

# Master's Program of the Future University Hakodate Graduate School: Outline of the Selection Process for International Students Applying for Admission in September 2022, April 2023 or September 2023

Due to unforeseen circumstances, such as the spread of the coronavirus, the contents of this outline such as the exam schedule may be changed. Whenever it becomes necessary to make changes to the schedule, we will announce them on the website. If you are planning to take the exam, please check the URL below for the latest information.

URL : <https://www.fun.ac.jp/en/international-student-gs>

## 1 Recruitment of students For the Graduate School of Systems Information Science, with a specialization in systems information science

Entrance in April	A few International students will be accepted
Entrance in September	A few international students will be accepted

## 2 Application period and entrance exam dates

[Schedule A] (Enter in September 2022 or April 2023)

Period of filing application for preliminary assessment of qualifications	May 30 (Mon.) - June 6 (Mon.), 2022
Application period	June 20 (Mon.) - July 1 (Fri.), 2022
Entrance exam dates	August 9 (Tue.) - August 10 (Wed.), 2022
Announcement of qualified entrants	August 22 (Mon.), 2022

[Schedule B] (Enter in April or September 2023)

Period of filing application for preliminary assessment of qualifications	November 30 (Wed.) - December 7 (Wed.), 2022
Application period	January 4 (Wed.) - January 12 (Thu.), 2023
Entrance exam dates	February 9 (Thu.) - February 10 (Fri.), 2023
Announcement of qualified entrants	February 20 (Mon.), 2023

## 3 Site of entrance exam

Online or Onsite (Future University Hakodate)

Future University Hakodate  
116-2 Kamedanakano-cho, Hakodate, Hokkaido, Japan 041-8655

- Hakodate Bus Route 55A・C bound for Akagawa  
Board the bus in front of Hakodate Station.  
Get off at the stop in front of Future University Hakodate. 45 minutes

Board the 55A・C bus at Goryokaku.  
Get off at the stop in front of Future University Hakodate. 25 minutes

- Hakodate Bus Route 55F bound for Akagawa  
Board the bus at Goryokaku  
Get off at the stop in front of Future University Hakodate. 25 minutes

# **I Master's Program of the Future University Hakodate Graduate School: Outline of the Selection Process for International Students Applying to Enter in April 2023 or September 2023 (Schedule B)**

## **1 Recruitment of students**

### **For the Graduate School of Systems Information Science, with a specialization in systems information science**

Entrance in April, 2023                      A few international students will be accepted  
Entrance in September, 2023                A few international students will be accepted

## **2 Application period and entrance exam dates (Schedule B)**

Period of filing application for preliminary assessment of qualifications

November 30 (Wed.) - December 7 (Wed.), 2022

Application period

January 4 (Wed.) - January 12 (Thu.), 2023

Entrance examination dates

February 9 (Thu.) - February 10 (Fri.), 2023

Announcement of qualified entrants

February 20 (Mon.), 2023

## **3 Site of entrance exam**

Online or Onsite (Future University Hakodate)

Note: Please refer page 1 for the details.

# **II Application and selection process**

## **1. Required qualifications of applicants**

A person who can apply for special admission to the graduate school as an international student must satisfy all of the following conditions (1) and (2):

- (1) The person must have a student visa for foreigners who study at universities in Japan, as specified in the Immigration-Control and Refugee-Recognition Act or must acquire this visa by the time of entrance to the university.
- (2) The person must satisfy any of the following criteria:
  - (a) Has graduated from Japanese university or will have graduated from university by March 2023.
  - (b) Has a bachelor's degree recognized by the National Institution for Academic Degrees or will receive such a degree by March 2023.
  - (c) Has finished 16 years of schooling overseas or will have finished this schooling by March 2023.
  - (d) Has completed 16 years of schooling in the school education system of a foreign country by completing in Japan subjects offered in correspondence courses by a school in this foreign country, or will have completed such courses by March 2023.
  - (e) Has completed or will complete by March 2023 a foreign university's course of study in Japan that is recognized by the Minister of Education, Culture, Sports, Science and Technology. The course of study must be for a university whose education facilities are recognized as part of the foreign country's educational system. (The completed course of study is limited to a 16-year course of study in the foreign country's school education system, such as 12 years of school and 4 years of university.)
  - (f) Has been or will be granted a bachelor's degree or equivalent by completing a course (including a completion of a course by studying subjects of correspondence education given by a foreign country's school in Japan or completion of a course at an educational facility positioned by the foreign country's educational system and assigned by the previous provision) which term of study is 3 or more years at a foreign university or other school (which comprehensive circumstances of research activities are evaluated

by the foreign country's government, organization accredited by concerned agents, or equivalent one separately designated by the MEXT) by March 31, 2023.

