JAIST
JAPAN
ADVANCED INSTITUTE OF
SCIENCE AND TECHNOLOGY
1990

2024-2025

Japan Advanced Institute of Science and Technology

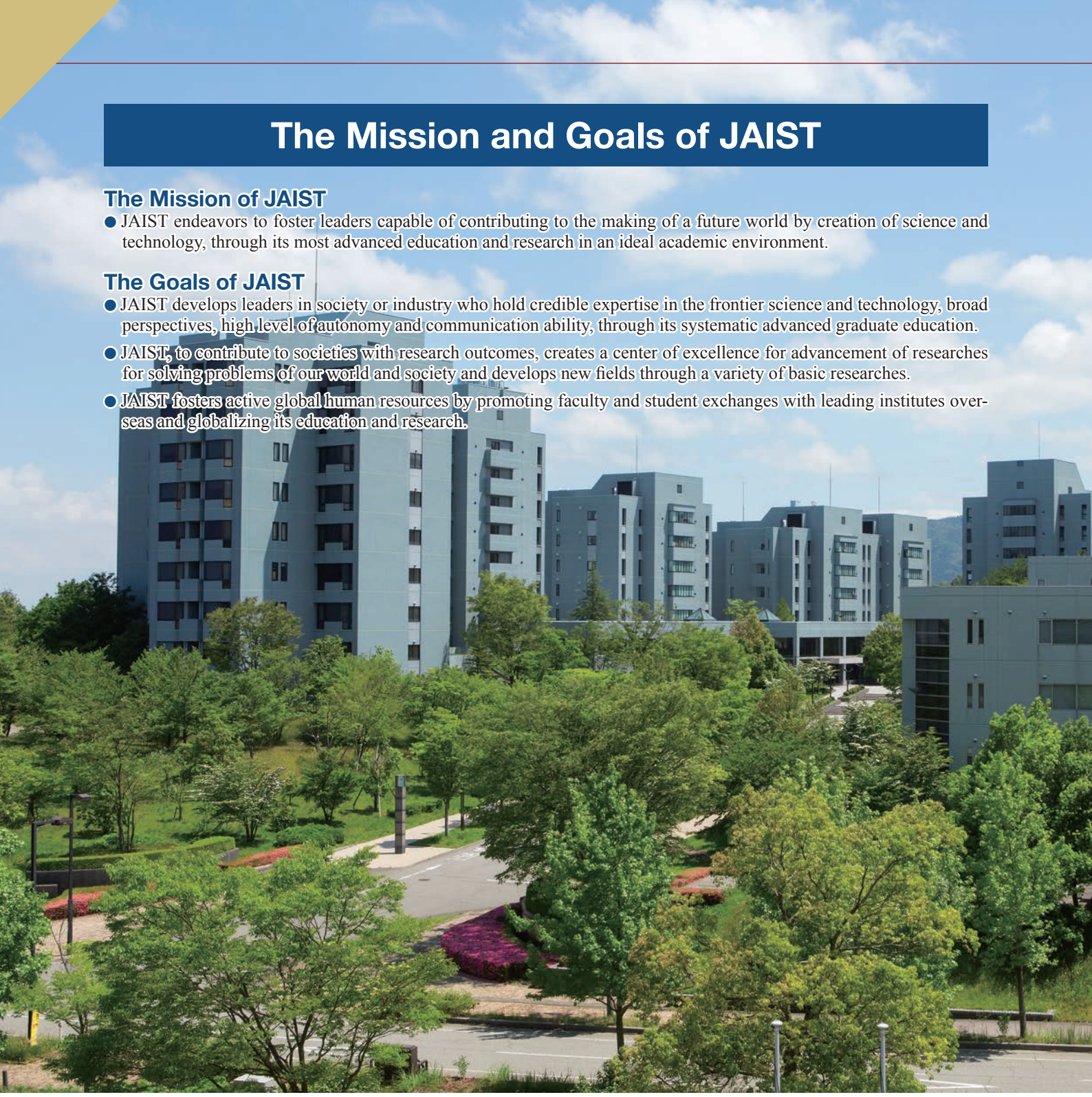
The Mission and Goals of JAIST

The Mission of JAIST

- JAIST endeavors to foster leaders capable of contributing to the making of a future world by creation of science and technology, through its most advanced education and research in an ideal academic environment.

The Goals of JAIST

- JAIST develops leaders in society or industry who hold credible expertise in the frontier science and technology, broad perspectives, high level of autonomy and communication ability, through its systematic advanced graduate education.
- JAIST, to contribute to societies with research outcomes, creates a center of excellence for advancement of researches for solving problems of our world and society and develops new fields through a variety of basic researches.
- JAIST fosters active global human resources by promoting faculty and student exchanges with leading institutes overseas and globalizing its education and research.



About JAIST

First Independent National Graduate University without Undergraduate Division

JAIST was founded in October 1990 as the first independent national graduate school, to carry out graduate education based on research at the highest level in advanced science and technology. JAIST aims at establishing an ideal model of graduate education for Japan. JAIST was incorporated as a National University Corporation in April 2004.

Admission Criteria for People with Diverse Backgrounds

In our admission decisions we place the most significant weight on the motivation of the student as demonstrated in the personal interview. JAIST admits highly motivated students, including advanced undergraduate students (who have completed at least three years of undergraduate study), professionals, and international students, regardless of undergraduate specialization.

Systematic Graduate Education

JAIST educates students through a carefully and systematically designed coursework-oriented curriculum, which gives students a solid foundation for their advanced research. This is different from the traditional Japanese style of graduate education, where students are trained mainly in their narrow research domains.

Development of Human Resources for Society

We train our students in a specialized field combined with interdisciplinary knowledge of related disciplines. Through our educational program students gain thorough understanding of fundamentals, and develop

problem-solving skills.

Outstanding Faculty

Our faculty members are world-class researchers. We recruit professionals with outstanding achievements at the leading edge of science and technology. They come from all over the world, from other universities, and from top industrial research and development institutions.

Collaboration with Society and Industry

JAIST works closely with the regional community, as well as industries worldwide, by promoting collaborative research and accepting commissioned research. We use various modes of cooperation including visiting faculty chairs, endowed chairs, and laboratories operated jointly with other institutions.

C O N T E N T S

President Message

President
TERANO Minoru, Ph.D.

Academic Field :
Polymer Chemistry, Polymer Science

Human Resource Development and Social Contribution Based on World Top-level Research

Pioneer the Future and Lead the World with the Cutting-edge Research and the Development of Global Human Resources

After the establishment in October 1990, Japan Advanced Institute of Science and Technology (JAIST) has produced world top-level research achievements in a wide range of the fields of advanced science and technology, and has developed excellent human resources.

“The Outline of Concept of Japan Advanced Institute of Science and Technology” issued in September, 1990 and called “The Yellow Book” was considered as a bible for the founding of JAIST. It set the purposes of the establishment to “fostering university researchers and developing researchers and engineers for industry” as well as “promoting advanced basic research in the fields of advanced science and technology.”

Based on the purposes of the establishment, we formulated the “The Future Vision of JAIST” as a guideline for fostering globally active human resources and aiming to become the world's top research university.

[The Future Vision of JAIST]
Japan Advanced Institute of Science and Technology (JAIST) aims to become a world’s top research university for innovation creation. While advancing the sophistication and excellence of its original research, JAIST opens up the future of science and technology and contributes to sustainable development through new co-creation based on global-scale collaborations with domestic and overseas universities, research institutes and industry.
Taking advantage of the integrated graduate school, JAIST welcomes motivated students widely from all over the world and fosters them to become global leaders who hold solid expertise in advanced science and technology with “Resilience and Co-creativity ” to lead the new era.

