FUTURE UNIVERSITY
HAKODATE

PROFILE

Japan's ICT star in the North

Future University Hakodate, which opened in the year 2000, was envisioned and established as a place for future-oriented research and education based on achievements related to 21st-century science and technology, liberal arts and culture. Such enterprising spirit and practice is based on the university's Open space, open mind concept.

Education in the 20th century was based on conveying knowledge unilaterally from teachers to students. This involved lectures being given in designated classrooms at fixed times. One of the university's aims was to change this style in order to create an interactive channel of learning between teachers and students and help students to learn from one another. With the approach used today, all time and space are used for learning while students are on campus. Future University Hakodate was designed on such ideas.

A large space in the university, known as the studio area, with an open ceiling to the fifth level gives a feeling of shared space, and creates a sense of unity and community learning. All facilities are located in a single large building, with professors' laboratories, lecture rooms, the library, offices and all other rooms walled by transparent glass. In this way, everyone can clearly view what is happening on campus. A variety of activities, including group work, discussions, programming, design, craft, communications and presentations, are carried out based on curricula and programs developed in conjunction with this arrangement of space. In this way, Open space and open mind form the basis of all activities at Future University Hakodate.
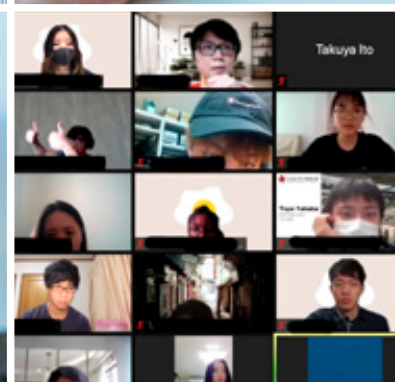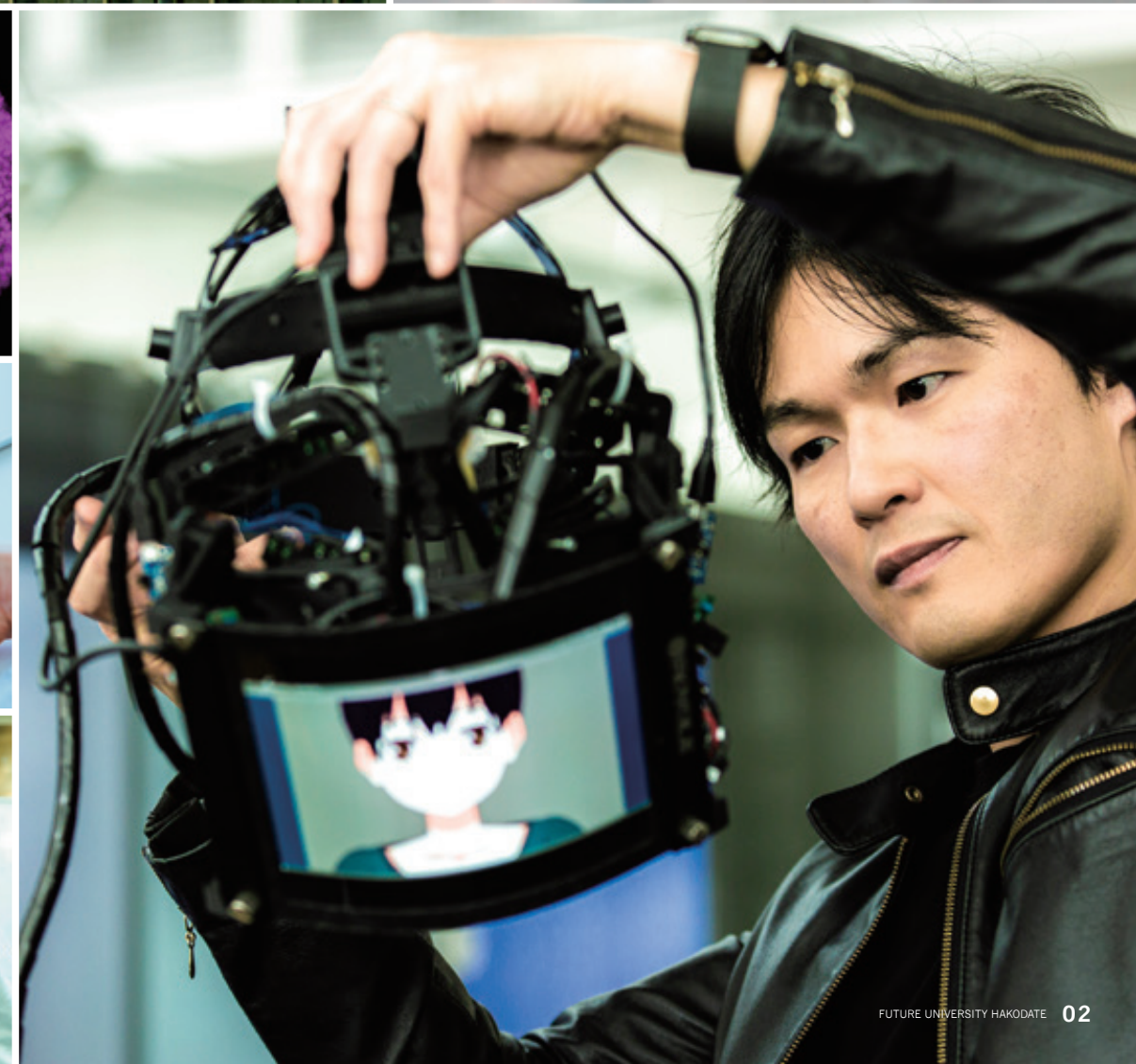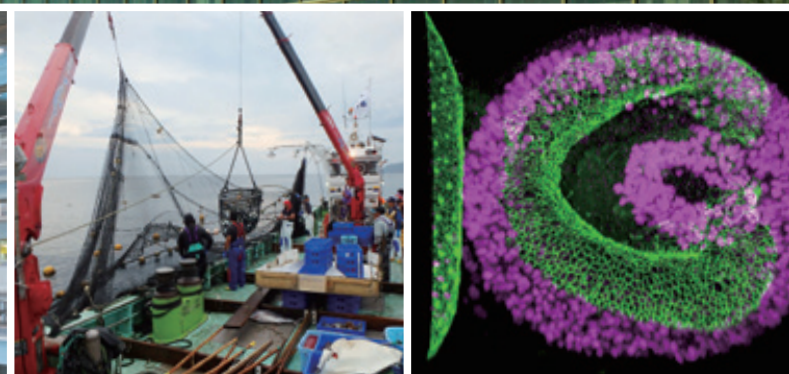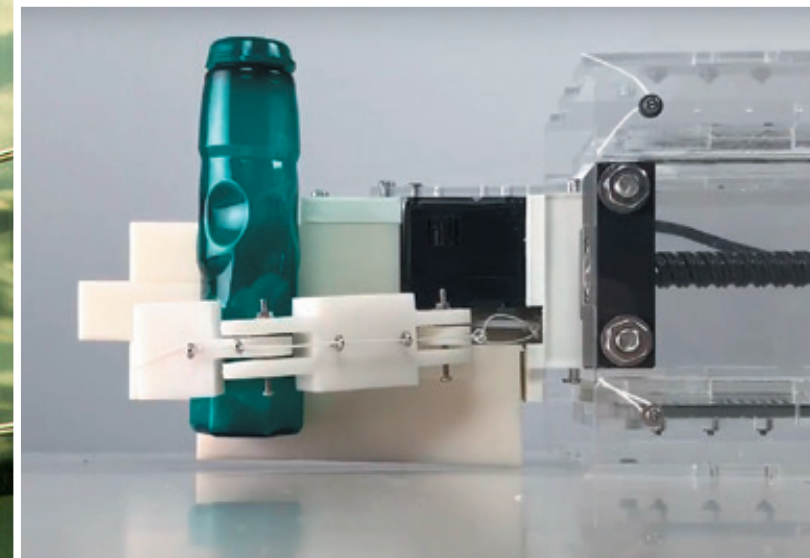
Schools and Departments