- (g) Has completed a professional course of study in a special training school (in a school that requires four or more years to finish and satisfies criteria of the Minister of Education, Culture, Sports, Science and Technology.) The course of study the student completes should be one recognized by the Minister of Education, Culture, Sports, Science and Technology. Because a student's training and knowledge become obsolete over time, the student should have completed the course of study after the date specified by the Minister of Education, Culture, Sports, Science and Technology. This date sets the limit for the time that can elapse between completion of the course of study and entrance into graduate school.
- (h) Is designated by the Minister of Education, Culture, Sports, Science and Technology (in accordance with Ministry of Education, Notification No. 5, 1953.)
- (i) Is recognized in this graduate school, through an assessment of the individual's qualifications, as having academic ability equivalent to or better than that of a university graduate. This person must be 22 years old by March 31, 2023.

Note 1. Among the above, (2) (i) applies to persons who do not have any university graduate qualifications such as a degree from a junior college, a high school, technical school, a vocational school or other post-secondary school of this type. A person who wants to apply as qualified according to the condition in (2) (i) must have his or her qualifications assessed in advance. For details, see II-3, 'Preliminary assessment of applicant qualifications.'

Note 2. For persons entering the graduate school in September 2023, please replace March 31, 2023 with September, 2023.

## 2. Consultation with faculty member before making a formal application

Before applying, please consult with the faculty member whom you would like to have direct your research after entering the graduate school and get his or her agreement with your plan of study. Please contact the professor at [edu@fun.ac.jp](mailto:edu@fun.ac.jp)

## 3. Preliminary assessment of applicant qualifications

Regarding the application qualification condition (2) (i) above, persons in this category will have their qualifications assessed before they make a formal application. Persons in this category should attach the documents in (1) below to their application and make their application within the prescribed application period. At this point, it is not necessary to send payment for the fee for the entrance examination.

### (1) Application documents

- i) Application for preliminary examination of qualifications
- ii) Curriculum vitae
- iii) Research plan
- iv) Transcript of grades from last school attended
  - \* A person who went to a school other than a university or junior college, should submit a transcript of his/her high school grades as well as a transcript from the last school attended
- v) A certificate of graduation or completion from the last school attended
- vi) A statement and summary of research results
- vii) A document summarizing results achieved at work (only for persons applying who have full-time jobs)

For points to keep in mind when filling out the various parts of the application, please see '4. Application Documents.'

### (2) How to submit your application

Please submit your application as specified in '2. How to apply' in 'III. Points to keep in mind in applying.'

### (3) Announcement of results of application

An applicant will be informed in writing of the results of his or her application by January 4 (Wed.), 2023.

Consequently, by the last day of the application period, persons who have received permission should submit the documents from '4 Application Documents' below that they have not yet submitted.

#### 4. Application Documents

Application document	Documents you must submit		Points to keep in mind when filling in your application
	Applicants under criteria (2) (a) to (h)	Applicants under criterion (2) (i)	
Application slip	✓	✓	Please fill in the required items in the prescribed form, and get confirmation from the professor whom you plan to have as an adviser. We will send your entrance examination slip and notification of whether you qualified for admission to your address on this form. Please fill in your guarantor in your home country and your guarantor in Japan. Attach a 4cm by 3cm, frontal ID photo taken within three months before your application. Attach the photo to the appropriate place on the application form. Do not wear a hat in the photo.
Curriculum vitae	✓	Preliminary application document	Please fill in the required items in the prescribed form.
Research plan	✓	Preliminary application document	Please use the designated form downloaded from the university's website; It should be no longer than two pages. Do not change the format and font style/size. Figures and tables may be included, but must be in colors that will not be affected by black and white printing. It is allowed to insert figures and tables, and fonts in figures and tables should be the same as used in texts. The research theme must be thoroughly discussed with a expected supervisor beforehand. In the case you cite other papers and documents, please insert the list of references at the end of the research plan. For each section, there is no limit on the number of characters, but clear and comprehensive presentation is required. Please submit a research plan printed on the one side of paper sheet.
Grade transcript from last school attended	✓	Preliminary application document	Please submit this document in a sealed envelope. It should have been issued within three months before your application. When there are courses you will get transfer credits for, submit a list of these courses along with your grade transcript at the university you are transferring from.
Certificate of graduation (or planned graduation) from last school attended	✓	Preliminary application document	Please submit this document in a sealed envelope. It should have been issued within three months before your application.
Research results and summary	Submit if available	Preliminary application document	Any of the following achievements (1) to (4) are considered research results, and an applicant can submit more than one achievement. (1) Research paper (a paper presented at an academic conference, a graduation thesis at university or college, etc.) N.B.: For an academic conference paper, attach abstract and certification of proving you to have attended a conference, (2) Research report (such as final result report of public project), (3) Document that binds design works etc. in files, (4) Software and/or hardware and its manuals developed an applicant by oneself.  Notes: • Please attach a summary for each achievement up to 2 pages of A4 paper in any format. • If research result was obtained by an applicant and other collaborator(s), submit a document to make the applicant's role and contribution clear, which should be approved and signed by co-authors and collaborators.
Recommendation letter (Principal, president, or faculty dean of last school attended)	✓	✓	Any format is all right
Adviser's recommendation letter	✓	✓	Any format is all right
Document describing work results	Submit if available	Preliminary application document	Fill in the required items in the prescribed form. Only for applicant with a full-time job
Document verifying your payment of entrance examination fee	✓	✓	-

