducts collaborative activities as an entire school. The School is playing an important role of conducting cultural and social studies at SOKENDAI based on a wide variety of academic expertise, and is disseminating the study achievements through methods such as publishing the academic journal “SOKENDAI Review of Cultural and Social Studies”, holding the interdisciplinary exchange program “SOKENDAI Cultural Forum” hosted by each institute in rotation, and implementing the special education program “Academic Resource Management Course”.

In addition, the School only accepts students for the second term of a doctoral course (Doctor) while the other schools at SOKENDAI adopt a five-year system.

Departments under the School

- Department of Regional Studies
- Department of Comparative Studies
- Department of Japanese Studies
- Department of Japanese History
- Department of Japanese Literature

Dean

Ito, Takayuki

Special field

History of Chinese thought, Cultural interaction in East Asia, Comparative culture
Department of Regional Studies

The Department, affiliated with the National Museum of Ethnology, Japan, offers opportunities to study individual cultures and societies in the regions of Asia, Europe, Africa, the Americas and Oceania. Students are expected to give an ethnographic description of culture and society, analyze their structure, and understand their dynamics while considering the characteristics and history of each region. The Department nurtures researchers who can examine field data, assess the data theoretically, and produce both academic contributions and practical recommendations.

Department of Comparative Studies

The Department, affiliated with the National Museum of Ethnology, Japan, offers opportunities for comparative studies of social systems, religion, technology, languages, art and cultural resources. Students are expected to explore similarities and differences in time and space and to explore new directions in the study of society and culture. The Department has the advantage of access to extensive collections of artifacts, audio-visual records and documentary materials. The Department nurtures researchers who can develop new research areas by combining anthropological methods with the findings of related fields.

Department of Japanese Studies

The Department of Japanese Studies is organized as a single administrative unit in order to facilitate the international and interdisciplinary pursuit of Japanese studies encompassing the humanities, social sciences, and natural sciences. A special feature of our graduate study program is that all the faculty take part in teaching and research guidance. The department requires graduate students to take three courses — “Seminar on Theory and Methodology,” “Interdisciplinary Research,” and “Dissertation Writing Guidance” — which set forth the theoretical and methodological basis for conducting Japanese studies from a global perspective. Through these courses and research guidance, we aim to nurture researchers with a creative and highly specialized perspective, broad interdisciplinarity, and the ability to integrate across multiple fields of study.
Department of Japanese History

In the Department of Japanese History, which has the National Museum of Japanese History as its parent institute, researchers specializing in history, archaeology, folklore and allied disciplines including natural science, provide educational and research opportunities, including fieldwork, from interdisciplinary viewpoints. The most distinctive feature of the Department is that the students can use materials that are stored in the Museum, as well as various tangible and intangible information resources and advanced equipment for scientific analysis. The Department aims to foster researchers who are highly capable of comprehensive material-based analysis of Japanese history and culture and individuals who contribute to society with their broad and international perspectives.

Lecture utilizing museum collection
About 300,000 of historical, folkloric and archaeological artifacts as well as advanced research facilities can be made of.

Department of Japanese Literature

The pillars of education in the Department of Japanese Literature are to attain deep expertise on Japanese literature and related fields as well as investigative techniques and comprehensive analytical skills for related materials, while utilizing the cultural resources of the National Institute of Japanese Literature, a fundamental organization and pioneering inter-university research institute that compiles and researches vast amounts of academic information based on investigation of original materials. We offer courses from a systematic curriculum with a focus on Japanese literature and an eye to a wide range of fields while also providing research guidance under multiple faculty members in order to develop researchers with advanced expertise and human resources who can contribute to society through their research results.

Closed Stacks, National Institute of Japanese Literature
About 20,000 rare books including important cultural properties, 200,000 microfilms, 520,000 historical documents and other materials related to Japanese literature are stored in the institute's library.

COURSES

Japanese History

For inquiries or information:
E-mail: soken@ml.rekihaku.ac.jp

Japanese Literature
Shared Lecture / Resource of Literature / Formation of Literature / Environment of Literature

For inquiries or information:
E-mail: edu-ml1@nijl.ac.jp
School of Physical Sciences

Aiming to nurture world-class researchers with broad perspectives as well as individuals with advanced knowledge and skills who will contribute to society in the field of material-, space- and energy-related physics and chemistry.

The School of Physical Sciences conducts education and research in physical sciences relating to material, space, energy and life. The five departments that constitute the School have been located at four Inter-University Research Institutes: the Institute for Molecular Science, the National Astronomical Observatory of Japan, the National Institute for Fusion Science and Institute of Space and Astronautical Science. These Institutes house special and large equipment impossible for general universities to accommodate, and they have implemented a great number of large-scale and internationally advanced research projects. The School is open to many foreign researchers, including visiting faculty members, postdoctoral fellows and students, and thus offers a highly international environment. In this excellent research environment, students experience the frontiers of physical science and devote themselves to study and research, striving to create the science of the future by themselves. The School provides a tutoring system in which at least two faculty members are assigned per student, allowing practical research with one-on-one guidance. In addition, a research assistant (RA) system has generously supported students financially and created an environment in which they can concentrate on their study and research. We hope that many motivated students will enroll in the School and grow into researchers who will play major roles in the future of physical science.

Departments under the School

- Department of Structural Molecular Science
- Department of Functional Molecular Science
- Department of Astronomical Science
- Department of Fusion Science
- Department of Space and Astronautical Science

Dean
Namiki, Noriyuki

Special field
Planetary Science
Department of Structural Molecular Science

Education and research are primarily concerned with a systematic unveiling of the static as well as dynamic properties of materials through real images of molecules and molecular assemblies deduced from detailed structural analyses. Advanced training and research are conducted in the field of structural molecular science with the use of new methods for detecting and analyzing dynamic structures, in addition to a variety of traditional spectroscopic and theoretical techniques for structural analysis.

Electronic states studied by photoelectron spectroscopy

Department of Functional Molecular Science

Education and research are primarily directed towards, firstly, unveiling the underlying mechanisms of various functions of materials at the atomic or molecular level, and secondly, the design and generation of new functional properties of molecules and molecular assemblies. Advanced training and research are conducted in the field of functional molecular science with an emphasis on the development of modern techniques for functional analysis and novel theoretical approaches.

Purification of proteins by high-performance liquid chromatography

Department of Astronomical Science

The department carries out advanced education and research through a wide range of observational and theoretical researches using state-of-the-art facilities like Subaru Telescope in Hawai‘i, the ALMA radio telescope in Chile, and supercomputers. According to the interest, students can learn the observational and theoretical astronomies and application of cutting-edge technology as well as the design, fabrication and testing of new observational instruments, development of new methods of data acquisition and analysis, and public outreach.

Subaru Telescope is located on the summit of Mauna Kea, a dormant volcano on the Big Island of Hawai‘i.

COURSES

Electronic Structure
Material Chemistry

For inquiries or information:
E-mail: r7139@orion.ac.jp

COURSES

Molecular Dynamics
Excited State Dynamics

For inquiries or information:
E-mail: r7139@orion.ac.jp

COURSES

Optical and Near Infrared Astronomy
Ground-based astronomy / Optical and infrared telescope system / Planets / Sun, stars and interstellar matter / Galaxies and cosmology

Radio Astronomy
Ground-based astronomy / Radio telescope system / Sun, stars and interstellar matter / Galaxies

General Astronomy and Astrophysics
High-precision astronomical measurement / Astronomy from space / Data analysis and numerical simulation / Earth and planets / Sun, stars and interstellar matter / Galaxies and cosmology

For inquiries or information:
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Department of Fusion Science

To develop fusion power for a future energy source, it is necessary to research plasma physics through a complementary approach of both experimental and theoretical studies. In this department, students learn the experimental methodology as well as engineering requirements for investigating high temperature plasma, and also learn computer simulation techniques for revealing the nature of complicated fusion plasmas.

![LHD Vacuum Vessel](image1)
![Microscopic instability simulation in core plasma of Large Helical Device by gyrokinetic particle code](image2)

Department of Space and Astronautical Science

The Department of Space and Astronautical Science provides an opportunity for high-level education and advanced research through theoretical studies, analysis of acquired data, and practice of advanced R&D in Astrophysics, Solar System Sciences, and Space Engineering. The main feature of each major is as follows.