Department of Media Architecture

An overview of Information Systems design and structure

The importance of information design in the accurate provision of information is increasing in today's world. For example, the systems that support banking and airline ticketing are essential parts of modern society, and there is always a need for people to create and improve the implementation of such large-scale infrastructure. Against such a background, this department seeks to foster the development of individuals capable of designing and structuring information system interfaces and mechanisms.

Department of Complex and Intelligent Systems

Complex Systems Science and Intelligent Systems education for future societal design

The number of problems that are difficult to analyze or control directly in modern society is increasing due to environmental issues and a variety of other human factors linked by complex relationships. In this context, computer-intensive analysis and design for the creation of future social systems is essential, as is a proper understanding of human cognition mechanisms. This department seeks to foster the development of individuals capable of future societal design based on education in the analysis/operation of large complex systems and the construction of artificial world/artificial intelligence systems.

Information Systems Course

This course is intended to foster the development of individuals capable of creating user-friendly information systems based on education at the cutting edge of the two major system development technologies of networks and databases.

Advanced ICT Course

This course provides a six-year unified undergraduate/graduate studies program. It is intended to foster the development of individuals with the capacity to design and implement advanced software systems for the industrial world.

Information Design Course

This course provides cutting-edge learning opportunities in design theory, human interfaces and other information design fields, as well as in information and cognitive science. It is intended to foster the development of individuals capable of shaping the future of information design.