Copy of passport	✓	✓	Please submit a passport copy in which a photo of your face is recognizable.
Documents certifying level of proficiency in Japanese	Submit if available	Submit if available	-
TOEFL or TOEIC or IELTS score certification	✓ a non-native English speaker	✓ a non-native English speaker	Not necessary for applicants whose mother tongue is English

Note: As necessary, documents other than the above may be required.

### 5. How entrants to the graduate school are selected

Assessment of documents submitted, interviews

(\* If necessary, instead of an interview, questions can be asked by using a telecommunication tool, e.g., Skype and Whereby.)

### 6. Dates of entrance examination

The entrance examination will be held on February 9 (Thu.) or 10 (Fri.), 2023.

Regarding the interview, we will inform applicants later of the exact schedule.

## III Points to keep in mind in applying

### 1. Entrance examination fee

30,000 yen

Please make a payment of the entrance examination fee within the period: January 4 – January 12 by selecting the designated account either (a) or (b) depending on a place to pay.

**\*Be sure to follow the period (No later than January 12).**

#### (a) Payment made from Overseas

Transfer the entrance examination fee to the bank account below so that the payment will be exactly 30,000 JPY. A bank transfer fee is not included in the amount; please bear it at your expense.

Bank & Branch name: THE HOKKAIDOBANK, LTD., HAKODATE BRANCH

Account number: 206-1561232

Account name: Kouritsudaigakuhoujinkouritsuhakodatemiraidaigaku

SWIFT code: HKDBJPJT

#### (b) Payment made in Japan via Japanese financial institutions (Banks, Credit Unions, Labor Banks, etc.)

Transfer 30,000 JPY only at a teller window of Japanese financial institutions (Banks, Credit Unions, Labor Banks, etc.). Please do not use ATMs. A bank transfer fee is not included in the amount; please bear it at your expense.

\*Note that this payment cannot be made at Japan Post Bank.

Bank & Branch name: MICHINOKUBANK, HAKODATE EIGYOBU

Account number: 091-2607324

Account name: kouritsudaigakuhoujin kouritsuhakodatemiraidaigaku nyugakuryo  
rizicho katagiri yasuihiro

Note: Once the test fee has been paid, it cannot be refunded for any reason.

## 2. How to apply

Mail or directly submit the application documents to the university.

**The documents must arrive by the final day of the application period.**

Address to send the documents:

Education/Library Affairs Section

Education Affairs Department

University Office

Future University Hakodate

116-2 Kamedanakano-cho

Hakodate, Hokkaido, Japan 041-8655

Tel: 81-138-34-6419 (from overseas), 0138-34-6419 (within Japan)

If you bring your application to the university, please note that we only accept applications from 9 am to 5 pm on regular working days. The university office is closed on Saturdays, Sundays, and holidays, so we cannot accept applications brought in on these days.