- **Astrophysics** is to elucidate the origin, structure and evolution of the universe based on the observations from space.
- **Solar System Sciences** is to understand the origin and evolution of a variety of environments, including the prebiotic materials, by examining the present status and samples of past days.
- **Space Engineering** is to lead the future space development by providing innovative space technology. New space technology enables challenging missions in the above two scientific activities.

In addition, it is expected to cultivate not only depth of knowledge in Space Science but also the planning skills for space projects by touching on the most advanced and complex space projects.

![Capsule separation](image3)

For inquiries or information:
- E-mail: daigakuin@nifs.ac.jp
- E-mail: sokendai@ml.jaxa.jp

**Courses**

- **Fusion System**
  Device system / Research operation / Plasma heating / Diagnostics

- **Fusion Simulation**
  Plasma simulation / Particle simulation / Magneto hydrodynamic simulation

- **Space Exploration Science and Engineering**
  Space System / Space Exploration / Space Environment Science

- **Space Observation Science**
  Space Astronomy / Solar System Exploration

- **Space Technology**
  Electronic Device and telecommunication / Space Transportation Technology
The School of High Energy Accelerator Science provides opportunities for graduate students to carry out experimental and theoretical research on elementary particles and on materials structure and functions. The School also encourages them to engage in the research and development of novel and high performance accelerators. In addition, the School aims to foster the creative researchers who will push the frontiers of science and contribute to the good of society.

School of High Energy Accelerator Science

The School of High Energy Accelerator Science consists of three departments: the Department of Accelerator Science, the Department of Materials Structure Science, and the Department of Particle and Nuclear Physics. These departments are affiliated with the Accelerator Laboratory (and the Applied Research Laboratory), the Institute of Materials Structure Science, and the Institute of Particle and Nuclear Studies in the High Energy Accelerator Research Organization (KEK).

In the Department of Particle and Nuclear Physics, accelerator based high energy physics experiments through international collaborative projects as well as advanced theoretical research are performed in order to study and understand the origin of the cosmos and the ultimate structure of matter. In the Department of Materials Structure Science, structures of hard to soft materials and their functions are studied not only from a fundamental interest but also from an application point of view. KEK develops and operates high-energy accelerators which provide various particle beams such as protons, electrons, positrons, neutrinos, X-rays, neutrons and muons. In the Department of Accelerator Science, principles and components of the accelerator complexes are studied. The education programs are based on variety of research activities pursued by KEK, which provide wide range of graduate education for students.

Departments under the School

- Department of Accelerator Science
- Department of Materials Structure Science
- Department of Particle and Nuclear Physics

Dean
Iso, Satoshi

Special field
Particle Physics, Theoretical Physics
Department of Accelerator Science

High-energy particle accelerators are extremely powerful tools for exploring a wide range of building blocks and structures found in nature, from elementary particles and atomic nuclei to atoms, molecules and even complex living organisms. In addition, beyond the field of natural science, applications of particle accelerators are being actively pursued in the fields of industry and medical science. In the Department of Accelerator Science, students can conduct both theoretical and experimental research on the principles of accelerators and their related leading edge technologies, and thereby endeavor to further advance natural science through the development of particle accelerators. Closely related subjects, such as radiation science, computer science, superconductivity engineering, and mechanical engineering can also be studied.

Department of Materials Structure Science

In Department of Materials Structure Science, leading edge researches on structures, functions and characteristics of hard to soft materials are pursued. The research studies concerning physics, chemistry, biology, engineering, agriculture and medical science are performed by the use of advanced beams such as synchrotron radiation, neutrons, muons and slow positron, which are provided by state-of-the-art particle accelerators. Developing novel technologies for beam production and its utilization to make major contributions to materials science are also included in our research fields. We will offer education programs and experimental opportunities to our students who will aim for clarifying the Nano World.

Department of Particle and Nuclear Physics

Both particle physics and nuclear physics are among the most fundamental areas of basic science, and they are the sources of new frontiers in physical concepts and methods that are the basis of modern science; these subjects involve the pursuit of the most fundamental principles of nature and the exploration of the basic structure and building blocks of matter.

In this department, we conduct both theoretical and experimental researches in particle and nuclear physics. The theoretical investigations include not only those in particle and nuclear physics but also those in cosmology and astrophysics. The experimental investigations are conducted by means of colliding beam accelerators and various beams from high-intensity proton accelerators. In addition, related research in physics, including the R&D of new devices, methods and their applications, is pursued in a versatile manner.

The crystal structure of the world-best (2011) lithium-ion-conducting material Li10GeP2S12 was determined by neutron diffraction and synchrotron radiation. Since then, the development of the all solid-state batteries for automobiles has been activated. (Left to right) the crystal structure of Li10GeP2S12, its framework, the conduction paths of lithium ions are shown. Zigzag conduction pathways along the c axis are indicated.

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COURSES

Accelerator Science
Beam Physics / Accelerator Design / RF Acceleration / Electromagnet / Beam Generation / Beam Instrumentation / Accelerator Control / Vacuum Science / Radiation Science / Superconductivity and Cryogenics / Computer Science / Mechanical Engineering

Materials Structure Science
Synchrotron Radiation Science/Slow Positron Science / Neutron Science/Muon Science / Materials and Life Science based on Quantum Beams

Theoretical Particle and Nuclear Physics
Superstring Theory / Particle Physics Phenomenology / Lattice Gauge Theory / Hadron and Nuclear Theory / Theoretical Cosmophysics

Experimental Particle and Nuclear Physics
B Factory / Hadron Collider Energy Frontier / Lepton Collider Energy Frontier / Neutrino Physics / Kaon Rare Decay / Muon Rare Process / Muon Precision Measurement / Nuclear Physics / Physics of Short-Lived Nuclei / Neutron Fundamental Physics / Experimental Cosmophysics / Beam Dynamics / Superconductivity and Cryogenic Engineering / Particle Detection Technology

COURSES

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COURSES

The Graduate University for Advanced Studies, SOKENDAI

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School of Multidisciplinary Sciences

The School of Multidisciplinary Sciences conducts research and education on complicated natural and social phenomena, as systems that govern the occurrences, functions, and interactions of these phenomena, from the comprehensive and transdisciplinary viewpoint. Through such research and educational activities, the School aims to nurture researchers and highly specialized professionals in the area of information and systems who will take the lead in academic research and address various important issues relating to changes in human society in the 21st Century. The School, consisting of the Department of Statistical Science, the Department of Polar Science, and the Department of Informatics, has been involved in multidisciplinary research fields from the beginning. In addition, the School further strives to enhance its research and education by promoting close collaboration between the Departments by, for example, setting common subjects in curricula. The School covers diverse research subjects but studies the principles of multidisciplinary science, research approaches, and methodologies as an essential part of the School’s research and education activities. The Department of Statistical Science and the Department of Informatics seek to determine the common probability or complexity among various phenomena by statistical mathematics and data analysis. The Department of Polar Science studies the geophysical and the biological complex system in the polar regions of extremes on Earth and approaches its subject from the viewpoint of multidisciplinary science. By continuing to explore new research fields, including advanced and leading research fields, and systematizing them through such activities, the School strives for further development of the multidisciplinary sciences.

Departments under the School

- Department of Statistical Science
- Department of Polar Science
- Department of Informatics

Dean
Miyasato, Yoshihiko

Special field
Control Theory
Department of Statistical Science

The Department of Statistical Science is operated by the Institute of Statistical Mathematics, which has made great achievements in statistical science, including the Akaike information criterion, and has been contributing to the development of science as a central research institute of statistical science not only in Japan but also in the world.

This department conducts education and research on theory and applications to extract information and knowledge from the real world based on data, and aims to develop human resources with creative research capabilities solving various important issues that are complexly intertwined.

The Graduate University for Advanced Studies, SOKENDAI

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Department of Polar Science

Nature in polar regions is conditioned by the interactions between space, the upper atmosphere, the hydrosphere, the geosphere and the biosphere, with the whole Earth constituting a massive natural system. Polar science serves as a foundation for a broad range of fields connected with this natural system, with the purpose of elucidating various physical, chemical and biological processes of the system, as well as their mutual interactions, from a perspective that sees the Earth as a seamless system. The Department of Polar Science conducts education and research focused on natural phenomena occurring in the regions of the North and South Poles, embracing a view of the Earth as a global-scale environment. We strive to cultivate outstanding researchers equipped with advanced research and the ability to work as field scientists who are creative and flexible in studying the past, current and future figure of the Earth.