Complex Systems Course

This course is intended to foster the development of individuals capable of developing creative systems based on high-level education in complex systems to offer new and heuristic perspectives, together with knowledge on information and mathematical science as well as practical information processing skills.

Intelligent Systems Course

This course is intended to foster the development of next-generation information systems engineers based on education in artificial intelligence and hardware technology (advanced information science) together with cognitive science, information expression and other research fields.

Graduate School of Systems Information Science

Pursuing the joys of research – a trend at Future University Hakodate

The Graduate School of Systems Information Science (offering master's and doctoral programs) was established to support further exploration of undergraduate research subjects. A significant number of FUN students advance to the graduate school to improve their career prospects in research and other fields.

Five research fields

Harmony between people and computers

Master's (2 years) and doctoral (3 years) programs are offered in each field. Students acquire the skills and knowledge needed by engineers on master's courses and improve their expertise as researchers on doctoral courses.

Media Architecture field

In this field, students learn about media system construction technology and the development/operation of information systems.

Advanced ICT field

In this field, students improve their ability to apply innovative design and sophisticated implementation as a way of opening paths to the future with ICT.

Media Design field

In this field, students learn about the theory and practice of information design and media content construction technology.

Complex Systems Information Science field

This field gives students the chance to explore fundamental theories on complex systems from the dual perspectives of both the natural sciences and computer science, with the goal of understanding complex systems analysis methods for real-world phenomena.

Intelligent Information and Science field

Subjects covered in this field include basic elements of human advanced intelligent processing and cognition, such as understanding and learning, and autonomous advanced intelligent science systems.

As of May, 2021

| The Number of Students	The Number of Faculty Members
● Undergraduate 1088	● Professors 47
● Master 124	● Associate Professors 22
● Docter 27	

Interdisciplinary Research Field

Systems Information Science is an interdisciplinary research field formed in an emergent manner in the process of interaction among different but loosely related fields of specialization. Significant efforts in the field are made to integrate knowledge of natural, cultural and social sciences. Teaching staff who constantly seek involvement with the real world promote the concept of interdisciplinary science throughout the university, and the resulting academic culture opens the way for various approaches toward the resolution of issues faced by the world and regional communities.

Future University Hakodate encourages teachers in different fields of specialization to launch interdisciplinary group projects. It operates an internal subsidy program to support research projects (including large-scale strategic and priority initiatives representing the university's flagship work, seed research, the study of new educational methods and research based on social collaboration) for periods of one to three years. There is also a system for the establishment of research bases called collaborative laboratories (co-labs) for projects on which sustainable activity and achievements can be expected.
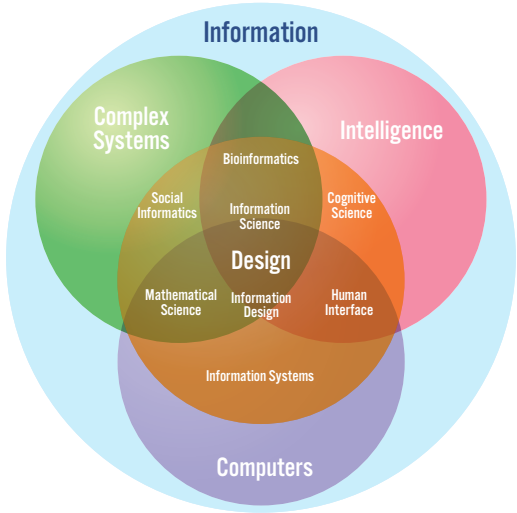
Research Keywords
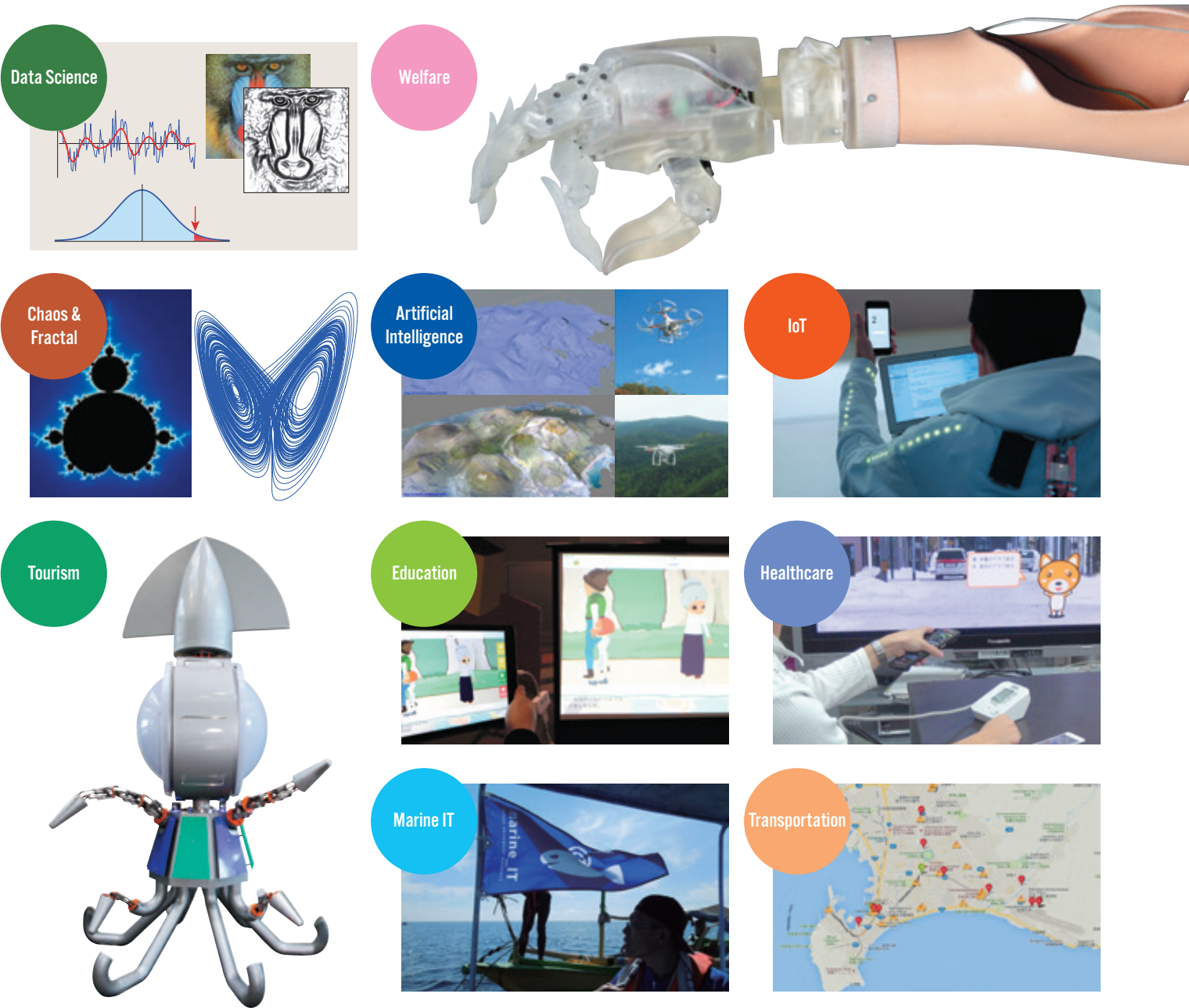
International Relations