## 3. Other

- (1) If any part of the application is missing, we cannot accept the application.
- (2) You cannot change the content of any documents after you have submitted them.
- (3) After the application documents are submitted and the entrance examination fee is transferred, they will not be returned to you, however, the fee may be refunded in the following cases.
  - a. The application has not been made (the application documents were not submitted or the application was not accepted) although the fee was transferred.
  - b. The fee has been transferred twice by mistake.
  - c. Other circumstances where the university deems necessary.In the case of either (a) or (b), the amount of money that is equivalent to the examination fee will be refunded by requesting a refund within two weeks from the last date of the application period. Please contact the education affairs section of the administration bureau when making a request.
- (4) If an applicant lies on his or her application, the applicant's permission to study at the university will be revoked, even if the applicant has already entered the university.
- (5) When an applicant has a disability that requires special treatment or facilities on the entrance test or during the applicant's study at the university, the applicant should inform the university of this fact before applying.

## IV Points to keep in mind regarding the test

- (1) For the interview, please go to the waiting room for the interview by the time designated for your interview and wait there until called for your interview.
- (2) Please turn off in advance any mobile phone or PHS (Personal Handyphone System) or wearable devices you have before you enter the test room.
- (3) There is no place to buy lunch at the university, and holidays, so please prepare and bring your own lunch. (There are no stores near the university that sell lunches or food.)
- (4) The university will not find lodging for you, so please find lodging on your own.

## V Announcement of successful entrants

1. Date of announcement of successful entrants February 20 (Mon.), 2023
2. How announcement of successful entrants will be made.

Successful applicants will be notified in writing by post.

## VI Procedures for entering the university

### 1. Period for completing procedures to enter the university

February 20 (Mon.) to March 3 (Fri.), 2023

### 2. How to complete procedures for entering the university

Please follow the 'Guide to procedures for entering the university' that is included in the letter informing you that you qualified to enter the university's graduate school.

#### (1) Entrance fees

Please pay the entrance fee in accordance with the payment notice included in the letter informing you of your successful entrance. Please pay within the period for completion of entrance procedures. The current amounts for the entrance fee are the following. Please note that these amounts may change in 2023.

- i) 226,000 yen for persons from the Oshima and Hiyama districts of Hokkaido
- ii) 310,000 yen for all other persons

(Note) Any applicant or any applicant with an equivalent to a parent registered continuously as a resident of any of the cities, towns, or villages below before or from April 1, 2022 will be considered a resident of Oshima or Hiyama District.

(The applicant should submit a copy of the certificate of residence for himself, herself, or the parent at the time of carrying out the university entrance procedures.)

Oshima District:

Cities- Hakodate, Hokuto

Towns- Nanae, Matsumae, Fukushima, Shiriuchi, Kikonai, Shikabe, Mori, Yakumo, and Oshamambe

Hiyama District

Towns- Esashi, Kaminokuni, Assabu, Otobe, Okushiri, Imakane, and Setana

#### (2) Fee for injury benefit insurance for student education and research, and fee for compensation insurance for student education and research. The current amounts are as follows, but they may change in 2023.

- i) Student education and research injury benefit insurance fee 1,750yen (for two years)
- ii) Student education and research compensation insurance fee 680yen (for two years)

### 3. Points to keep in mind in completing entrance procedures

- (1) Persons who do not complete the entrance procedures within the prescribed period will be refused entrance to the university
- (2) Please confirm that you submit all the required documents. It will be unacceptable if any are missing, and you will be unable to complete entrance procedures.
- (3) Any required documents or items that arrive after the end of the period for completing entrance procedures will not be accepted.
- (4) Once you have sent the entrance procedure documents and entrance examination fee to the university, we cannot return either of them to you for any reason.**

## **VII Other**

### **1. Tuition**

The current amount of tuition is the following, but this amount may change in 2023.

i) Amount (annual) 535,800 yen

ii) Method of payment

Payment for your annual tuition will be divided evenly between the two semesters, with 267,900 yen being required for each semester. Please pay your tuition for the first semester by the end of April and your tuition for the second semester by the end of October.

### **2. Scholarships, tuition exemptions, and boarding houses and apartments**

Regarding these, please contact the person in the university office's education affairs department who is in charge of student affairs section. (E-mail: [stu@fun.ac.jp](mailto:stu@fun.ac.jp))

### **3. Disclosure of Screening Result**

Results of screening will be disclosed according to the examinee's request.

As a general rule, term of the disclosure is within two years after the announcement of the result. As for details of the disclosure and request method, please refer to the URL below on our website.