Department of Informatics

Achieving Excellence in Informatics

Informatics is a scientific research field that extensively and synthetically deals with problems related with information from various aspects. It is a multidisciplinary science covering not only traditional information science and engineering but also modeling, artificial intelligence and data science, which are indispensable in the recent data-driven society, and even humanity informatics and social informatics. It includes visualization, acquisition/collection, circulation, management, processing, understanding, and usage of information as well as the information technology to support them. The department of Informatics aims to foster researchers and highly skilled professionals with ability in a broad range from foundations to practices and advanced specialty by utilizing cutting-edge research environments and cyber science infrastructure of the National Institute of Informatics where you can enjoy an international atmosphere with many active researchers and students from various countries.

The Department of Informatics is operated by the Department of Informatics.

For inquiries or information:
E-mail: daigakuin@nii.ac.jp

COURSES

Statistical Science
Statistical Modeling / Statistical Data Science / Statistical Inference and Mathematics

For inquiries or information:
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Polar Science
Polar Space and Upper Atmospheric Sciences / Polar Meteorology and Glaciology / Polar Geoscience / Polar Bioscience

For inquiries or information:
E-mail: daigakuin@nii.ac.jp

Informatics
Foundations of Informatics / Information Infrastructure Science / Software Science / Multimedia Information Science / Intelligent Systems Science / Information Environment Science

For inquiries or information:
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The School of Life Science aims to cultivate researchers who are internationally competitive and possess broad perspectives necessary for taking on leading roles in the life science research of the next generation. Students participate in research to clarify life phenomena at various levels from the molecular to the individual to the population.

School of Life Science

The School of Life Science aims to educate researchers who are internationally extraordinary and possess creativeness and broad perspectives to explore new fields of Life Science. Professors in this school cover wide fields of Life Science from the molecular to organismal and population levels.

The School of Life Science offers graduate programs that are aimed at nurturing independent and creative researchers that expand the frontiers of life science. Three departments that constitute the School of Life Science are based on three leading research institutions — National Institute of Genetics, National Institute for Basic Biology, and National Institute for Physiological Sciences. Research activities of these institutes cover variable fields of Life Science and the School of Life Science aims to provide research environments in which students can learn interdisciplinary concepts as well as their own specialty. Housing the largest number of life science faculty in Japan, the School of Life Science offers a mentoring system by multiple faculty, and provides a superb environment for independent research by each student. The graduate course provides not only lectures by outstanding internal professors but also seminars on the latest research progress conducted by external researchers, educational programs for cross-disciplinary approaches, and courses on scientific writing and presentation. The three departments hold a joint retreat every year for scientific interactions and share lectures over the internet for further enhanced interactions. We welcome students who love and enjoy Life Science, and dream to open new windows into the field.

Departments under the School

- Department of Genetics
- Department of Basic Biology
- Department of Physiological Sciences

Dean
Fujimori, Toshihiko

Special field
Developmental Biology
Department of Genetics

The Department of Genetics offers education and research opportunities in a variety of cutting-edge disciplines with the goal of investigating biological phenomena on the basis of genetic information. Study and research fields include molecular, cellular, developmental, behavioral, population, and evolutionary genetics, as well as genome biology and bioinformatics. Students can take advantage of a wide range of databases and genetic resources hosted by the National Institute of Genetics. To nurture independent researchers, the Department of Genetics adopts an educational philosophy that the academic guidance of each individual student is carried out by the entire faculty. For example, graduate students meet with their thesis committee twice a year to receive advice from faculty members outside their host labs. Other features of the Department include the Scientific Presentation/Writing Program and ample financial assistance opportunities such as our research assistant program.

The rich environment of the Department of Genetics allows students to fully devote themselves to their own research projects.

Lively discussions are often held in the laboratories.

Model organisms used at Department of Basic Biology

Department of Basic Biology

The Department of Basic Biology trains researchers capable of developing innovative approaches and creative ideas to understand higher order phenomena in biological science. Students take advantage of the environment and facilities of the National Institute for Basic Biology. Students conduct a PhD research project with taking a variety of advanced classes and advices from several professors with different specialities. Research fields in this department cover cell biology, developmental biology, environmental biology, neurobiology, symbiotic biology and evolutionary biology with appropriate model organisms and top-end techniques including molecular biology, bioimaging, mathematical science and omics.

The Department of Genetics offers education and research opportunities in a variety of cutting-edge disciplines with the goal of investigating biological phenomena on the basis of genetic information. Study and research fields include molecular, cellular, developmental, behavioral, population, and evolutionary genetics, as well as genome biology and bioinformatics. Students can take advantage of a wide range of databases and genetic resources hosted by the National Institute of Genetics. To nurture independent researchers, the Department of Genetics adopts an educational philosophy that the academic guidance of each individual student is carried out by the entire faculty. For example, graduate students meet with their thesis committee twice a year to receive advice from faculty members outside their host labs. Other features of the Department include the Scientific Presentation/Writing Program and ample financial assistance opportunities such as our research assistant program.

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Lively discussions are often held in the laboratories.

Model organisms used at Department of Basic Biology

Department of Physiological Sciences

Physiology is to clarify the mechanisms of living bodies from both elements (cells and molecules) and systems, and therefore provides important basic knowledge necessary for understanding pathological conditions. Importance of physiology has been much increased upon clarification of genome structures. In this department, students can learn the function of intact organisms in an integrated way from molecular/cellular levels as basic units of living organisms to whole body levels, and are expected to be pioneering researchers in bioscience, neuroscience and medicine.

Cells, tissues and organs which researchers in Department of Physiological Sciences are working on using different experimental procedures.
School of Advanced Sciences

The School of Advanced Sciences is a school with just one department: the Department of Evolutionary Studies of Biosystems. Our mission is to perform research and education in the fields of evolution and science and society. The evolution section focuses on the diversity and evolutionary history of organisms, and consists of four subsections: integrative anthropology, behavioral biology, evolutionary biology and theoretical biology. The science and society section studies the roles and responsibilities of scientists within society, from the viewpoint that science is a social activity of humans. Students carry out Ph.D. research in their own field, but are also required to write a subthesis in the other one: biology students write a subthesis on science and society, and vice versa. The barriers between laboratories have been removed as far as possible, which makes for an intense, intimate educational environment for all students and faculty. We thus hope that all of our students will become competent and well-balanced researchers / professionals. We also actively promote international and domestic collaborations with other universities and research institutes, to plant the seeds for fruitful future research fields.
Department of Evolutionary Studies of Biosystems

Vision for future through novel perspectives on life

Studying biological organisms, humans and society from broad perspectives, our department is designed to develop deeper understanding on nature through evolutionary studies of biosystems and meta-consideration of science. Our education and research program focus on the biological phenomena with evolutionary perspectives and the relationship between science, technology, and the society. We thus aim to train independent researchers who can contribute for building sustainable society with their expertise and broad perspectives.

1 : Electron micrograph of the visual center of a butterfly, Papilio xuthus
2 : Wild Bornean orangutan in Danum Valley (Malaysia)
3 : Evolutionary simulation of adaptive radiation and extinction: Why do living fossils exist?
4 : Two species of Acropora corals grown from larvae at SOKENDAI
5 : The skull of a Japanese wolf whose genome has been sequenced (Photo: provided by Dr. Naotaka Ishiguro)
6 : Immunostaining of the octopaminergic neurons in the cricket brain
Educational Programs

SOKENDAI Freshman Course

The Freshman Course is an intensive course for newly-enrolled students of SOKENDAI. It is a unique program that intends to provide our new students with fundamental knowledge and skills for a researcher; and, is also an opportunity to learn about the breadth of academia through interactions with peer students and researchers coming from different fields. In the past, the Freshman Course was held for four-days long at our Hayama campus; however, amid COVID-19, since 2020, the course is offered online.

It consists of three sessions: “Exploring Diversity in Academia (EDA),” “Researchers and Society,” and “Communication Skills for Researchers.”

Course Groups

A course group is a cluster of courses categorized across a wide spectrum of specific areas that are intimately related to each other. In some course groups, a coalition of schools/departments bring along their own courses to build up the group; students can enjoy special subjects of an adjacent academic discipline to broaden their perspective, quickly grasp a general idea of each discipline and/or get an objective overview of various disciplines.