World-class Research

With regard to research, we value the expertise of each faculty member and promote the development of new research fields through collaborations with researchers in Japan and overseas. Using a variety of governmental funds obtained recently, JAIST also aims to establish its function as a research hub for advanced science and technology by strengthening broad collaborations with universities, public research institutes, and corporations around the world. JAIST will build a network of research collaborations throughout Japan and the world.

State-of-the-art Education System

We believe that students should be involved in “the creation of science and technology” in order to “foster leading human resources who can pioneer a new world through the creation of science and technology”, as stated in the principle of JAIST. Therefore, in addition to the research guidance by the faculty, it is necessary to provide a systematic education consisting of the wide range of knowledge to make the guidance more effective and methodology for its practical application. Such education is the foundation for students to take active roles in society after graduation. In order to produce excellent achievements, it is important and necessary for students to possess solid basic knowledge and methodology of problem solving. While maintaining the educational characteristics of JAIST that any courses can be selected from all the fields flexibly, we will continue to reform our curriculum as the integrated graduate school. We believe that the updated and fulfilling curriculum is quite important for university education.

Student Recruitment and Support

With regard to student recruitment, since the number of applicants for the master's program has already reached far more than its quota, we will proceed the fulfilling and stable procedure in the future, including international students. For this reason, we will promote the acquisition of students through the cooperation with faculty members of other universities and the conclusion of agreements on admission by recommendation with universities throughout Japan. To the acquisition of doctoral program, we will dedicate our best efforts because the increase has a direct effect on the improvement of our research capabilities. Some prospective doctoral students seem to hesitate to enter the doctoral program due to financial difficulties or concern about their career paths after graduation. Therefore, we will promote drastic changes in financial support for doctoral students.

Campus Environmentally Rich in Diversity

Nearly 40% of our students are international students from about 20 countries overseas, and many of our classes are conducted in English. We believe that maintaining such an environmentally rich in diversity will be effective in fostering human resources who can play an active role on the global stage.

Reskill and Recurrent Education for Working Professionals

As for the recurrent education for working professionals at our Tokyo Satellite Campus, we have a long history, centering on the program of management of technology (MOT). Currently, in addition to MOT, we are offering a variety of programs including AI innovation. We accept many working professionals as regular students. From now on, we will work on accepting non-regular students in addition to the regular students through the development of a broader range of programs, such as opening seminars on specific themes, timing, and period. We have established Center for Reskill & Recurrent Education to promote this activity in April 2022.

Promotion and Utilization of Industry-Academia Collaborations

With regard to industry-academia collaboration, JAIST has promoted it since early years right after its foundation. Industry-academia collaboration, which is represented by joint research with companies, has many research benefits, such as acquiring research funds and implementing research outcomes in society. If students participate in such joint research, they will have an opportunity to capture their research from a broader viewpoints, such as practicality, cost, and the treatment of intellectual property, which become significant educational benefits. Understanding the educational benefits of the industry-academic collaborations, JAIST has established a system of visiting professors to utilize their knowledge of the industrial world and ask them to be involved in education of JAIST. We are planning to ask those visiting professors to teach some introductory courses for working professionals so that we will be able to make it another special feature of JAIST education in the future.

“Matching HUB”

“Matching HUB” is a premier event of JAIST related to industry-academia and regional collaborations leading to the innovation, which has been held continuously every year and expanded throughout Japan. The tenth event held in Kanazawa in November 2023 had 1,636 participants. From the fourth event in 2017, a student idea contest called “Matching HUB Business Idea & Plan Competition” (M-BIP) has been held and we have enjoyed dozens of applications from all over JAPAN. Matching HUB has been introduced to Kumamoto, Otaru, Sapporo, Tokushima, Nagaoka and other parts of Japan. By networking them, we are contributing to the revitalization of not only the regions where the events are held but also the entire country.

JAIST will develop itself further as a world-leading research university with the mission of “promoting world top-level research, developing human resource development through it, and contributing to society through education and research.” The world is in the quite serious situation by the Coronavirus infection. JAIST contributes to develop the technology to overcome such world crisis.

Advanced Graduate Education and Research

JAIST welcomes talented students and researchers, regardless of their previous academic majors, not only from recent university graduates but also from people with work experience.

Research

Active Faculty

JAIST's faculty members are world-class researchers. They come from all over the world, from other academic institutions, and from leading industrial research and development institutions.
JAIST holds a high rank among national universities in Japan, in terms of the number of grants and amount of funds for joint research projects and commissioned research undertaken and number of published papers per faculty member.

Facilities at the Highest Standard

The laboratories with the world class, state-of-the-art equipment provides the most functional and comfortable research environment.

Internationalized Campus Environment

Nearly 40% of the students of JAIST are from abroad. Many international researchers visit JAIST for international conferences or stay at JAIST for joint research projects.

Education

Major Research Project and Minor Research Project

JAIST has used a supervisory system whereby, in addition to a research theme related to a major field of study “Major Research Project”, students are required to take on a secondary research theme “Minor Research Project” to obtain some fundamental concepts, knowledge, and abilities from different research fields from your major field.

Introductory Courses

In order to reinforce master’s-level specialized foundation, JAIST has a course group that contributes to providing a foundation for one’s ability by giving understanding of the borders of interdisciplinary fields.

Tutorial Hours for Individual Consultation

Each course is held twice a week. KS/IS/MS courses are held in the morning (1st and 2nd period) and 4th period of Tuesday and Thursday. 3rd period is for the tutorial hours for the 1st period class on that day. Students can ask questions or discuss with the instructor during the tutorial hours and the time can be used for exercises, supplemental instruction etc.