URL: <https://www.fun.ac.jp/en/international-student-gs>

### **4. Classes after admission**

The classes for master's program are given in Japanese or English. See the following URL for the details of the subjects: (TBA)



## VIII Master's program faculty advisers and their research areas, Description of research domains

### 1. List of faculty advisers for the master's program and their research areas

\* Research fields: MA: Media Architecture ICT: Advanced ICT MD: Media Design CS: Complex Systems Information Science  
II: Intelligent Information and Science

Faculty Member		Research domain	Research areas
Associate Professor	ISHIDA Shigemi	MA	Internet of Things, Ubiquitous Computing, Acoustic Sensing, Wi-Fi Sensing, Wireless Sensor Networks
Professor	ITO Kiyohide	MD II	Biological psychology, psychology of visual disabilities, human interface, cognitive science
Professor	ITO Kei	MA ICT	Software engineering, Information Education Systems
Professor	INAMURA Hiroshi	MA ICT	mobile computing, system software for smart devices, mobile/sensor network and their security
Professor	VALLANCE, Michael	MA	Task design in 3D immersive virtual learning environments
Professor	OSAWA Eiichi	II MA	Artificial intelligence, autonomous agents, large-scale multi-agent systems, collaborative robots, complex network
Professor	OKUNO Taku	MA ICT	Software engineering, Web services technology
Associate Professor	KATO Koji	II	Medical Support System, Cyber Space
Professor	KATORI Yuichi	CS	Mathematical model, Computational neuroscience, Neural network
Professor	KAWAGUCHI Satoshi	CS	Statistical mechanics, nonlinear physics
Professor	KAWAGOE Toshiji	CS	Experimental economics, game theory, artificial markets
Associate Professor	KANG Namgyu	MD	Sensibility science, design evaluation, information design, product design
Professor	SAITO Asaki	CS	Nonlinear science
Professor	SAKURAZAWA Shigeru	CS	Biophysics (movement of muscle protein, evolution and the origins of life, functional polymers, growth of protein crystals) man-machine interface
Associate Professor	SASAKI Hiroaki	CS	machine learning, statistical data analysis
Associate Professor	SATO Ikuma	MA	Computer Aided Surgery, Medical Imaging Technology, Medical ICT, Life Support Engineering, Image Processing
Professor	SATO Naoyuki	CS	Brain science, computational neuroscience, bioinstrumentation
Professor	SATO Hideki	MA	recipe design tool (optimization of food ingredients and their quantities) , prediction of nonlinear time series, optimization and analysis of high-dimensional nonlinear systems
Professor	JIANG Xiaohong	MA	Wireless networks, optic networks, protection of networks, mission critical networks, defense of networks and detection of attacks on them
Professor	SHIRAISHI Yoh	MA	database, sensor network, intelligent transport system, geographic information system
Professor	SHIRASE Masaaki	MA	Information security, cryptography, fast implementation
Professor	SUZUKI Keiji	II CS	multi-agent systems, multi-robot systems, machine learning, optimization, game theory, tourism information
Professor	SUZUKI Sho'ji	II	Mobile robot, Vision system with large field of view, Network base robot service
Professor	SUMI Kaoru	MD II	Media Informatics, Affective Computing, Interactive Digital Storytelling, Persuasive Technology, and Artificial Intelligence
Professor	SUMI Yasuyuki	II MA	Human interface, Communication, Artificial Intelligence, Lifelog
Associate Professor	TAKAGI Seiji	II	Physics of living systems, Non-linear and non-equilibrium systems, Cell motility, Cellular information processing, Pattern formation
Professor	TAKAHASHI Nobuyuki	CS	Statistical signal processing, probability process theory, remote sensing, magnetic field theory, scanning near-field optics, intelligent home appliances
Professor	TAKEGAWA Yoshinari	MA MD	Human Computer Interaction, Augmented Human, Educational Technology, Music Information Science, Entertainment Computing
Associate Professor	TANAKA Yoshitaro	CS	Mathematical modeling, Numerical simulation, Analysis, Partial differential equations, Nonlocal evolution equations