When a SOKENDAI student travels to the other campus, for the purpose of receiving a lecture, part of the expenses (ex. transportation expenses) may be reimbursed after course.

2021 Course Groups

<table>
<thead>
<tr>
<th>Course Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrative Brain Science Course</td>
<td>Brain science requires a wide range of knowledge and view not only on physiology, but also on biology, technology, pharmacology, information science and social science. This course will provide lectures and practices for the purpose of integrating multidisciplinary approaches and developing a new research field. All the lectures will be broadcasted through our remote lecture delivery system except traning course.</td>
</tr>
<tr>
<td>Integrative Bioscience Education Course</td>
<td>To foster the development of young researchers who can contribute to the future of biology in connection with the recent developments of various technologies, we provide a new course that promotes interdisciplinary and integrative views of biological processes, covering not only biological but also physical, mathematical, and information sciences. All the lectures will be provided through the remote lecture delivery system except traning course.</td>
</tr>
<tr>
<td>Courses common to the School of Physical Sciences and the School of High Energy Accelerator Science</td>
<td>Utilizing research topics and themes common to both schools and their departments, the schools provide the courses mainly to students with academic background or fundamentals in Physical Sciences. The courses aim to help students cultivate the basic skills, interdisciplinary and integrated perspectives on nature essential for researchers.</td>
</tr>
</tbody>
</table>

First Semester 2020 (Japanese course)
Date: October 2 – 9, 2020
Number of Participated Student: 71

Second Semester 2020 (English course)
Date: March 30 – April 2, 2021
Number of Participated Student: 30

First Semester 2021 (Japanese course)
Date: April 6 – 9, 2021
Number of Participated Student: 68

Second Semester 2021 (English course)
Date (Scheduled): October 5 – 8, 2021
School of Advanced Sciences has been leading a program to develop graduate education in “science and society”. Since the university’s primary mission is to train professionals who have leading expertise as well as broader perspectives, we hope our young scientists develop abilities to grasp science as part of social activities and to think critically about social dimensions of scientific practice including social implications and impacts of research activities and infrastructure supporting scientific research. Therefore the program designs and provides courses on “science and society”. As part of the activities, we offer a 1.5-day program, “Researchers and Society”, within the Freshman Course twice a year (in Japanese and English).

### “Science and Society” Program

The historical and cultural resource management course is led by the School of Cultural and Social Studies and aims to develop researchers with a high capability in historical and cultural resource management through learning about advanced historical and cultural resource management such as methods for reading diverse historical and cultural resources, analysis using advanced scientific methods, recording and scientific preservation management of historical and cultural resource information, and research presentations using historical and cultural resources.

### Historical and Cultural Resource Management Education Program

The Program is provided jointly by the School of Physical Sciences and the School of High Energy Accelerator Science. It seeks to foster researchers in the field of physical sciences who are fully equipped with a high degree of professional qualities as well as broad perspective and international competence to meet the needs of society. In the 1st to 2nd years of the 5-year doctoral course, the Program focuses on building basic academic skills at the graduate school level. In the 3rd to 5th years of the 5-year doctoral course students are placed according to their aptitude into one of the following four courses: Basic Course*, Advanced Research Course, Project Research Course (available only in the School of Physical Sciences), and Development Research Course (available only in the School of Physical Sciences).

*For students matriculating in AY2018 or later, course completion in the “Basic Course” has been discontinued.

### Course-by-Course Education Program to Cultivate Researchers in Physical Science

The historical and cultural resource management course is led by the School of Cultural and Social Studies and aims to develop researchers with a high capability in historical and cultural resource management through learning about advanced historical and cultural resource management such as methods for reading diverse historical and cultural resources, analysis using advanced scientific methods, recording and scientific preservation management of historical and cultural resource information, and research presentations using historical and cultural resources.
Joint School Seminars

SOKENDAI Cultural Forum / School of Cultural and Social Studies

December 5-6, 2020 at International Research Center for Japanese Studies

The forum is an event for academic exchanges organized by SOKENDAI's only liberal arts department, School of Cultural and Social Studies. Centering “culture” as a common focus, it offers a forum for interdisciplinary exchanges among faculties and students of various departments from inside and outside of the university. As it provides a place to publish their research, the event functions as an educational opportunity for the students to present their research works and achievements and to learn presentation skills at the same time. Through these activities, the project also serves as a gateway for academic interactions between art and science students. Furthermore, by involving students in the planning and organization of the event, students can exercise their planning skills and receive advices and supports from faculties on project management through the collaboration, which in turn would facilitate students’ ability as independent researchers.

Physical Science Student Seminar / School of Physical Sciences and School of High Energy Accelerator Science

July 12-13, 2018 at Nobeyama Radio Observatory

School of Physical Sciences and School of High Energy Accelerator Sciences organize the multidisciplinary Physical Science Student Seminar as a part of their course curriculums. Every two years, students and faculties from eight departments join in this overnight event to hold academic seminars. The project authorizes students to take responsible roles in the planning and organization of the event in order to polish their planning and organizing skills and train them as highly competent researchers.

※The program was not implemented due to the COVID-19 in 2020.

Multidisciplinary Sciences Cross Talks / School of Multidisciplinary Sciences and School of Life Science (Department of Genetics)

December 16, 2020 and January 27, 2021 Online

At the “Young Researchers Cross Talks” hosted by Research Organization of Information and Systems and co-sponsored by School of Multidisciplinary Sciences, members of School of Multidisciplinary Sciences and Department of Genetics, as well as faculties and students from a variety of fields in SOKENDAI, join together to hold group discussions throughout this overnight event. Through group discussions and presentations on multidisciplinary topics with the presence of local and international faculties and students from various fields of study, students are expected to acquire higher expertise, wider perspectives, and international competency.
Life Science Retreat / School of Life Science & School of Advanced Sciences

December 22-23, 2020 Online

Life Science Retreat invites biology faculties and students for academic interactions, through which it aims to foster talents with a broader grasp of biological science and the capacity to contribute to the development of the field.

English is used throughout the conference to improve the participants’ international caliber. Students plan and coordinate research presentations (oral and poster) and opinion exchanges. In the project, student organizers are expected to polish planning skills through the preparation and exercise presentations skills.

In 2020, this seminar was held online for the first time and was attended by about 110 students and faculty members.

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SOKENDAI Student Dispatch Program

This program encourages SOKENDAI students to seek a short-term research opportunity abroad and/or a long-term collaborative research project in and outside Japan that may lead to their career in the future. The program follows the educational goals of SOKENDAI, “advanced specialties and expertise”, “broad perspective”, and “international competitiveness”, and intends to financially support such research opportunities of SOKENDAI students.

2020
Category 3 (Long-term Domestic Program)
Number of students supported: 1

※The program was not implemented due to the COVID-19 in 2020.

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SOKENDAI publication grant for research papers

The publishing cost support of the printing expenses is carried out for about the academic paper which was a result of the research activities. This support is applicable only for the students who belong to SOKENDAI. Total 23 publications were supported in 2020.
Society and Community Outreach Activities

Community Programs

We communicate the outcomes of the University’s educational and research activities and give back to the community, with the aim to promote and spread the arts and sciences, as well as promote excellent research findings.

April 3, 2019  
Shonan Village Seminar  
Thinking of a Prosperous Life  
Hasegawa, Mariko (SOKENDAI President)  
Ogawa, Yujiro (SOKENDAI Executive Director)

May 3, 2019  
Shonan Village Festival 2019  
Human Evolution: Environment, Culture, and Genome  
Satta, Yoko (Professor, Department of Evolutionary Studies of Biosystems)

July 31, 2019  
Science Seminar for Junior High and High School Students  
From “Hayabusa” to “Hayabusa 2”: The Mystery of the Solar System Explored from Fragments of Asteroids  
Komatsu, Mutsumi (Assistant Professor, The Center for Educational Development)

December 12, 2020 – March 10, 2021  
SOKENDAI Outreach Activities  
Outreach activities centered on collaboration with institutes of technology  
Honda, Tohru (Professor, Department of Accelerator Science)

November 8, 2020  
SOKENDAI Outreach Activities  
Challenges in the Exploration of the Unknown: Cutting-edge Studies Young Researchers Discuss 2020  
Oishi, Masatoshi (Professor, Department of Astronomical Science)

November 18, 2020  
SOKENDAI Outreach Activities  
Astronomers decoding mysteries of the universe ---from the ground and the space---  
Ikuta, Chisato (Associate professor, Department of Space and Astronautical Science)

October, 2020 – March, 2021  
SOKENDAI Outreach Activities  
Compact accelerator production by KOSEN for touch and play accelerator workshop  
Otani, Masashi (Assistant professor, Department of Accelerator Science)

December 19, 2020  
SOKENDAI Outreach Activities  
Exploration “Q”: The Mysteries of the Universe Explored Through Cosmic Rays  
Ueno, Kazuki (Assistant professor, Department of Particle and Nuclear Physics)

“Yokoko Academia” with Kanagawa Prefectural Yokusuka High School  
We supported the academic program, “Yokoko Academia” organized by Kanagawa Prefectural Yokusuka High School to contribute to local educational institutes and foster future generations. The school is designated as a Super Science High School by the Ministry of Education, Culture, Sports, Science and Technology.