International Exchange Agreement

Country	University
Canada	University of British Columbia, Faculty of Applied Science
China	Xidian University
	Tsinghua University, Department of Computer Science and Technology
	Shanghai Jiao Tong University, Department of Electronic Engineering
	Beijing Institute of Technology
Denmark	IT University of Copenhagen
France	Grenoble Institute of Technology
	Universite Paris-Est Marne-La-Vallee
Great Britain	Sussex University
Indonesia	Institut Teknologi Sepuluh Nopember Surabaya
Korea	Dongseo University
	Dankook University
NetherLands	Utrecht University
Philippines	De La Salle University
	University of the Philippines Cebu
Singapore	Nanyang Polytechnic, School of Design
Switzerland	Zurich University of the Arts
Taiwan	National Yunlin University of Science and Technology
	National Chiao Tung University
	National University of Kaohsiung
	National Tsing Hua University, College of Electrical Engineering and Computer Science
	National Dong Hwa University
	National Taipei University of Technology
	Providence University
	National Taiwan Ocean University
	Chaoyang University of Technology
Thailand	Thammasat University, Sirindhorn International Institute of Technology
Uganda	Makerere University College of Health Sciences
United States	University of Colorado Boulder, ATLAS Institute

International Students

As of May, 2021

3 Bachelor Students (Sri Lanka)
1 Master Students (China)
10 Doctor Students (Indonesia, Egypt, Thailand, China)

Message from International Student

Studying in Japan is definitely a unique experience as you will be surrounded by competent and experienced researchers, which makes it a very unique and fruitful experience. You will have the opportunity to learn from them and they will guide you and share their experience with you. Moreover, you will have a lot of Japanese friends, who are very friendly and kind and you will enjoy their friendship.

In FUN you will be truly amazed by the friendliness and helpfulness of everyone at the university. It's an environment where you can truly grow and become the best. You will learn how to be a competent researcher and how to make an impact in your research field. The professors in FUN will guide and advise you, and with them, your success is guaranteed. The amount of activities (e.g. Connections Cafe) and events is huge, where you can grasp on some new skills and build some amazing friendships. In FUN, you will have a great exposure on the Japanese culture, which you will absolutely fall in love with.