History

1990	October	JAIST was founded. The School of Information Science was created. The Institute Library was established.
1991	April	The School of Materials Science was created. The Center for Information Science was established.
1992	April	The first group of students entered the master's program in the School of Information Science. The Center for New Materials was established.
1993	April	The first group of students entered the master's program in the School of Materials Science. The Center for Research and Investigation of Advanced Science and Technology was established.
1994	April	The first group of students entered the doctoral program in the School of Information Science.
	June	The Health Care Center was established.
1995	April	The first group of students entered the doctoral program in the School of Materials Science.
1996	April	The Institute Library opened.
	May	The School of Knowledge Science was created.
1998	April	The first group of students entered the master's program in the School of Knowledge Science. The Center for Knowledge Science was established.
2000	April	The first group of students entered the doctoral program in the School of Knowledge Science.
2001	November	The Research Center for Distance Learning was established. The Internet Research Center was established.
2002	April	The Center for Nano Materials and Technology was established, as a result of reorganization of the Center for New Materials.
	September	The Venture Business Laboratory was established.
2003	October	The IP (Intellectual Property) Operation Center was established. The Center for Strategic Development of Science and Technology was established. The Tokyo Satellite was established.
2004	April	JAIST was incorporated as a National University Corporation.
	November	The Research Center for Trustworthy e-Society was established.
2007	April	The Research Center for Integrated Science was established.
	September	The Center for Highly Dependable Embedded Systems Technology was established.
2008	April	The Center for Regional Studies and Innovation was established.
2009	April	The Global Communication Center was established. The IP Operation Center was integrated into the Center for Research and Investigation of Advanced Science and Technology. The Education and Research Center for Trustworthy e-Society was established, as a result of the reorganization of the Research Center for Trustworthy e-Society.
2010	April	The Center for Advanced Education for Working Professionals was established. The Center for Graduate Education Initiative was established. The Career Service Center was established. The Research Center for Software Verification was established.
2011	April	The Institute of General Education was established. The Research Center for Advanced Computing Infrastructure (RCACI) was established, as a result of the reorganization of the Center for Information Science. The Research Center for Innovative Lifestyle Design was established, as a result of the reorganization of the Center for Knowledge Science. The Dependable Network Innovation Center was established, as a result of the reorganization of the Internet Research Center. The Green Device Research Center was established. The Center for Intelligent Robotics was established. The Research Center for Bio-Architecture was established. The Research Center for Highly Environmental and Recyclable Polymers was established.
	July	The JAIST Gallery was established.
2012	March	The Research Center for Distance Learning was integrated into the Center for Graduate Education Initiative. The Global Communication Center was integrated into the Institute of General Education.
	April	The Industrial Collaboration Promotion Center was established, as a result of the reorganization of the Center for Research and Investigation of Advanced Science and Technology. The Research Center for Simulation Science was established. The Center for Regional Innovation was established, as a result of the reorganization of the Center for Regional Studies and Innovation. The Research Center for Service Science was established.
2013	April	The JAIST Innovation Plaza was established.
2014	July	The Headquarters for Industrial Collaboration was established.
2015	March	The Center for Graduate Education Initiative was integrated into the Research Center for Advanced Computing Infrastructure.
	April	The Center for Global Educational Collaboration was established.
	October	The Center for Single Nanoscale Innovative Devices was established. The Center for High-performance Nature-derived Materials was established.
2016	March	The Research Center for Integrated Science was discontinued. The Institute of General Education was discontinued. The Center for Advanced Education for Working Professionals was discontinued. The Research Center for Innovative Lifestyle Design was discontinued. The Green Device Research Center was discontinued. The Research Center for Software Verification was discontinued. The Research Center for Simulation Science was discontinued. The Education and Research Center for Trustworthy e-Society was discontinued. The Center for Regional Innovation was discontinued. The Center for Intelligent Robotics was discontinued. The Research Center for Bio-Architecture was discontinued. The Research Center for Highly Environmental and Recyclable Polymers was discontinued.
	April	The Graduate School of Advanced Science and Technology was created, as a result of a reorganization of the School of Knowledge Science, Information Science and Materials Science. The Headquarters for International Collaboration was established. The Global Communication Center was established. The International Research Center for Innovation Design was established. The Research Center for Theoretical Computer Science was established. The Research Center for Entertainment Science was established.
	August	The Center for Highly Dependable Embedded System Technology was discontinued. The Dependable Network Innovation Center was discontinued.
	September	The Center for Trustworthy IoT Infrastructure was established.
2017	April	The Headquarters for Industrial Collaboration was reorganized. The Industrial Collaboration Promotion Center was reorganized. The Community Collaboration Promotion Center was established. The Headquarters for Excellent Core Promotion was established.
2018	March	The Career Service Center was discontinued.
	April	Division of Transdisciplinary Sciences was established. The Headquarters for the Promotion of Comprehensive Safety Management of Chemical Substances was established.
2019	March	The Research Center for Service Science was discontinued.
2020	March	The Center for Single Nanoscale Innovative Devices was discontinued. The Center for High-performance Nature-derived Materials was discontinued.
	April	The International Research Center for Silent Voice Sensing (Excellent Core) was established. The International Research Center for Sustainable Materials (Excellent Core) was established. The International Research Center for Materials Informatics (Excellent Core) was established. The Research Center for Interpretable AI was established.
	July	Research Center for Cohabitative-AI×Design (Research Core) was established.
2021	March	The Center for Trustworthy IoT Infrastructure was discontinued. The International Research Center for Innovation Design was discontinued. The Research Center for Theoretical Computer Science was discontinued. The Research Center for Entertainment Science was discontinued.
	April	The Center for Digitalization Endeavors was established. Research Center for Exponential-Biomedical Engineering (Research Core) was established. The Headquarters for Digital Transformation was established. The Center for Innovative Distance Education and Research was established.
2022	March	The Community Collaboration Promotion Center was discontinued. The Headquarters for International Collaboration was discontinued. The Center for Global Educational Collaboration was discontinued.
	April	The Headquarters for Promotion of Future Innovation was reorganized. The Innovative Research Division was established. The Social Cooperation Division was established. The Headquarters for Promotion of Cocreative International Research was reorganized. The International Research Center for Artificial Intelligence and Entertainment Science was established. The Center for Reskill & Recurrent Education was established.
	July	Research Center for Biological Function and Sensory Information was established. Research Center for Carbon Neutral was established. Research Center for Empathetic and Symbiotic Technology with Nature was established.
2023	March	The International Research Center for Silent Voice Sensing (Excellent Core) was discontinued. The International Research Center for Sustainable Materials (Excellent Core) was discontinued. Research Center for Exponential-Biomedical Engineering (Research Core) was discontinued.
	April	Regional Innovation Promotion Center was established. Research Center for Exponential Biomedical DX (Excellent Core) was established. Research Center for Vision Oriented Society Design was established.
	June	Research Center for Cohabitative-AI x Design (Research Core) was discontinued.
2024	March	The Global Communication Center was discontinued. The Research Center for Interpretable AI was discontinued.
	April	The Startup Promotion Office was established.

■ Board of Directors

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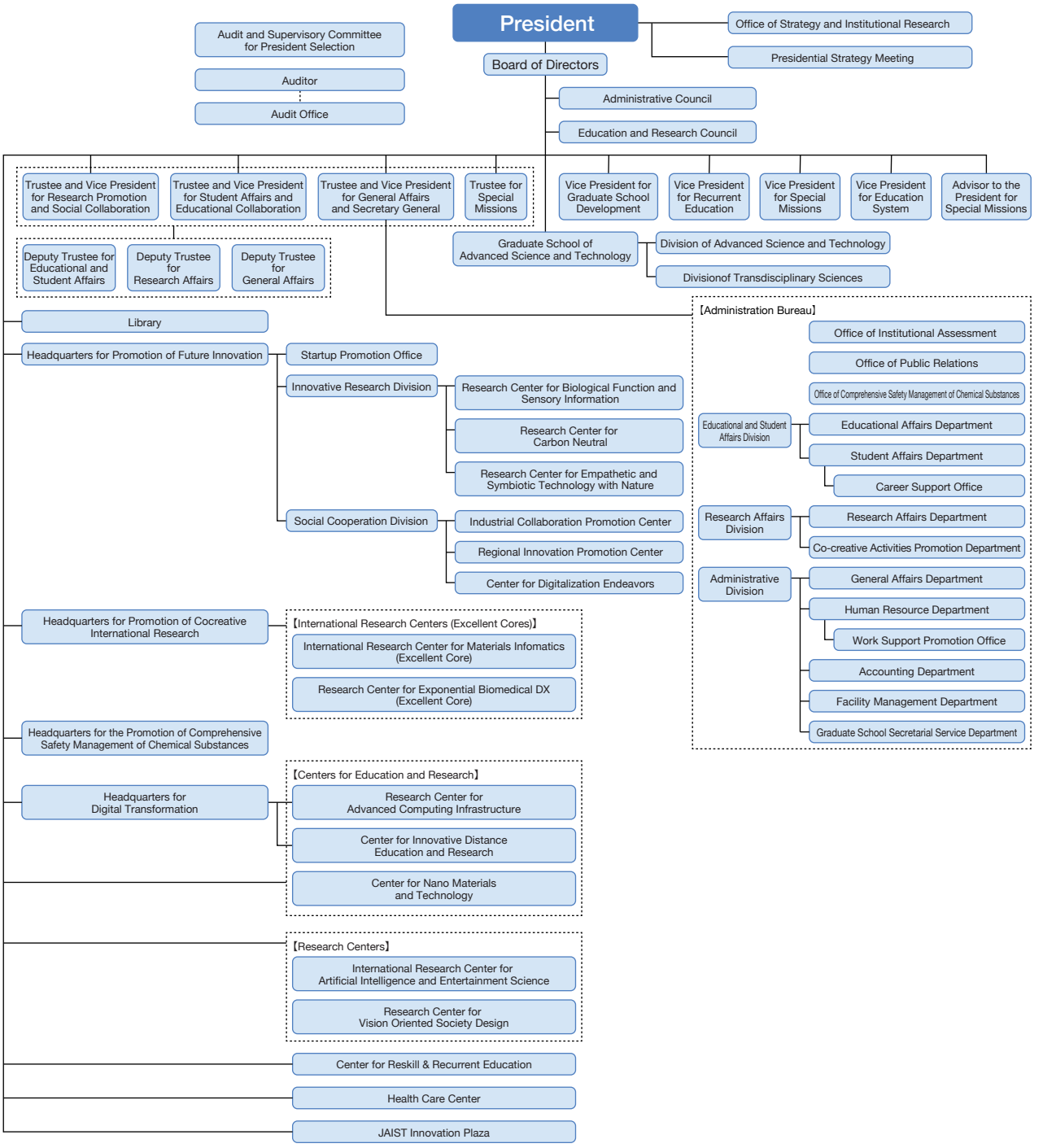
Organization