For inquiries or information: Evolutionary Studies of Biosystems (ESB) Administrative Section  
TEL: 81-46-858-1577, 1595  FAX: 81-46-858-1544  E-mail: office_sendou@ml.soken.ac.jp

※The lectures were not implemented due to the COVID-19 in 2020.

Academic Lectures hosted by the School of Advanced Sciences

From various on-going studies, the School selects themes relating to “life and evolution” and organizes academic lectures that deliver findings from cutting edge research to the general public and help to create deeper communication with people in the local communities.
Press Release

Research findings in 2020 published on the following papers are press released and subsequently appeared in newspapers and various media:

● TAMA300 Blazes Trail for Improved Gravitational Wave Astronomy
● Whole Genome Duplication Drove the Evolution of Carnivorous Plants
● Automated crystal structure analysis based on blackbox optimisation
● The First Results from the KaVA Large Program for Star-formation Studies: Unveiling massive baby stars ejecting complex high velocity outflows
● Loss of symbiont infectivity following thermal stress can be a factor limiting recovery from bleaching in cnidarians
● Abrupt Holocene ice-sheet thinning along the southern Soya Coast, Lützow-Holm Bay, East Antarctica, revealed by glacial geomorphology and surface exposure dating
● Identification of ancient viruses from metagenomic data of the Jomon people
● Evolutionary History of the Risk of SNPs for Diffuse-Type Gastric Cancer in the Japanese Population
● In vitro resynthesis of lichenization reveals the genetic background of symbiosis-specific fungal-algal interaction in Usnea hakoneensis.
● Symmetry prediction and knowledge discovery from X-ray diffraction patterns using an interpretable machine learning approach
● Communal roosting shows dynamics predicted by direct and indirect nepotism in chestnut-crowned babblers
● Fecal proteomics as a novel method to study mammalian behavior and physiology

JSPS Summer Program

This program, which is carried in partnership with Japan Society for the Promotion of Science (JSPS), offers opportunities to practice research at inter-university research institutes (IURIs) or universities to young researchers who have undertaken or just completed doctoral programs for two months during the summer.

※The program was not implemented due to the COVID-19 in 2020.

SOKENDAI Fund

SOKENDAI Fund has been established to support SOKENDAI Students. For the details, please visit our website.
https://www.soken.ac.jp/donation/

SOKENDAI Newsletter

SOKENDAI Newsletter covers ongoing activity information at the university such as various events in our campuses, research findings released to media, and awards. You can find it online on our university website. (Japanese text only)
The Center for Educational Development (CED)

“Advanced specialties and expertise”, “Broad perspective” and “International competitiveness” are the educational goals of SOKENDAI, and they are the essential competencies for excellent researchers. In order to achieve these goals, we believe that the university-wide education that enhances the quality as an excellent researcher is necessary, in addition to specialized education carried out in each department. The missions of the CED are: to implement and support the university-wide education programs and projects; and, to assist in evaluation and analysis of the educational activities. We contribute to develop researchers rooted in our philosophy.

Implement and provide support for the university-wide education programs and projects

- Implement "Freshman Course"
- Provide support in implement "SOKENDAI Dispatch Program"
- Provide support in developing the international joint,double degree programs

Meet our students' needs and provide students with support for their learning and activities

- Provide students with support for their learning, research activities, job search and networking

Assist in evaluation and analysis of educational activities

- Conduct surveys and analyze the implementation status of the university-wide and specialized education in each department
- Conduct surveys and analyze students' research performance and experience

The Center for Academic Information Services

This Center was established to aims at effective management of academic information in SOKENDAI. Based on secure and resilient information infrastructure, it provides various academic information services to researchers and researchers-in-future who are both users and creators of academic information, and supports education, research and administration in SOKENDAI.

Division of Information Services and Technology

Cooperating with the affiliated research institutes and museums, this division manages core information facilities and operates information systems located at the Hayama Campus and its branch.

SOKENDAI Video Conferencing System

The system connects the affiliated Inter-University Research Institutes and JAXA with the university headquarters. It facilitates teleconferencing and supports university activities.

SOKENDAI Cloud Computing System

This private cloud computing system is a basic facility lately developed to promote intra-university education, academic exchange and public relations.

For inquiries or information : Academic Information Service Office
TEL : 81-46-858-1587  FAX : 81-46-858-1633  E-mail : istc.jimu@ml.soken.ac.jp
Hayama Library (Attached Headquarters)

Hayama Library gathers, organizes and releases various academic materials to provide high-level research and education and to pioneer advanced academic fields. Hayama Library is open around-the-clock to the faculty and students at the Hayama Campus for reading and borrowing. It collects and makes available standard references and books that can be used in all Departments and Schools, as well as specialized books and journals related to studies in cutting-edge and/or interdisciplinary research fields. Image and video documentation materials are available through in-house facilities.

In addition, Hayama Library offers SOKENDAI Institutional Repository, which allows free online access to doctoral dissertations and book/journal publications at the University, as well as academic papers published by the faculty and students at the Hayama Campus.

### Number of academic materials available at the Library

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Book (Japanese)</td>
<td>approx. 23,000 titles</td>
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<tr>
<td>Book (Non-Japanese)</td>
<td>approx. 24,900 titles</td>
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<tr>
<td>Journal (Japanese)</td>
<td>approx. 200 titles</td>
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<tr>
<td>Journal (Non-Japanese)</td>
<td>approx. 340 titles</td>
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<tr>
<td>E-book</td>
<td>approx. 137,430 titles</td>
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<tr>
<td>E-journal</td>
<td>approx. 5,480 titles</td>
</tr>
<tr>
<td>Institutional Repository</td>
<td>approx. 5,000 titles</td>
</tr>
</tbody>
</table>

As of April 1, 2021

For inquiries or information:
University Library
TEL: 81-46-858-1528
FAX: 81-46-858-1607
E-mail: lib@ml.soken.ac.jp

The University Library consists of the Hayama Library and IURI libraries. The University Library gathers, organizes, and accumulates electronic materials. Under close cooperation with the Hayama Library and IURI libraries, the University Library aims to promote the education / research activities by performing required activities for facilitation of the use of academic information. It offers a large number of e-journals and e-books so that faculty and students of IURIs dotted around the country can use these materials in common. In addition, the university introduces and offers the world’s largest bibliographic / citation database “Scopus”.