Life in Hakodate is very exceptional, personally, I think that it's the best thing that happened in my life. You will fall in love with this place. Hakodate is full of tourist spots, like Hakodate Mountain, Goryokaku Park, Hakodate morning market, and many more. There are also a lot of festivals. The people in Hakodate are very kind and friendly and you will truly enjoy living here.
Good luck on your journey, I wish you all the best. You are going to love it here. Enjoy!!

Ahmed Salem from Egypt

Faculty profiles

Unique education provided by a diverse and multinational body of teachers, whose research activities create the driving force behind FUN's inspiration.

President
Yasuhiro Katagiri
● Cognitive Science of Interaction
Previously at
ATR Media Information Science Laboratories

Associate Professor
Shigemi Ishida
● Ubiquitous Sensing
Previously at
Kyushu University

Professor
Kiyohide Ito
● Cognitive Psychology
Previously at
National Institute of Advanced Industrial Science and Technology

Associate Professor
Kei Ito
● Software Engineering
Previously at
Japan Advanced Institute of Science and Technology

Professor/Dean of Grad. school
Hiroshi Inamura
● Mobile Computing
Previously at
NTT DoCoMo Research Laboratories

Professor
Michael Vallance
● Virtual Collaborative Spaces
Previously at
National Institute of Education in Singapore
from WALES

Professor
Ei-Ichi Osawa
● Artificial Intelligence: Agent Systems
Previously at
Sony Computer Science Laboratories

Professor
Michiko Oba
● Information System Design
Previously at
Hitachi

Professor
Makoto Okamoto
● Information Design
Previously at
Fujitsu

Professor
Taku Okuno
● Software Engineering
Previously at
Hokkaido University

Associate Professor
Koji Kato
● Medical Information
Previously at
Wakayama University

Professor
Hideki Satoh
● Modeling and Visualization of Nonlinear Phenomenon
Previously at
Toshiba

Professor
Xiaohong Jiang
● Computer Networks
Previously at
Tohoku University
from CHINA

Associate Professor
Andrew Johnson
● Computer-Assisted Language Learning (C.A.L.L.)
Previously at
Sapporo Gakuin University
from UNITED STATES OF AMERICA

Professor
Yoh Shiraishi
● Databases
Previously at
The University of Tokyo

Associate Professor
Masaaki Shirase
● Information Security
Previously at
Japan Advanced Institute of Science and Technology

Professor/Vice-President
Keiji Suzuki
● Multi-agent systems, Multi-robot-systems
Previously at
Hokkaido University

Professor
Shoji Suzuki
● Robotics
Previously at
Osaka University

Professor
Kaoru Sumi
● Media Information Science
Previously at
Hitotsubashi University

Professor
Yasuyuki Sumi
● Interaction Media
Previously at
Kyoto University

Associate Professor
Adam Smith
● Computer-Assisted Language Learning (C.A.L.L.)
Previously at
Future University Hakodate (Part-time Lecturer)
from AUSTRALIA

Associate Professor
Seiji Takagi
● Physics of Vital Phenomena
Previously at
Hokkaido University

Professor
Nobuyuki Takahashi
● Statistical Image Processing
Previously at
University of Shiga Prefecture

Associate Professor
Misako Nambu
● Cognitive Psychology
Previously at
The University of Tokyo

Professor
Ayahiko Niimi
● Data Mining
Previously at
Toin University of Yokohama

Associate Professor
Dominic Kasujja Bagenda
● Food Communications
Previously at
Hokkaido University
from UGANDA

Professor
Mitsuhiko Hanada
● Visual Science
Previously at
Chiba University

Professor
Yasushi Harada
● Information Design
Previously at
Chiba Institute of Technology

Professor/Vice-President
Keiji Hirata
● Music Information Science
Previously at
NTT

Professor
Yuichi Fujino
● Medical Information
Previously at
NTT

Professor
Ian Frank
● AI (Artificial Intelligence)
Previously at
National Institute of Advanced Industrial Science and Technology
from UNITED KINGDOM

Associate Professor
Katsuya Matsubara
● System Software
Previously at
IGEL Co.,Ltd

Specially Appointed Professor
Hitoshi Matsubara
● Artificial Intelligence
Previously at
National Institute of Advanced Industrial Science and Technology

Professor/Vice-President
Sadayoshi Mikami
● Intelligent Mechanics
Previously at
Hokkaido University

Professor
Noyuri Mima
● Learning Environment Design
Previously at
National Museum of Emerging Science and Innovation

Professor
Yuichi Katori
●Mathematical Modeling, Computational Neuroscience
Previously at
The University of Tokyo

Professor
Satoshi Kawaguchi
●Statistical Mechanics
Previously at
RIKEN

Professor
Toshiji Kawagoe
●Game Theory
Previously at
Saitama University

Professor/Vice-President
Toshio Kawashima
●Information Media
Previously at
Hokkaido University

from SOUTH KOREA
Associate Professor
Nam-Gyu Kang
●Kansei Design
Previously at
Tsukuba University (Graduate school student)