2024.4.1



JAIST's Global Reach

Higher educational institutes today have to find a creative and practical way to contribute to the globalizing world. JAIST has been continuously promoting international exchanges and collaborations in the fields of advanced science and technology, and contributing to the society by educating students with the highest level of faculty and facilities to make them leading scientists or engineers indispensable for the future society.

Academic Collaborations

JAIST has concluded academic exchange agreements with 128 institutions in 25 foreign countries and 1 region (as of April 1, 2024) aiming at actively promoting exchanges of researchers and research collaborations worldwide.

Collaborative Education Programs

JAIST has promoted education programs in collaboration with renowned foreign academic institutes. Taking advantage of educational opportunities both at JAIST and the partner institutes helps students to obtain an international perspective and develop skills and abilities necessary to take active roles in the global society.
To seek for an ideal education system in the global era, JAIST has been operating several "Collaborative Education Programs" with the leading institutes in Europe and Asia.

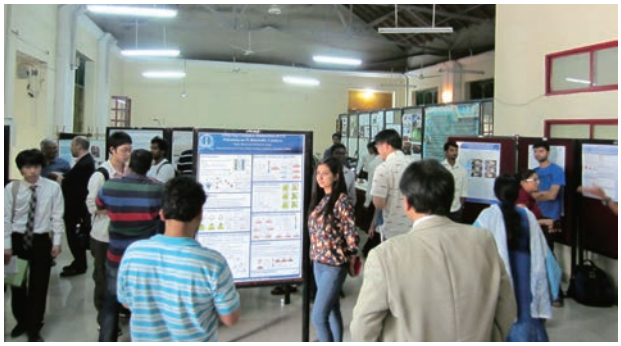
Bilingual Environment

JAIST offers a fundamentally bilingual environment. About 40% of the students and about 24% of the faculty members are from abroad. Many of the doctoral courses and the master's courses are conducted by English so that students can obtain their degree only in English. All the important e-mail communication on campus is also available in English.

International Symposium

JAIST holds international symposiums to share our great achievements with the world. Through the symposiums, JAIST aims at promoting discussion on the research and encouraging students to learn more about global sense.

Period	Simposium/Seminar/Workshop	Venue
Mar. 21, 2024	2nd Symposium on Transformative Knowledge Management	JAIST Tokyo Satellite and Online
Mar. 14-15, 2024	4th International Symposium on Intelligence Design (ISID2024)	Online
Jan. 11-12, 2024	JAIST International Symposium on Nano-Materials for Novel Devices 2023(JAIST-NMND2023)	Kanazawa
Dec. 12, 2023	1st Symposium on Transformative Knowledge Management	JAIST and Online
Nov. 2-4, 2023	10th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making (IUKM 2023)	JAIST, Nomi and Online
Oct. 27-Nov. 1, 2023	6th School on Belief Functions and their Applications (BFTA2023)	JAIST and Online
Oct. 26-27,30, 2023	ASEAN Workshop on Information Science and Technology (AWIST2023)	Bandung, Indonesia and Online
Sep. 3-6, 2023	International Workshop on Interpretable AI 2023	Dalat, Vietnam and Online
Mar. 13-14, 2023	3rd International Symposium on Intelligence Design (ISID 2023)	Fukui and Online
Dec. 12-13, 2022	International Symposium on Empathy and Symbiosis with Nature	Nomi and Online
Sep. 26-27, 2022	International workshop on Artificial Intelligence 2022	JAIST and Online
Mar. 14-15, 2022	2nd International Symposium on Intelligence Design (ISID 2022)	Online
Mar. 4, 2022	International Symposium on Silent Voice Sensing 2021	Online



JAIST International Seminar House

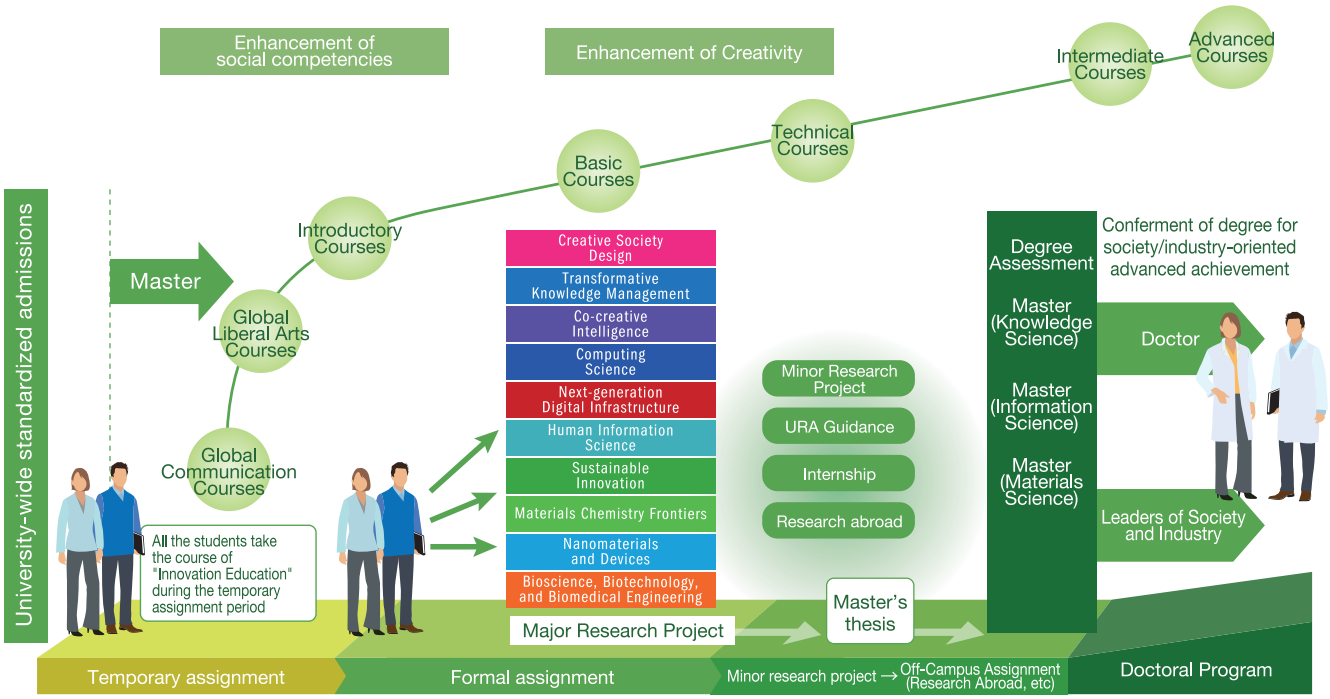
JAIST International Seminar House was established on April 1, 2021 as an accommodation facility for visitors whose purpose is to develop educational research and enhance international exchange with JAIST. This facility is divided into two segments of short-term use and medium-term use, and booking application for both segments are available from three months before the date of use. The application should be done through JAIST faculty or administrative staffs.