Electronic Journals

BioOne / JSTOR / Science Direct / Springer-LINK / Wiley-Blackwell / GeoScienceWorld
Scopus (Document/reference database search service)

※ In addition to the above, electronic journals for internal use at the Hayama Campus are available.

http://www.lib.soken.ac.jp
The 2008 
Nobel Prize in Physics 
for the discovery of the origin of the broken 
symmetry which predicts the existence of 
at least three families of quarks in nature

Kobayashi, Makoto
Professor Emeritus, SOKENDAI / Honorary Professor Emeritus, High Energy Accelerator Research Organization (KEK)

The 2016 
Nobel Prize in Physiology or Medicine 
for his discoveries of mechanisms for autophagy

Ohsumi, Yoshinori
Professor Emeritus, SOKENDAI / National Institute for Basic Biology
# Recipients of Award

## Orders and Medals of Honor (after 2013)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Prize</th>
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</thead>
<tbody>
<tr>
<td>Komatsu, Kazuhiko (Processors Emeritus)</td>
<td>Dept. of Japanese Studies</td>
<td>The Order of the Sacred Treasure, Gold and Silver Star (2020)</td>
</tr>
<tr>
<td>Nagamine Kanetada (Processors Emeritus)</td>
<td>Dept. of Particle and Nuclear Physics</td>
<td>The Order of the Sacred Treasure, Gold Rays with Neck Ribbon (2020)</td>
</tr>
<tr>
<td>Kodaira, Keichi (Professor Emeritus, Former President)</td>
<td>Dept. of Astronomical Science</td>
<td>The Order of the Sacred Treasure, Gold and Silver Star (2017)</td>
</tr>
<tr>
<td>Kawai, Makio (Professor)</td>
<td>Dept. of Functional Molecular Science</td>
<td>Medal with Purple Ribbon (2017)</td>
</tr>
<tr>
<td>Ohsumi, Yoshinori (Professor Emeritus)</td>
<td>Dept. of Basic Biology</td>
<td>Order of Culture (2016)</td>
</tr>
<tr>
<td>Ohita, Tomoko (Professor Emeritus)</td>
<td>Dept. of Genetics</td>
<td>Order of Culture (2016)</td>
</tr>
<tr>
<td>Suenaga, Yasuyuki (Professor Emeritus)</td>
<td>Dept. of Informatics</td>
<td>Order of Culture (2015)</td>
</tr>
<tr>
<td>Nakamichi, Susumu (Professor Emeritus)</td>
<td>Dept. of Japanese Studies</td>
<td>Order of Culture (2013)</td>
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## Person of Cultural Merit (after 2013)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Research Theme</th>
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</thead>
<tbody>
<tr>
<td>Hotta Yoshiki (Emeritus Professors)</td>
<td>Dept. of Genetics</td>
<td>Genetics (2020)</td>
</tr>
<tr>
<td>Komatsu, Kazuhiko (Professor)</td>
<td>Dept. of Japanese Studies</td>
<td>Ethnology (2016)</td>
</tr>
<tr>
<td>Ohsumi, Yoshinori (Professor Emeritus)</td>
<td>Dept. of Basic Biology</td>
<td>Cell Biology (2015)</td>
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</tbody>
</table>

## Japan Academy Prize (after 2013)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Year</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kawai, Makio (Professor)</td>
<td>Dept. of Functional Molecular Science</td>
<td>2020</td>
<td>Single Molecule Spectroscopy Elucidating Chemical Reactions at Solid Surfaces</td>
</tr>
<tr>
<td>Kitisugawa, Masaru (Professor)</td>
<td>Dept. of Informatics</td>
<td>2020</td>
<td>Pioneering Research in the Theory and Application of Large-Scale High-performance Database Systems</td>
</tr>
<tr>
<td>Tsuneta, Saku (Professor)</td>
<td>Dept. of Astronomical Science</td>
<td>2019</td>
<td>Studies of Solar Magnetohydrodynamic Phenomena through Satellite Observations</td>
</tr>
<tr>
<td>Nagamine, Kenetada (Professor Emeritus)</td>
<td>Dept. of Materials Structure Science</td>
<td>2019</td>
<td>Exploration of Muon Radiography and its Application to Non-Destructive Studies of Large-scale Matters</td>
</tr>
<tr>
<td>Takasaki, Fumihiko (Professor Emeritus)</td>
<td>Dept. of Particle and Nuclear Physics</td>
<td>2017</td>
<td>Studies of CP Violation in the B-Meson System</td>
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<tr>
<td>Iye, Masanori (Professor Emeritus)</td>
<td>Dept. of Astronomical Science</td>
<td>2013</td>
<td>Observational Studies of the Early Universe</td>
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## Japan Academy Medal Prize (after 2013)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Year</th>
<th>Subject</th>
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<tbody>
<tr>
<td>Karioyazono, Shino (Associate Professor)</td>
<td>Dept. of Evolutionary Studies of Biosystems</td>
<td>2017</td>
<td>The genetic basis and the biological role of fluorescent proteins in Acetobacter species</td>
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<tr>
<td>Kitaoka, Kazuho (Professor)</td>
<td>Dept. of Structural Molecular Science</td>
<td>2016</td>
<td>Theoretical Development of Quantum Dissipative Dynamics and its Application to Primary Processes of Photosynthesis</td>
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<tr>
<td>Iinami, Hideki (Associate Professor)</td>
<td>Dept. of Evolutionary Studies of Biosystems</td>
<td>2014</td>
<td>Theoretical Elucidation of the Mechanisms of Evolution with Genomic Sequence Data</td>
</tr>
<tr>
<td>Kawanabayashi, Kenichi (Professor)</td>
<td>Dept. of Informatics</td>
<td>2013</td>
<td>Application of Advanced Graph Theory to Discrete Mathematics and Theoretical Computer Science</td>
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</table>

## JSPS Ikushi Prize (after 2013)

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<tr>
<th>Name</th>
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<th>Year</th>
<th>Research Theme</th>
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</thead>
<tbody>
<tr>
<td>KAWAMATA Masaaki (Associate Professor)</td>
<td>Dept. of Japanese History</td>
<td>2017</td>
<td>Development of a frequency dependent squeezed vacuum source for broadband quantum noise reduction in advanced gravitational-wave detectors</td>
</tr>
<tr>
<td>KAMEZAWA Chika (Associate Professor)</td>
<td>Materials Structure Science</td>
<td>2013</td>
<td>Visualization of the complex shear modulus by dynamic X-ray elastography</td>
</tr>
</tbody>
</table>

## SOKENDAI Award

SOKENDAI Award is founded in 2018 to commend the students who have accomplished their outstanding research and have been conferred their degrees with the excellent doctoral thesis.

### The recipients of the 5th SOKENDAI Award (September 28, 2020)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Doctoral thesis</th>
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<tbody>
<tr>
<td>ZHAO Yuhang</td>
<td>Dept. of Astronomical Science</td>
<td>Early Modern Shrines and People under the Authority of the Royal Court</td>
</tr>
<tr>
<td>KAMEZAWA Chika</td>
<td>Materials Structure Science</td>
<td>Visualization of the complex shear modulus by dynamic X-ray elastography</td>
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### The recipients of the 6th SOKENDAI Award (March 24, 2021)

<table>
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<tr>
<th>Name</th>
<th>Department</th>
<th>Doctoral thesis</th>
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<tbody>
<tr>
<td>KAWAMATA Moto</td>
<td>Dept. of Polar Science</td>
<td>Reconstruction of deglaciation history since the Last Glacial Maximum along the southern Soya Coast, Lützow-Holm Bay, East Antarctica</td>
</tr>
<tr>
<td>OKUMA Nao</td>
<td>Dept. of Basic Biology</td>
<td>Studies on the mechanisms of shoot-mediated control of root nodule symbiosis in Lotus japonicus</td>
</tr>
<tr>
<td>SATO Masato</td>
<td>Dept. of Evolutionary studies of Biosystems</td>
<td>Evolution of symbiotic systems in extreme and heterogeneous environments</td>
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### Academic Staff

(As of May 1, 2021)

<table>
<thead>
<tr>
<th>Category</th>
<th>President</th>
<th>Vice President</th>
<th>Executive Director</th>
<th>Auditor</th>
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<tbody>
<tr>
<td>校内研究機関・学部</td>
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<tr>
<td>School of Cultural and Social Studies</td>
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<tr>
<td>Regional Studies</td>
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<tr>
<td>The Center for Educational Development</td>
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<tr>
<td>President</td>
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※ The number of staff in parentheses indicates those who concurrently work in other section (not included in the total).

<sup>1</sup> The number of female students and international students is included in the total.

<sup>2</sup> The School of High Energy Accelerator Science does not have a specific quota of admission but gives examinations.

---

### Students

(As of May 1, 2021)

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<th>2nd year Female</th>
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## Applicants and Enrollments

(As of April 1, 2021)

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<th>Gender</th>
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### Japanese National Universities

- Hokkaido University
- Osaka University
- Tohoku University
- Yamagata University
- University of Tsukuba
- Chiba University
- The University of Tokyo
- Tokyo University of Arts
- Tokyo Institute of Technology
- The University of Electro-Communications
- Shinshu University
- The Graduate University for Advanced Studies, SOKENDAI
- Kumamoto University

### Japanese Private Universities

- Aichi Institute of Technology
- Kansai University
- Kindai University
- Keio University
- Seikei University
- Tokai University
- Tokyo University of Science
- Nihon University
- Meijo University
- The Open University of Japan
- Musashino University
- Rissho University
- Waseda University

### Foreign Universities

- Central University of Venezuela
- Chulalongkorn University
- Johannes Gutenberg-University Mainz
- Technische Universität Dortmund
- King's College London
- Northeast Normal University
- Shandong Agricultural University
- China University of Geosciences
- Tianjin University of Science and Technology
- Wuhan University
- Wuhan University of Technology
- Yonsei University
- National Chiayi University

### Others

- National Institute of Technology, Asahikawa College
- National Institute of Technology, Gunma College
- Osaka Prefecture University College of Technology
- National Institute of Technology (KOSEN), Kure College
- National Institute of Technology(KOSEN), Miyakonojo College
Degrees Awarded

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※1 The quota of admission is the one in 2021. (The number in parentheses is the quota of 3-year doctoral course. The School of High Energy Accelerator Science does not have a specific quota of admission but accepts only a few students.)