Professo/Department chairr
Kenichi Kimura
●Aesthetics
Previously at
Pia magazine editorial office

Professor
Asaki Saito
●Non-linear Dynamics
Previously at
RIKEN

Associate Professor
Rui Sakaida
●Cognitive Science in the Field
Previously at
Japan Society for the Promotion of Science (Research Fellow)

Professor
Shigeru Sakurazawa
●Biophysics
Previously at
National Institute of Advanced Industrial Science and Technology

Associate Professor
Hiroaki Sasaki
●Statistical Data Analysis
Previously at
Nara Institute of Science and Technology

Associate Professor
Ikuma Sato
●Computer-aided Surgery
Previously at
Chiba University

Professor/Department chair
Naoyuki Sato
●Brain Science
Previously at
RIKEN

Associate Professor
Yoshinari Takegawa
●Art and Entertainment Computing
Previously at
Kobe University

Associate Professor
Yoshitaro Tanaka
●Mathematical Science
Previously at
Hokkaido University

Professor
Emiko Tayanagi
●Knowledge Science
Previously at
Sync Lab (Self-employment)

Associate Professor
Koji Tsukada
●Interactive Devices
Previously at
Ochanomizu University

Associate Professor
Yoshihito Tsuji
●Educational psychology
Previously at
Otaru University of Commerce

Professor
Asuka Terai
●Cognitive Science
Previously at
Tokyo Institute of Technology

Associate Professor
Kengo Terasawa
●Image Information Processing
Previously at
Japan Science and Technology Agency

Professor
Atsuko Tominaga
●Instructional Design
Previously at
Waseda University

Professor
Kumiyo Nakakoji
●Knowledge Interaction Design
Previously at
Kyoto University

Professor
Takeshi Nagasaki
●Computer Vision
Previously at
BUG

Professor
Takayuki Nakata
●Cognitive Science of Music
Previously at
Nagasaki Junshin Catholic University

Associate Professor
Michiko Nakamura
●Psycholinguistics
Previously at
The University of Hawaii at Manoa

Professor
Yoshiaki Mima
●Interactive Systems
Previously at
IBM Japan

Professor
Edson T. Miyamoto
●Language Processing
Previously at
Tsukuba University

Professor
Kazushi Mukaiyama
●Computer Art
Previously at
Kyoto City University of Arts

Professor
Hajime Murai
●Numerical analysis of religious texts, literary analysis of the Bible
Previously at
Tokyo Institute of Technology

Professor
Shigeya Yasui
●User Interface Design
Previously at
Sony Corporation

Associate Professor
Sho Yamauchi
●Autonomous Robot, Machine Learning
Previously at
Kitami Institute of Technology

Professor
Fumitaka Yura
●Discrete Integrable Systems
Previously at
Japan Science and Technology Agency

from UNITED KINGDOM
Professor
Damian Rivers
●Critical Pedagogy
Previously at
Graduate School of Language and Culture, Osaka University

from UKRAINE
Professor
Volodymyr B. Riabov
●Nonlinear Dynamics and Signal Processing
Previously at
National Academy of Sciences of Ukraine

from UNITED KINGDOM
Associate Professor
Peter Ruthven-Stuart
●Computer-Assisted Language Learning（C.A.L.L.)
Previously at
Hokuriku University

Professor
Masaaki Wada
●Marine IT
Previously at
Towa Denki Seisakusho

Project Learning

Project Learning – classes unique to FUN in which students combine their strengths and improve practical skills

Project Learning involves the participation of all third-year students, and creates classes unique to FUN. Students from different departments and courses split into teams based on individual skills and spend the year tackling one large topic. The aim is build a problem-solving mentality, develop practical skills and also develop as members of society.

What is Project Learning?

In today's society, where the environment, the economy, engineering, information and other fields are becoming increasingly diversified and complicated, most problems do not have clear answers that are convincing to everyone. Against such a background, it is becoming increasingly difficult to foster skills for practical application in the real world through conventional educational methods involving lectures and exercises. FUN's Project Learning initiative supports education on methods for solving such problems. In each project, 5 to 15 students and 2 or 3 teachers address a particular subject over the course of a year in collaboration with other universities, companies and local communities. Subjects are selected both from the content of FUN lectures and from problems in the real world. Students choose a project they consider suitable and actually experience the processes from problem identification to resolution together with the teachers in charge. During the course of these processes, students acquire the know-how and expertise necessary for project implementation based on knowledge acquired from previous years' lectures and their own experience. The results of Project Learning are presented at the university and elsewhere, and the fruits produced are returned to affiliated companies and local communities.