JAIST is committed to educating and training world-class scientists and engineers by accepting a wide range of enthusiastic international students and working professionals regardless of their undergraduate major.

Features of JAIST's Education System

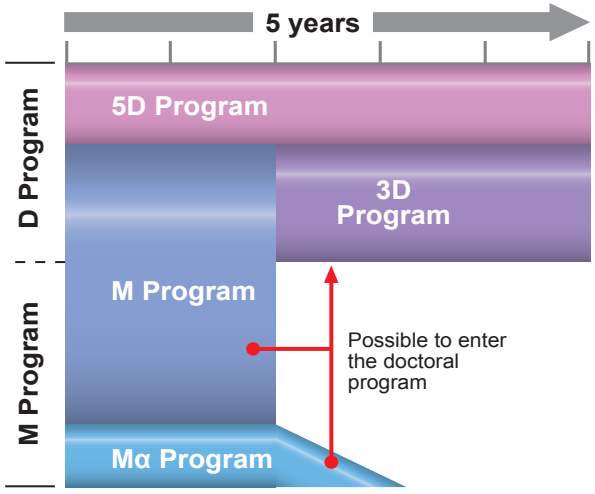
JAIST's education system develops creative future leaders who can open new frontiers in science and technology

Fostering global leaders with "Resilience and Co-creativity" through systematic course offerings and research guidance



Educational Programs to Satisfy a Variety of Study Purposes

JAIST provides various educational programs intended to help students achieve their personal, academic and professional goals. JAIST also provides support working professionals.



5 D Program
This program provides a five-year consistent doctoral education through the master's program and the doctoral program.

3 D Program
This program focuses on practical skills and provides a three-year doctoral education in the enhanced doctoral program.

M Program
This program focuses on practical skills and provides a two-year master's education in the enhanced master's program.

M α Program
This program is designed for students who changed their major field of study and hope to learn from the basic, and provides a two-year master's education +α(extension: a maximum of one year).
*Two-year tuition fees enables students to study for a maximum of three years.

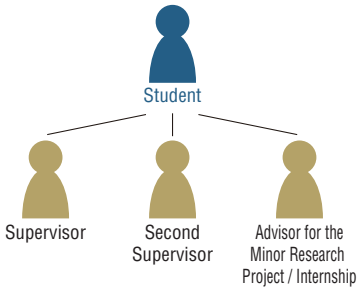
Supervisory and Effective Learning System

Taking Courses Offered in English

It is possible to fulfill degree requirements for both the master's and doctoral program by taking courses in English.

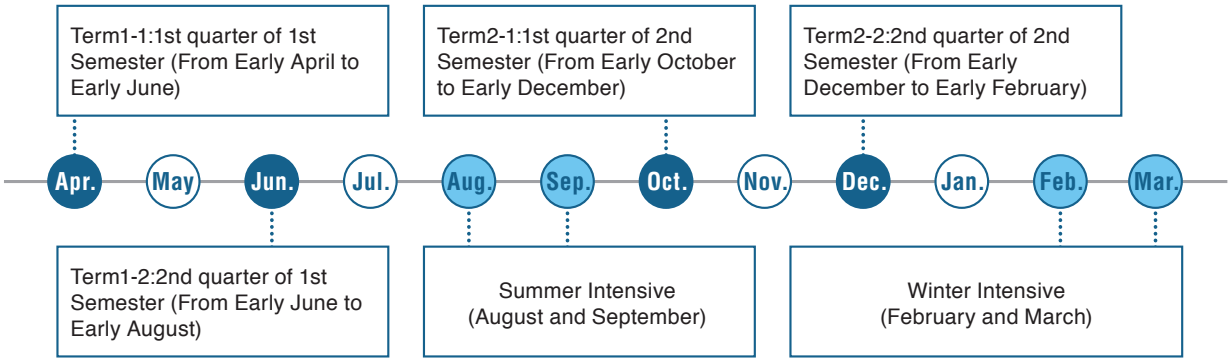
Multiple advisor system

Three advisors of (a supervisor, a second supervisor, and an advisor for the minor research project or internship) are assigned to each student and provide guidance and advice on student's study and research and on general academic activities.



Effective Learning

Since 1990 JAIST has adopted a quarter system which enables students to complete courses effectively in a short period of time. Lectures are offered mainly in the mornings, with tutorial hours, faculty tutorials and liberal arts classes offered in the afternoons. **JAIST sets the time of enrollment twice a year in April and October. The class curriculum is also adapted to the students enrolled in October as in April.**



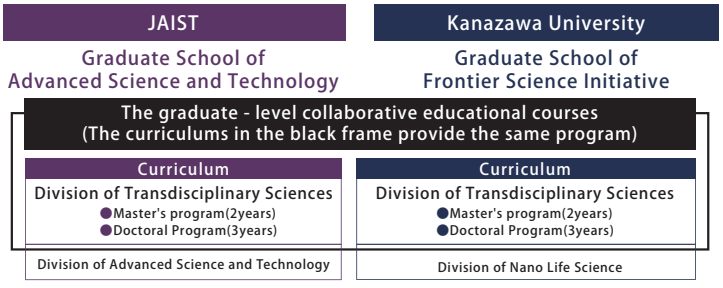
Systems for the Quality Assurance in Education

- The Study Plan/Record between students and the supervisors helps review student's academic work.
- Preparation of a detailed research plan leads to successful program completion.
- Clarifying course goals, viewpoints of evaluation, evaluation methods and evaluation criteria for all courses is to secure the objectivity and rigidity of the grade assessment.

The Graduate-Level Collaborative Educational Courses

The "Division of Transdisciplinary Sciences" was established in April 2018. This division is aiming to build a "Model of Transdisciplinary Postgraduate Program" with the educational mission of "progressing the integration of multi scientific disciplines and contributing to innovation while exploring and practicing the methodology to integrate sciences".

The Division of Transdisciplinary Sciences offers courses in the fields in which each JAIST and Kanazawa University specializes to form one single curriculum, enabling students to receive the same educational program whichever university they enroll in.
Furthermore, students can make use of a variety of host companies and institutions which are related to the two national universities for internship and study abroad.
In this division, excellent students may receive a monthly scholarship of 50,000 yen for the master's and 100,000 yen for the doctoral study.



10 Research Areas

Graduate School of Advanced Science and Technology has 10 research areas and does activities beyond the confines of academic discipline.

Creative Society Design

Designing a creative society, where everyone's ability brilliantly shines.
An intellectual odyssey towards achieving rich quality of life by integrating and transcending science, technology and art.

The creative society design research area aims to design a creative society, where everyone can lead a radiant and enriched life, we will take an intellectual odyssey that integrates and transcends science, technology, and art, approaching it from both the human element and the machine element (or both analog and digital elements). Specifically, we will conduct: 1) research on information technology and interaction related to expression and collaborative activities that take human creativity into account; 2) research on social systems using simulation technology and network science to realize safety and security; and 3) research on design that brings innovation in products and services by incorporating human sensibilities and values. Through these three research areas, we aim to realize a human society in which everyone can contribute to innovation to improve QoL (Quality of Life) and achieve the SDGs (Sustainable Development Goals).

Transformative Knowledge Management

Our mission is to develop Next-generation knowledge management theories to promote social transformation and apply for practical problem-solving to build a wellbeing society.