※2 ( ) : The number of those who were granted the Ph.D. by way of Dissertation (not included in the total).

※3 [ ] : The number of those who were granted the Ph.D. within a specified time after leaving the university.

※4 The School of Physical Sciences, the School of High Energy Accelerator Science, and the School of Multidisciplinary Sciences were formed from the former School of Mathematical and Physical Science on March 31, 2004.

Requirements for completion of the Ph.D. course

Students are required to be enrolled in SOKENDAI for more than 3 years (five-year course students are required to be enrolled for more than 5 years), earn necessary credits prescribed at each department, take necessary research guidance for a doctoral thesis, and pass an examination for a doctoral thesis. Students who are recognized to have achieved great performance, can graduate in shorter term.
Career Tracking / Data of the 2020

Universities/Research institutes, etc

High Energy Accelerator Research Organization (KEK)
National Institute of Informatics
Institute for Molecular Science
The University of Tokyo
National Institute for Basic Biology
National Institute of Advanced Industrial Science and Technology (AIST)
National Center for Physics, Islamabad, Pakistan
Kyushu University
The Graduate University for Advanced Studies, SOKENDAI
Okayama University
Civil Engineering Research Institute for Cold Region
National Institute of Polar Research
National Institute for Nuclear Physics
National Astronomical Observatory of Japan
Astrobiology Center, National Institutes of Natural Science
Kyoto University
Japan Society for the Promotion of Science
National Institute for Physiological Sciences
Nagoya University
National Institutes for Quantum and Radiological Science and Technology

Private companies/Public service corporation

Tecnos Data Science Engineering
THE NIKKAN KOGYO SHIMBUN, LTD.
JEOL Ltd.
Rakuten Group, Inc.
Toshiba Corporation
Panasonic Corporation
Interstellar Technologies Inc.
FujiClean CO., LTD.
Genesis Healthcare Co.
Mitsubishi Research Institute, Inc.
Nintendo Co., Ltd.
Otsuka Pharmaceutical Co., Ltd.
Canon Medical Systems Asia Pte Ltd
NIPPON STEEL CORPORATION
Reifycs Inc.
Sagami Chemical Research Institute
Central Research Institute of Electric Power Industry

Type of Occupation

Total 101%

- Research positions 43 People (42%)
- Specialists/Technicians 11 People (11%)
- Enrolling in other universities 1 People (1%)
- Job-hunting 7 People (7%)
- Writing a doctoral dissertation 7 People (7%)
- Undecided 4 People (4%)
- Unanswered 23 People (23%)

※ Breakdown of the total
The number of those who completed a course and obtained a degree: 78
The number of those who left the university after obtaining the credits required for completion of a course in the relevant academic year: 23

Unanswered 23 People (23%)
Job-hunting 7 People (7%)
Undecided 4 People (4%)
Writing a doctoral dissertation 7 People (7%)
Enrolling in other universities 1 People (1%)
Total 101%

Unanswered 23 People (23%)
Job-hunting 7 People (7%)
Undecided 4 People (4%)
Writing a doctoral dissertation 7 People (7%)
Enrolling in other universities 1 People (1%)
Total 101%

Unanswered 23 People (23%)
Job-hunting 7 People (7%)
Undecided 4 People (4%)
Writing a doctoral dissertation 7 People (7%)
Enrolling in other universities 1 People (1%)
Total 101%
## Number of International Students by Department

### School of Cultural and Social Studies

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### Number of International Students

#### (As of May 1, 2021)

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SOKENDAI is promoting academic exchange and collaboration with other domestic and foreign universities through mutual agreements.

### Academic Agreement with Foreign Universities

<table>
<thead>
<tr>
<th>Country of Region</th>
<th>University/Institute</th>
<th>Corresponding Department</th>
<th>Date of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Lanzhou University</td>
<td>All Schools</td>
<td>November 12, 2019</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>The University of Science and Technology</td>
<td>All Schools</td>
<td>May 25, 2005</td>
</tr>
<tr>
<td>France</td>
<td>Ecole Centrale de Nantes</td>
<td>All Schools</td>
<td>November 08, 2019</td>
</tr>
<tr>
<td>France</td>
<td>Université Paris-Saclay</td>
<td>All Schools</td>
<td>February 28, 2020</td>
</tr>
<tr>
<td>Russia</td>
<td>Novosibirsk State University</td>
<td>All Schools</td>
<td>March 12, 2020</td>
</tr>
<tr>
<td>Norway</td>
<td>UiT The Arctic University of Norway</td>
<td>All Schools</td>
<td>November 07, 2019</td>
</tr>
<tr>
<td>Italy</td>
<td>Università di Bologna</td>
<td>All Schools</td>
<td>July 20, 2020</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Universitas Gadjah Mada Fakultas Ilmu Budaya</td>
<td>Cultural and Social Studies</td>
<td>December 27, 2019</td>
</tr>
<tr>
<td>USA</td>
<td>University of Hawaii at Manoa</td>
<td>Cultural and Social Studies</td>
<td>February 28, 2018</td>
</tr>
<tr>
<td>China</td>
<td>Southwest Jiaotong University School of Physical Science and Technology</td>
<td>Physical Sciences</td>
<td>May 20, 2020</td>
</tr>
<tr>
<td>Thailand</td>
<td>Chulalongkorn University Faculty of Science</td>
<td>Physical Sciences</td>
<td>April 01, 2010</td>
</tr>
<tr>
<td>Thailand</td>
<td>Kasetsart University Faculty of Science</td>
<td>Physical Sciences</td>
<td>March 01, 2011</td>
</tr>
<tr>
<td>Thailand</td>
<td>Vidyasirimedhi Institute of Science and Technology</td>
<td>Physical Sciences</td>
<td>September 05, 2018</td>
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<tr>
<td>Malaysia</td>
<td>University of Malaya Faculty of Science</td>
<td>Physical Sciences</td>
<td>March 24, 2014</td>
</tr>
<tr>
<td>Germany</td>
<td>Friedrich Schiller University Jena Institute for Solid State Physics</td>
<td>Physical Sciences</td>
<td>July 17, 2020</td>
</tr>
<tr>
<td>Russia</td>
<td>Peter the Great St. Petersburg Polytechnic University</td>
<td>Physical Sciences</td>
<td>January 23, 2019</td>
</tr>
<tr>
<td>Clinical</td>
<td>Republic of Korea University College of Medicine</td>
<td>High Energy Accelerator Science</td>
<td>February 13, 2019</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Korea University College of Medicine</td>
<td>Life Science</td>
<td>November 18, 2019</td>
</tr>
<tr>
<td>India</td>
<td>Indian Institute of Science Education and Research Pune</td>
<td>Life Science</td>
<td>April 18, 2011</td>
</tr>
<tr>
<td>Taiwan</td>
<td>National Taiwan University College of Bioresources and Agriculture</td>
<td>Advanced Sciences</td>
<td>December 26, 2017</td>
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<tr>
<td>Vietnam</td>
<td>Vietnam National University of Science Faculty of Biology</td>
<td>Advanced Sciences</td>
<td>February 08, 2017</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Vietnam National University of Agriculture Faculty of Animal Science</td>
<td>Advanced Sciences</td>
<td>February 15, 2017</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Vietnam Academy of Social Sciences Institute of Archaeology</td>
<td>Advanced Sciences</td>
<td>February 20, 2017</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Jahangirnagar University Faculty of Biological Sciences</td>
<td>Advanced Sciences</td>
<td>October 09, 2018</td>
</tr>
<tr>
<td>India</td>
<td>Indian Institute of Science Education and Research Thiruvananthapuram</td>
<td>Advanced Sciences</td>
<td>March 27, 2020</td>
</tr>
<tr>
<td>Slovenia</td>
<td>University of Ljubljana Biotechnical Faculty</td>
<td>Advanced Sciences</td>
<td>August 28, 2018</td>
</tr>
</tbody>
</table>