Timeline of Project Learning

Month	Activity	Phase	Description
April	• Theme selection • Team formation	**Problem identification**	Problems to be solved are identified.
May	• Research • Interviews		
June	• Problem identification • Consideration/prototype	**Teamwork**	One problem is solved by multiple members.
July	• Interim report		
August			
September		**Problem solving**	Theories and expertise necessary for problem resolution are established and put into practice through system development and work production.
October	• Actual production and verification		
November			
December	• Preparation for presentation • Presentation	**Report** (Presentation/documention)	A report and a presentation are made to convey the results to third parties.
January	• Submission of final report		

For more information on our PBL, please visit; https://www.fun.ac.jp/en/intro-pbl

Production of a hand-made community-based mobile planetarium using VR/AR technology

The goal of this project was to create a mobile planetarium where children can explore stars and space in Hakodate, where there are no science museums. Two air domes, a pin-hole projector and other projection equipment along with two planetarium programs were produced during the year, and a screening at an elementary school was held at the end of the project.

Robot for Hakodate tourism

The main purpose of this project was to promote tourism in Hakodate. A robot called Ikabo was produced using FUN technology with the Hakodate specialty of squid as its theme. The project team attended a variety of events with Ikabo to sell character merchandise and engage in related activities.

Global Design based on Empathy

The aim of this project is to create a communication tool to support for mutual understanding with people from different cultural background and to design the tool everybody can operate intuitively. During summer holidays, all of the project participants visited a country in Asia to take part in an international workshop. Based on the workshop experience, the participants continued to improve the tool in Japan presenting the results in English.
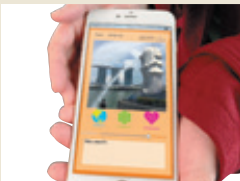
Design of a Hokuto City mascot

This project was established to design the Hokuto City mascot in order to increase name recognition for the municipality to coincide with the opening of the northern terminus of the Hokkaido Shinkansen. The aim was to create a mascot even more appealing than the massively popular "Kumamon". Analysis of existing mascots, fieldwork, public-participation workshops and other activities were conducted to support the design, and the completed mascot was presented to the public for a popularity poll.

Facilities

STUDIO

Reading books, attending lectures, contemplating quietly, discussing, asking for advice and following examples – all these are simple but important activities for learning. Future University Hakodate features pleasant spaces where such activities can be conducted naturally. The university's studio area has an open ceiling up to the fifth level in front of the teachers' rooms. Boundaries with laboratories are walled with transparent glass, allowing students outside and teachers inside to see one another. This space provides opportunities for new encounters and networking.

Delta Vista
This triangular multipurpose area appears to float in the open ceiling space. Accessed from the fourth level, it is intended as a place for students to work on assignments, read, or engage in various other activities.

Presentation bays
The circular presentation spaces on the glass wall side of the first level are used for small-group seminars, research presentations, scientific experiment demonstrations and other purposes.

Studio
This is a large fully glass-walled space with an open ceiling up to the fifth level (20m high). The second and higher levels give a full view of the studio area.
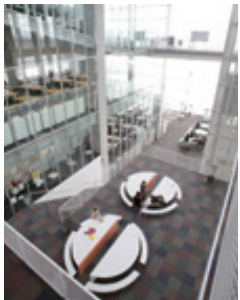
Lounges
The lounges on each level of the studio space can be used freely for casual meetings, study, or relaxation.

Media library
This public library is located to the immediate left of the main building entrance (3F).
Its "My Library" system allows students and teachers to check the lending status of materials and enjoy various other services simply by logging with an ID and password.

MALL

The mall area has an open ceiling from the third level to the fifth level and runs along the axis of the main building from the university's main entrance to the Graduate School. The mall walls are glass, so the insides of many rooms can be seen by strolling along it, including the the Media library, the museum, lecture rooms, computer labs, and the gymnasium. The impression is similar to that of a shopping mall. This space provides opportunities for university staff and teachers to stop and talk about classes they see, and also for making presentations.

Computer lab
This space has a Mac computer for each student and a color printer for common use, and is used for classes and practical application. It can also be freely used by students for assignment work and other purposes during off-hours.

Museum
A variety of exhibitions and other events are held in this multipurpose space. It is located to the immediate right of the main building entrance (3F) for easy access by external visitors.

C&D classrooms
Oval tables for group work can be freely arranged in these spaces to suit various class styles and purposes. These rooms are mainly used for communication-related classes (undergraduate).