Knowledge management has mainly focused on how to share and utilize knowledge in order to make the employees' tacit knowledge as a competitive resource for organizations. However, the key to next generation knowledge management will be how to bring about change and contribute to human wellbeing through knowledge creation, sharing, and transformation. We consider knowledge as a transformational resource for building a society where people can experience and pursue wellbeing, and we share the common questions of what is the nature of knowledge and knowledge creation that promotes radical change, and how do we need to renew knowledge management in order to develop the ability to change? In this research area, we will define "knowledge management" from the perspective of "transformation through knowledge", and aim to construct theories and solve practical problems through transformation.

Co-creative Intelligence

Our mission is to explore new intelligence that sustainably promotes the development and evolution of the advanced knowledge society through research on the human – technology co-creation of knowledge.

Cutting-edge science and technology are expanding human intellectual, physical, and mental activities and promoting the power of knowledge creation. On the other hand, human beings have intellectual activities unique to them, such as comprehensive judgment to make responsible decisions, intuition to catch faint signals, and creative trial and error to create knowledge by posing new problems and formulating hypotheses. There is a need for research and practice on these intellectual activities and the deep communication and co-creation abilities that humans have with others. In our knowledge society, knowledge creation is the main activity of humans and a resource for organizational competitiveness. The co-creation activities between science and technology and humans are essential for the sustainable creation and development of value. We call the intelligence that creates new knowledge by integrating state-of-the-art science and technology with human intelligence and creativity ""co-creative intelligence."" By exploring this new kind of intelligence that people active in the knowledge society should possess, we aim at clarifying the essence of intelligence and creativity. Simultaneously we conduct research and develop cutting-edge science and technology and propose to the community the ideal form of intelligence and science and technology.

Computing Science

Study computation, know the limits of computation, and unveil methods of the right conclusion from an ocean of data.

The world is facing many problems that require urgent solutions, but the use of the computer does not necessarily provide an immediate solution to all of them. Some problems cannot be solved in principle even if we use a supercomputer, and some others would require for their solution a longer time than the life of the universe. How can we create rigorous bug-free programs, extract only meaningful data from a massive amount of data, and get answers that we really need within a reasonable time? How can we guarantee the security, correctness, and validity of these computations?
This area is an interdisciplinary research area with cross-disciplinary education and research covering computer science, mathematics, artificial intelligence, data science, and other related fields from basic theory to applications of computing, from the viewpoints of information science. We aim to promote the evolution of the field of computing and artificial intelligence.

Next-generation Digital Infrastructure

Next-generation Digital Infrastructure Research Area performs research and graduate education on the fundamentals of ICT systems, to realize and extend comfortable, dependable , secure E-Society.

ICT (Information and Communications Technology) has made great advances and supported progress in all science and technology.
In addition, ICT investment has a close relationship to corporate performance, and has become a key driver of national growth strategy. This trend is clearly increasing as our daily lives with IoT (Internet of Things) are based on smart infrastructure and highly dependent on ICT systems. The Next-generation Digital Infrastructure Research Area performs research and graduate education on the fundamentals of ICT systems, to make wide-ranging contributions not only to human resources development and academic research achievement but also to industry, standardization activities, and governmental policy making.

Human Information Science

Investigating mechanisms of human information processing and
applying them to the advanced information processing systems

In this research area, our goal is to understand the fundamentals of human perception of multimodal information originated from interaction with the outside world, the mechanism of information transferring, based on a cross-disciplinary approach with focus on information science. Moreover, we also aim for applying new findings to the fields of higher level of information processing and robotics. Our attempt focuses on human-centered study through understanding human-human and human-machine communication, including mechanism of human sensory perception, multisensory modality and human behavior understanding; as well as recognition and understanding of linguistic and non-linguistic information, and human thinking process and its modeling. Our research interests also include engineering implementation such as robot technology based on mechanical and control engineering, sensors and information processing for five-senses based on perceptual and intelligent information processing, and robot engineering as an intelligent agent that adaptively interacts with humans and the environment. These broad range research topics contribute to establish a human-centered society (Society 5.0) where machine interacts with human in harmonic ways.

Sustainable Innovation

To produce INNOVATION in building sustainable systems of environment,
energy, economy, and society

The sustainable innovation research area aims to create sustainable energy and materials through new methods such as novel photochemical reactions of natural materials, atomic layer materials, single nanometer processing technology, and innovative photovoltaic cell/module manufacturing methods. We have taken on global challenges of Sustainable Development Goals (SDGs) based on the following five pillars:
1) Ultra-sensitive sensors to detect silent voices of humans and nature and innovative nanoscale thermal control devices,
2) Development of sustainable and highly functional nature-derived materials,
3) Physics of thermoelectric conversion, sustainable energy materials, and device applications,
4) Development of next-generation silicon-based solar cells through novel process technologies, and
5) Discoverable physical property mining that uses artificial intelligence (AI) theory.
We contribute to realizing a sustainable future symbiotic society by making cutting-edge fusion science through university-wide collaboration among materials science, information science, and knowledge science.

Materials Chemistry Frontiers

Explore frontier of materials chemistry through molecular/atomic level design of new materials
utilizing advanced knowledge in the field of chemistry

This area focuses on the design of novel functional and high-performance materials through basic and applied chemistry with the aid of advanced characterization facilities. We contribute to society by proposing innovative chemical products and fabrication processes to industries, which needs for the enriched sustainable society. Moreover, we aim to foster future researchers and technical experts who have the ability to develop new materials on the basis of design at the atomic and molecular levels with advanced knowledge of chemistry to explore frontiers of materials chemistry.

Nanomaterials and Devices

Our mission is to study cutting-edge science and technology of nanomaterials and devices
for the realization of sustainable super-smart society.

We are working on the synthesis/growth of “emerging nanomaterials” (nanoparticles, nanowires, 2D atomic layer materials, etc.) and their characterization using “cutting-edge methods” (atomic resolution microscopy and spectroscopy, surface-enhanced Raman spectroscopy, etc.) as well as their application in “devices and sensing” (ultrahigh-speed devices, flexible photonic devices, spintronic devices, energy-conversion devices, chemical/bio-sensing, ultra-trace sensing, quantum sensing, etc.). Furthermore, we aim at opening new frontiers in materials science by actively introducing “quantum technology, artificial intelligence, and robotics” to our own research. Faculties and students with diverse backgrounds gather, interact, and carry out collaborative research in order to contribute to “the sustainable development of human society”.

Bioscience, Biotechnology, and Biomedical Engineering

We will investigate cutting-edge technologies based on understanding of biological functions,
and develop their applications in biomedical fields.

Living organisms exhibit a variety of biological functions derived from various biomolecules such as proteins, nucleic acids, lipid membranes, and sugar chains. In this research area, we investigate biological functions of these biomolecules in molecular and cellular levels through utilization of advanced biotechnologies including our unique biomolecular analysis technology, artificial biomolecule creation technology, biodevice technology, gene editing technology, molecular robotics technology, etc. We expand the application of our research achievements in biomedical and healthcare fields that contribute to the development of human health and medical care. We also work on the practical application and social implementation of our advanced biotechnologies in collaboration with industry.