Faculty Member		Research domain	Research areas
Associate Professor	TSUKADA Koji	MA MD	Human Computer Interaction, Ubiquitous Computing, Interactive Device, Augmented commodities, Prototyping, Invention
Professor	TERAI Asuka	II	Cognitive Science, Computational Cognitive Modeling, Cognitive Neuroscience
Associate Professor	TERASAWA Kengo	MA	Image processing, information search, algorithm
Professor	TOMINAGA Atsuko	MD	Educational technology, Instructional design
Professor	NAKAKOJI Kumiyo	MA MD	Human-Computer Interaction Design, Collective Creativity, Learning Experience Design, Museum for Inspiration, Data Experience and Engagement, Software Development Support, Creative Knowledge Work
Professor	NAGASAKI Takeshi	MA ICT	Computer vision, wearable systems
Professor	NAKATA Takayuki	MD II	Music perception and cognition, Neuroscience of interaction, Neuroscience of music
Associate Professor	NAMBU Misako	MD II	cognitive psychology, cognitive science, human interface, interaction of human and artifacts
Professor	NIIMI Ayahiko	MA	Data Mining, Database, Artificial Intelligence
Professor	HANADA Mitsuhiko	MD	Visual psychology, visual information processing
Professor	HIRATA Keiji	II CS	Music Informatics, Artificial Intelligence, Communication Science, Intelligent Transportation System
Professor	FRANK Ian	II	Artificial intelligence, game theory, explanation generation, entertainment systems, interaction
Professor	MATSUBARA Katsuya	MA ICT	Operating System, System Software, Virtualization
Professor	MIKAMI Sadayoshi	II MA	Robotics, Intelligent Control, Life-Support Engineering
Professor	MIMA Noyuri	MD	Learning environment design, educational engineering, human interface, scientific communication
Professor	MIYAMOTO T. Edson	II	language comprehension, cognitive science
Professor	MUKAIYAMA Kazushi	MD	Computer Art, Human computer interaction
Professor	MURAI Hajime	II	text mining, digital humanities, bibliometrics, affective engineering, media informatics, artificial intelligence
Professor	YASUI Shigeya	MD	Human interface design
Professor	YURA Fumitaka	CS	Discrete Integrable System, Cellular Automata, Quantum Information Theory
Professor	RIABOV Volodymyr	CS	Deterministic chaos in nonlinear oscillatory systems, Signal processing with applications in astrophysics and geophysics.
Professor	WADA Masaaki	MA ICT	IoT, Fisheries Informatics, marine IT

## 2. Research fields

### (1) Media Architecture field

This domain seeks to realize information systems that focus on the characteristics of human beings as computer users and senders and receivers of information. In addition, in this domain we are pursuing processes to develop and build information systems with safe, effective operation. To meet these goals, in this domain we are conducting education aimed at acquisition of:

- 1) information media technology that can handle images and sound appropriate to a network society
- 2) sensing technology and information network technology to build mobile ubiquitous information systems
- 3) software development technology that can be used to quickly construct information systems in line with users' needs.

### (2) Advanced ICT field (Information and Communication Technology)

This is the 6-year program unified undergraduate and graduate schools. This program intends to develop practical ability in anticipation of business management in the society, and nurtures human resources that Japanese industries are seeking, advanced software engineers who have innovative design of software to create the foundation of future social infrastructure and detailed implementation abilities, and personnel who can take an active part as project leaders in the future.

### (3) Media Design field

In this domain, we are carrying out research into how humans use information technology to interact with things and the environment. Based on learning specialized fields such as information design, interactive systems, and cognitive psychology, we are researching new theories of design and interactive systems that emphasize human beings. We are aiming to develop persons who can respond to social needs by attaining the ability to design human interfaces that are easy to use and understand and to build interactive systems that are helpful and user-friendly.

### (4) Complex Systems Information Science field

In this domain, we seek to understand various rich phenomena that originate in mutual interactions generated not only in the natural world, but in large-scale artificial systems. We aim at a universal understanding of these phenomena based on mathematical science and information science. With this foundation, we have taken on the challenge of developing innovative information processing technologies and are seeking to achieve a paradigm shift in our understanding of the human natural sciences. This domain strides a wide range of research fields and disciplines, such as information science, natural science, sociology, life science, etc. In this multidisciplinary domain, the objects of research are not individual elements, but the large-scale, rich mutual interactions that take place between constituent elements. For this reason, in this domain, we must not only have a deep understanding and knowledge of each discipline and field, but they must always consider these from a universal perspective as information systems.

### (5) Intelligent Information and Science field

This research domain is based on mathematical science and computer science, and it gathers knowledge from a large number of interdisciplinary academic fields. In this field, we seek to explain human intelligence and build models of it, so as to achieve higher-order human intelligence through the use of computers and robots. Specifically, we aim to construct a basic theory of higher-order intelligence seen in human activities such as perception, inference, comprehension, learning, decision-making, behavior, and cooperation. Based on this theory, we seek to design, construct, and apply artificial intelligent systems, software agents, and robots.