Craft-shop
The Craft-shop equipped with cutting-edge 3D printers and laser cutters which are used for digital fabrication. Woodworking, metal processing and welding facilities are also available.
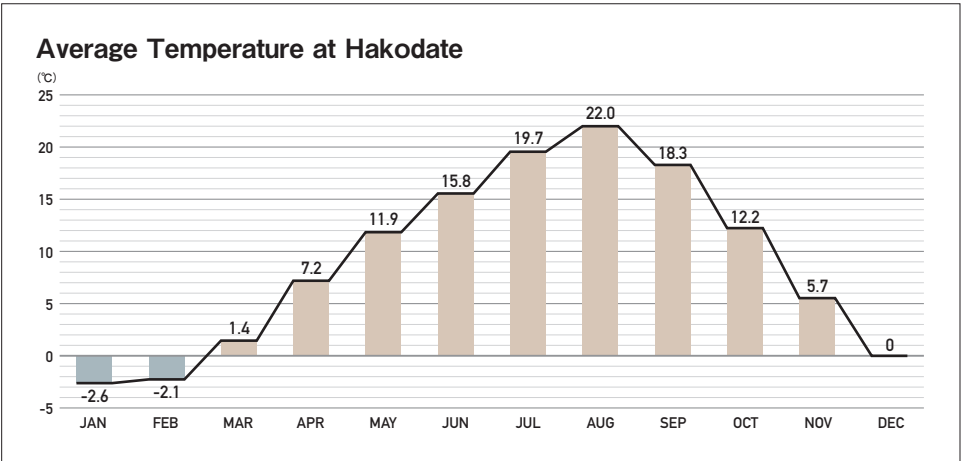
Location

A city with a pleasant ambiance and a rich natural environment

Hakodate is an international tourist city visited by 4.5 million tourists every year. It is known as an appealing destination with a quiet atmosphere as well as having a beautiful exotic port and street landscapes. These landscapes include the view from Mt. Hakodate, which was awarded the highest rating of three stars by the Michelin Green Guide Japan. In addition to the advanced urban amenities that underpin its reputation as a core city of Hokkaido, Hakodate is blessed with a rich natural environment of sea and mountains and provides easy access in its role as a gateway to Hokkaido. Flights run from Hakodate Airport to major cities in Japan, as well as to Taipei (Taoyuan) and other overseas destinations. Access to mainland Japan runs through the longest and deepest operational rail tunnel in the world, with a travel time to Tokyo of just four hours on the Hokkaido Shinkansen (operational from March 2016). Students devote themselves to their studies and research in this rich and pleasant natural environment.

Average Temperature at Hakodate

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
(℃)	-2.6	-2.1	1.4	7.2	11.9	15.8	19.7	22.0	18.3	12.2	5.7	0

A city of beauty in all seasons

The streets of Hakodate are fine places to directly experience changes in the region's four distinct seasons, which add color to the beautiful local scenery. Spring starts with the flowering of cherry blossoms, and people flock to Goryokaku Park and Hakodate Park to view them. The weather is pleasant even in summer thanks to the cool climate, making the area popular with tourists for sightseeing and getting away from the heat in other parts of the country. The brilliance of Hakodate's summer comes from its clear blue sky and refreshing sea breeze. In autumn, beautiful tinted leaves color the mountains and streets, and fresh fruits and vegetables mark the arrival of the harvest season. The city's location in a warmer part of Hokkaido means that conditions are relatively pleasant even in winter, when illuminations along the snow-covered streets create a romantic evening glow. Students enjoy the best of their youth in this city of all-year-round beauty.

A city of events and activities

Hakodate supports the research and educational works of Future University Hakodate, and is always a venue for events and activities. The summertime Hakodate Port Festival (the city's largest event) is held between August 1 and 5 every year, and is popular for its fireworks, parades and other daily attractions. Winter offers a variety of illuminations, including the Hakodate Christmas Fantasy (an event featuring a 20m high Christmas tree in front of the bay area's red brick warehouses) and Hakodate Illumination (during which the foot of Mt. Hakodate is bathed in light).

Faculty of Future University Hakodate are also active organising events in the town, including an award-winning Science Festival and a World Music and Dance Festival that has brought over a thousand artists from over 40 countries to the town.

Approximate travel times to Hakodate

■ By JR train

Tokyo - Shin-Hakodate-Hokuto（Hokkaido Shinkansen "Hayabusa"）4 hr
Sendai – Shin-Hakodate-Hokuto（Hokkaido Shinkansen "Hayabusa"）2 hr 30 min
Sapporo – Hakodate,（Hokuto Limited Express）3 hr 30 min

■ By air

Sapporo（Okadama, Shin-Chitose）– Hakodate, 40 min
Tokyo（Haneda）– Hakodate, 1 hr 20 min
Nagoya（Chubu）– Hakodate, 1 hr 30 min
Osaka（Itami）– Hakodate, 1 hr 40 min
Taipei – Hakodate, 4 hr 40 min

Approximate driving times to FUN

● JR Hakodate Station – FUN, 30 min by car or 45 min by bus
● Hakodate Airport – FUN, 15 min by car

FUTURE UNIVERSITY HAKODATE

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