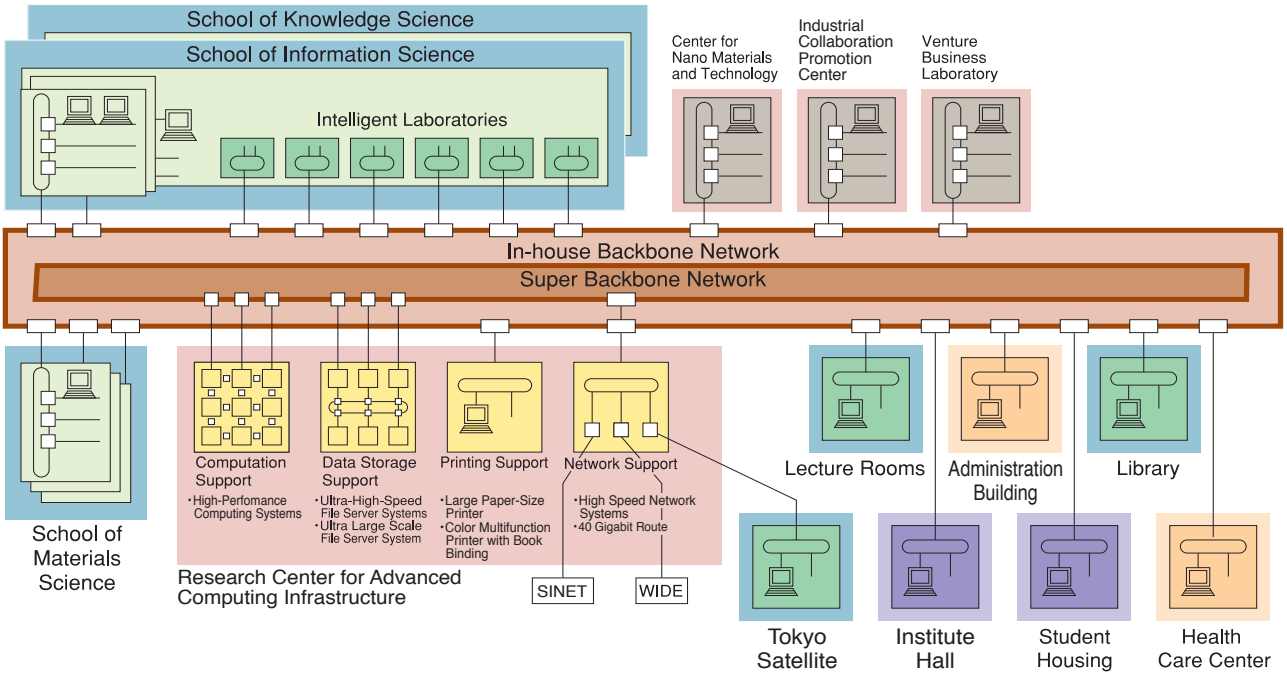
Research Center for Advanced Computing Infrastructure (RCACI)

The RCACI supports our world-class education and research environment by providing advanced information environment. Based on the FRONTIER Project, a high-speed and high-availability network provides the foundation for the high performance file servers, massively parallel computers, and various servers that have enabled JAIST since its foundation to continuously provide users a convenient information environment in the form of FRONTNET.

RCACI develops innovative information technologies to support information society and provides a large-scale experimental field to prove the new technologies.

① Providing the advanced information environments and their continuous improvement as a base of education and research at schools of knowledge science, information science and materials science, and computerization at library and administrative division.
② Construction and management of the information environment to serve as a model for information centers in Japan.
③ Remarkable contribution to construction of worldwide scale network.
④ Research on construction and management method for next generation large scale complex information system.
⑤ Research and development of next generation network technology to realize significant innovation of the Internet.
⑥ Development of massively parallel system to support education and research of advanced science and technology, and advancement of efficiency of use.
⑦ Research and development of security technology to realize safe and dependable information society.

FRONTNET



Center for Innovative Distance Education and Research (CIDER)

The CIDER responds to enhancing education and research in JAIST with the rapid changes triggered by COVID-19 through DX (Digital Transformation). The primary role of the center is to design, develop, and manage distance education and research environments beyond the boundaries of the university with live streaming and archiving systems for face-to-face lectures and online conference systems with students and partner institutions in Japan and overseas.

Distance Learning System

The distance learning system enables us to do lecture and conference with researchers and students at remote locations. It is a relatively small unit which includes a camera and microphones that record own side video, video/audio outputs from another side, and a codec that performs analog/digital signal conversion and transmission. It is possible to realize a video conference with a Full-HD video and PC screen images. Also, we can freely use a PC conference system with similar functionalities.

Advanced Laboratory Facilities

Information Systems

Campus Network

The campus network at JAIST is built with high-speed layer-3 core switches, etc. located at the Research Center for Advanced Computing Infrastructure.
In addition to the backbone switches, the floor switches also run at 10Gbps (wire speed), which enables very comfortable network access to any servers, anywhere in JAIST. The same information environment is also provided on JAIST Tokyo Satellite. Our campus network system provides 80 Gbps access to SINET5, which is the 100 Gbps full-mesh network connecting many universities, research institutes and clouds.

Network Operation Center

High-Speed, Large-Volume Storage Systems

To provide a reliable file storage environment, we are running high-speed, large-capacity file server systems in parallel. Through the high-speed campus network, researchers and students can utilize the information system from any computer at JAIST without changing their individual computer environment. Data backup is provided automatically by the systems, so each user can maintain their focus on research or study. Depending on the needs of users, they can select among a variety of file servers.

DataDirect Networks GRID Scaler file server system

High-Performance Computing Systems

A high-performance computing (HPC) system is a system consisting of server specialized for computing and fast internal connection to solve complex computational problems.
HPC system "KAGAYAKI", which is the largest one in JAIST, has 280 computing nodes and total 35,840 CPU cores.
All computing nodes are connected via non-blocking fat-tree topology architecture with Infiniband HDR.

HPC system "KAGAYAKI"

HPE Superdome

Equipment

Campus Network	Juniper Networks: MX204, Cisco Systems: ASR1002 Cisco Systems: Nexus 7710, Juniper Networks: QFX10002 Palo Alto Networks: PA-5220
High-Speed, Large-Volume Storage Systems	EMC Isilon Storage System DataDirect Networks GRIDScaler Storage System NetApp FAS/SolidFire Storage System
High-Performance Computing Systems	HPC System, "KAGAYAKI" : 280 Nodes, 35840 Cores Superdome : 1 Node, 72 Cores/12TB memory PC Cluster GPU Node : 8 Nodes, 16GPU(Tesla P100) PC Cluster CPU Node 1 : 30 Nodes, 1920 Cores PC Cluster CPU Node 2 : 48 Nodes, 1536 Cores
Distance Learning System	Lecture archive system: Moodle Video conference system: Poly RealPresence PC conference system: Cisco Webex
Printing Support System	RISO, Japan: ORPHIS GD9630 (High Speed Printer with Book Binding) Canon, Japan: ImagePROGRAF TX-3000, ImagePROGRAF PRO-6100S (Large Format Printer) Fujitsu, Japan: Scan Snap FI-SV600 (Color Image Scanner) GBC: SureBind2000 (Portable Book Binding)

*These are just some of the main pieces of equipment -there are many more.

Center for Nano Materials and Technology (CNMT)

The CNMT started in 2002 as a renewal of the former Center for New Materials, and is devoted to advanced research and education on nanotechnology. The Center promotes the Nanotechnology Education Program. It also supports joint projects in basic research and development of nanotechnology. Those projects are driven by domestic as well as foreign research groups at the highest level, for which the Center provides its state-of-the-art facilities.

Research Facilities and Instruments

The Center has special facilities and a variety of state-of-the-art instruments dedicated to basic research and development of nano-materials. The special facilities include clean rooms and a helium gas liquefaction system. Research instruments include an 800 MHz NMR, mass spectrometers, SQUIDs, STMs, TEMs, SEMs, an RBS system and MBE systems.

Nano Material Technology Program

Since 2002, the Center has been promoting a systematic education program, the Nano Material Technology Program, to provide students and company engineers with a wide variety of knowledge and techniques regarding current advanced nanoscience and nanotechnology. This program includes lectures and training programs on nano-device fabrication, nano-biotechnology and nano-molecular analysis.