### Academic Agreement with Domestic Universities

<table>
<thead>
<tr>
<th>University / Institute</th>
<th>Corresponding Department</th>
<th>Date of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo Institute of Technology, All Schools</td>
<td>All Schools</td>
<td>April 3, 1995</td>
</tr>
<tr>
<td>Ochanomizu University, All Schools</td>
<td>All Schools</td>
<td>April 3, 1995</td>
</tr>
<tr>
<td>Nagoya University, Graduate School of Medicine</td>
<td>Department of Physiological Sciences of School of Life Science</td>
<td>April 3, 1995</td>
</tr>
<tr>
<td>Nagoya University, Graduate School of Engineering</td>
<td>School of Physical Sciences</td>
<td>April 1, 2010</td>
</tr>
<tr>
<td>University of Tokyo, Graduate School of Science</td>
<td>School of Physical Sciences / High Energy Accelerator Sciences / Multidisciplinary Sciences / Life Science / Advanced Sciences</td>
<td>March 27, 1998</td>
</tr>
<tr>
<td>University of Tokyo, Graduate School of Information Science and Technology</td>
<td>School of Physical Sciences / High Energy Accelerator Sciences / Multidisciplinary Sciences / Life Science / Advanced Sciences</td>
<td>March 27, 1998</td>
</tr>
<tr>
<td>International Christian University, Graduate School of Arts and Science</td>
<td>All Schools</td>
<td>March 24, 2000</td>
</tr>
<tr>
<td>Kyotou University, Graduate School of Asian and African Area Studies</td>
<td>Department of Regional Studies / Comparative Studies of School of Cultural and Social Studies</td>
<td>April 1, 2005</td>
</tr>
<tr>
<td>Osaka University, Graduate School of Human Sciences</td>
<td>Department of Regional Studies / Comparative Studies of School of Cultural and Social Studies</td>
<td>April 1, 2005</td>
</tr>
<tr>
<td>Kobe University, Graduate School of Intercultural Studies / Human Development and Environment</td>
<td>Department of Regional Studies / Comparative Studies of School of Cultural and Social Studies</td>
<td>April 1, 2005</td>
</tr>
<tr>
<td>Chiba University, Graduate School of Humanities and Studies of Public Affairs</td>
<td>School of Cultural and Social Studies</td>
<td>April 1, 2005</td>
</tr>
<tr>
<td>Japan Advanced Institute of Science and Technology</td>
<td>Department of Informatics of School of Multidisciplinary Sciences</td>
<td>April 1, 2009</td>
</tr>
<tr>
<td>Chiba University, Graduate School of Science and Engineering</td>
<td>School of Physical Sciences</td>
<td>April 1, 2010</td>
</tr>
<tr>
<td>Tsuda College, Graduate Program in Mathematics and Computer Science</td>
<td>School of Multidisciplinary Science</td>
<td>April 1, 2015</td>
</tr>
<tr>
<td>Waseda University, School of Fundamental Science and Engineering</td>
<td>School of Multidisciplinary Science</td>
<td>April 1, 2015</td>
</tr>
<tr>
<td>Kyushu University, Graduate School of Pharmaceutical Sciences</td>
<td>School of Life Science</td>
<td>April 1, 2017</td>
</tr>
<tr>
<td>Hose University, Graduate School of Sciences and Engineering</td>
<td>School of Physical Sciences</td>
<td>April 1, 2018</td>
</tr>
<tr>
<td>Nagoya University, Graduate School of Science / Graduate School of Engineering / Graduate School of Bioagricultural Sciences / Graduate School of Pharmaceutical Sciences</td>
<td>School of Life Science</td>
<td>October 1, 2019</td>
</tr>
<tr>
<td>Osaka University, Graduate School of Engineering</td>
<td>School of Physical Sciences</td>
<td>June 1, 2019</td>
</tr>
<tr>
<td>Doshisha University, Graduate School of Science and Engineering</td>
<td>School of Physical Sciences</td>
<td>November 01, 2019</td>
</tr>
<tr>
<td>Kumamoto University, Graduate School of Medical Sciences</td>
<td>School of Advanced Sciences</td>
<td>November 29, 2019</td>
</tr>
<tr>
<td>The University of Shiga Prefecture, Graduate School of Human Cultures</td>
<td>School of Cultural and Social Studies</td>
<td>April 1, 2020</td>
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</tbody>
</table>
Academic Agreement with Universities in Kanagawa

<table>
<thead>
<tr>
<th>University/Institute</th>
<th>Corresponding Department</th>
<th>Date of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Graduate University for Advanced Studies, SOKENDAI</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate School of Veterinary Medicine</td>
<td>April 1, 2016</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Dentistry</td>
<td>April 1, 2018</td>
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<tr>
<td></td>
<td>Graduate School of Medicine</td>
<td>April 1, 2018</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Pharmaceutical Sciences</td>
<td>April 1, 2018</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Environmental and Life Science</td>
<td>April 1, 2018</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Human Sciences</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Social Sciences</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Business Administration</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Urban Innovation</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Law</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Political Science</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of International Social Sciences</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Human Environmental Studies</td>
<td>April 1, 2019</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Social Entrepreneurship</td>
<td>April 1, 2021</td>
</tr>
</tbody>
</table>

FY2021 Income and Expenditures Budget (Yen, Thousand)

- **Total Budget Income**: 2,117,756
  - National Institution for Academic Degrees and Quality Enhancement of Higher Education facilities subsidies: 9,000 (0.4%)
  - Miscellaneous income: 2,654 (0.1%)
- Income from tuition, admission, and examination fees: 223,864 (10.6%)

- **Total Expenditures Budget**: 2,117,756
  - Research expenses for industry-academia collaborative research and donations: 82,577 (3.9%)
  - Education expenses: 800,755 (37.8%)
  - General and administrative expenses: 221,647 (10.5%)
  - Education and research support expenses: 223,240 (10.8%)
  - Facility maintenance costs: 9,000 (0.4%)

Access:
- [Tokyo branch](#)
- [Hayama campus](#)

Table:

<table>
<thead>
<tr>
<th>Universities/Institutes</th>
<th>Corresponding Department</th>
<th>Date of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kanazawa University</td>
<td>Graduate School of Business Administration</td>
<td>January 10, 2001</td>
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<tr>
<td>Kanto Gakuin University</td>
<td>Graduate School of Business Administration</td>
<td>January 10, 2001</td>
</tr>
<tr>
<td>Kansai University</td>
<td>Graduate School of Business Administration</td>
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<tr>
<td>Kanto Gakuin University</td>
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<tr>
<td>Kansai University</td>
<td>Graduate School of Business Administration</td>
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<tr>
<td>Kanto Gakuin University</td>
<td>Graduate School of Business Administration</td>
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<td>Kansai University</td>
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<tr>
<td>Kanto Gakuin University</td>
<td>Graduate School of Business Administration</td>
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<tr>
<td>Kansai University</td>
<td>Graduate School of Business Administration</td>
<td>January 10, 2001</td>
</tr>
</tbody>
</table>

**Note:** The table above lists universities and their corresponding departments, along with the date of agreement. The budget information and expenditures are detailed in the FY2021 Income and Expenditures Budget section.
SOKENDAI renewed our logo as we celebrate the 30th anniversary of the university's foundation in 2018. SOKENDAI represents a unique educational structure that provides intellectual knowledge at the highest standards. The ethos of the brand is mirrored through the visualization of a line ‘Intelligence Connector’ which symbolizes a platform for the multiple numbers of research centers across the world that form the diverse educational platform of SOKENDAI.

The photograph shows a longitudinal optical section of germinating rice seed. There is a shoot enclosed by elongating coleoptile. Shoot apical meristem, a population of stem cells of above ground part of plants, is seen at the center of the shoot. In the rice embryo, radicle (embryonic root) appears inside of the embryo. Tissues such as root cap, stele, cortex and root epidermis are clearly seen around the radicle. Rice seeds were imbibed overnight, fixed and stained by Propidium Iodide. After dehydration and clearing, the optical section image was taken by confocal laser scanning microscopy.