Clean room

X-ray photoelectron spectroscopy system (ESCA)

Outside view

Research and Education

Quantum Device Materials Division	Studies on solid-state physics as well as novel ultra-high speed and spintronics devices, micro-nano machines based on compound semiconductors. Studies on thermoelectric materials and devices.
Nano Bio Device Materials Division	Studies on biodevices and nano technologies for analyzing bio molecules and science-related problems. Studies on mass analysis.
Nano-structure characterization Division	Evaluation of the nano-scale structure of new materials using electron microscopy, solid-state NMR, X-ray diffraction, and other methods.

Advanced Laboratory Facilities

Material Analysis Systems

Fourier transform ion cyclotron resonance mass spectrometer (FT-ICR MS)

FT-ICR MS produces high-resolution mass spectrum data and further enables to determine the chemical composition of molecules. The high sensitivity of this instrument allows it to detect small amounts of components, even on the order of pico to femtomole. We can analyze a wide variety of samples, including low-molecular weight compounds, organometallic complexes, and biomolecules. It also supports MALDI imaging to visualize the localization of target molecules.

Nuclear Magnetic Resonance spectroscopy (NMR 800MHz)

Nuclear Magnetic Resonance (NMR) spectroscopy is one of the powerful non-destructive analytical methods to obtain chemical and physical information of research samples. The high-field (800 MHz) NMR in JAIST is mainly used to investigate structure, dynamics, and interaction of biomolecules such as proteins, saccharides, DNA and RNA.

Scanning Transmission Electron Microscope (STEM)

Scanning transmission electron microscopy is a method to observe fine structures of materials. STEM equipped with a spherical aberration corrector allows us to obtain high-angle annular dark-field images at a high resolution of 0.08 nm. It is also possible to analyze elemental distributions and chemical bonding states of materials by using energy dispersive X-ray spectroscopy and electron energy loss spectroscopy.

Focused Ion Beam (FIB) system

By detecting secondary electrons generated from the surface of a sample irradiated with a focused ion beam, it is possible to obtain the sample surface image called a scanning ion microscope (SIM) image. It is also possible to perform fine processing at a target position of the sample while observing the SIM image. The FIB system contributes to the preparation of samples for cross-sectional observations of transmission electron microscopy.

Equipment

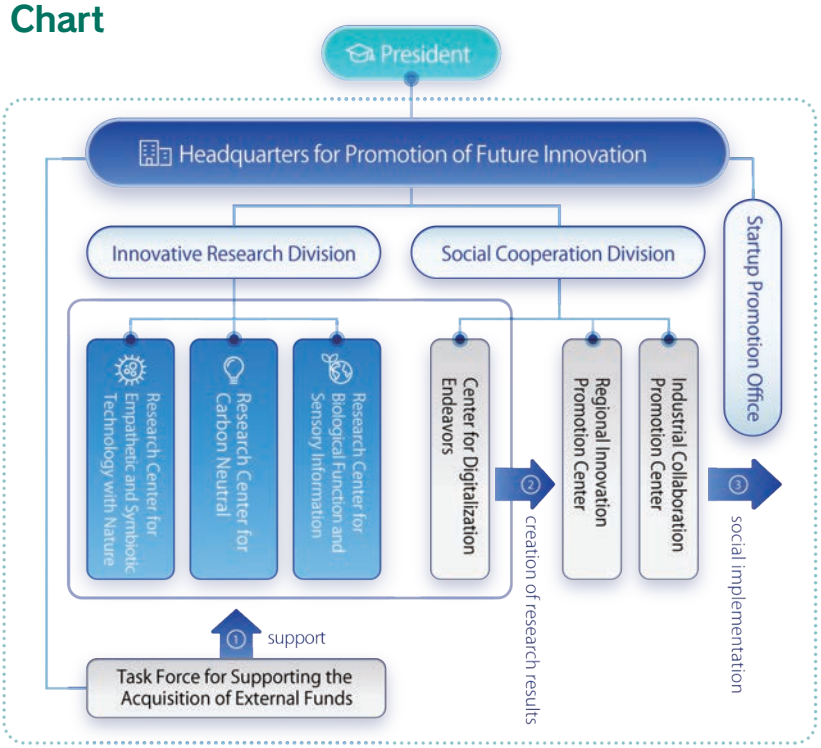
・Molecular mass spectrometer (FT-ICR-MS)	Bruker, Germany: SolariX, scimaX
・Drift-type ion-mobility MS	Waters, US: SYNAPT XS
・Four-circle x-ray crystal analyzer	Rigaku Corporation: RASA-7A
・Scanning electron microscope (SEM)	Hitachi: Regulus8230
・Transmission electron microscope (TEM)	Hitachi: H-7650 JEOL: JEM-ARM200F, JEM-2100Plus
・Nuclear magnetic resonance spectrometer (NMR800MHz)	Bruker, Germany: AVANCE Ⅲ 800
・Solid-state nuclear magnetic resonance spectrometer (NMR 500MHz)	Bruker, Germany: AVANCE Ⅲ 500
・Nuclear magnetic resonance spectrometer (NMR 400MHz)	Bruker, Germany: AVANCE NEO 400
・Paramagnetic resonance spectrometer (ESR)	JEOL: JES-RE3X
・X-ray photoelectron spectroscopy system (ESCA)	Fisons Instruments, USA: S-ProbeTM2803
・Focused ion beam system (FIB)	SII-NT: SMI3050
・Cluster formation reaction analysis system	Sumitomo Heavy Industries: SCI-400, SCR-500 JEOL: JSTM-4500VT
・Maskless Aligner	Heidelberg Instruments, Germany MLA 150

*These are just some of the main pieces of equipment -there are many more.

Headquarters for Promotion of Future Innovation

The purpose of activities of Headquarters for Promotion of Future Innovation is to serve as a window for collaboration with society and industry, and as a center for innovation creation to solve social issues ranging from the local to global scale, and to contribute to the creation of the future society.

Organization Chart



This Headquarters has been established as an organization under the direct control of the President in order to connect the University's resources like human resources, results, etc to the society. Under this Headquarters, “Innovative Research Division” and “Social Cooperation Division” have been established.

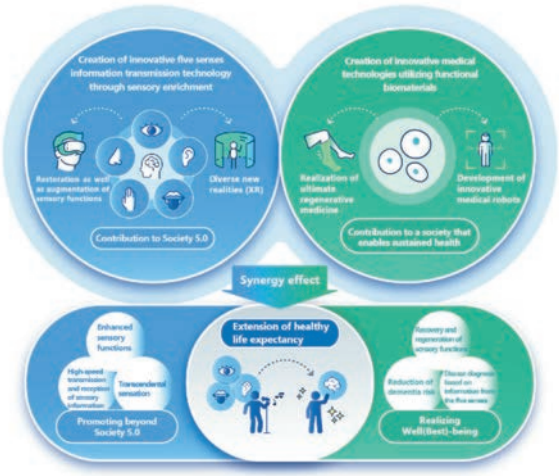
HP “Headquarters for Promotion of Future Innovation”

Innovative Research Division

Research Center for Biological Function and Sensory Information

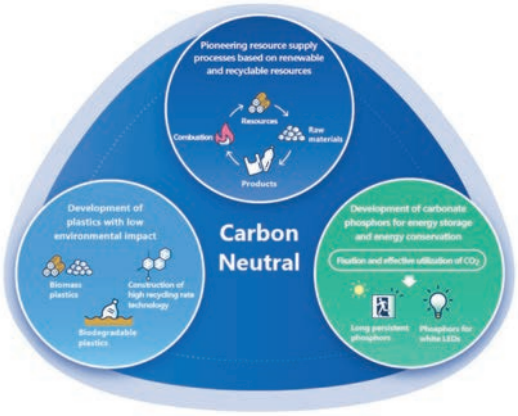
The Center conducts research on five senses information transmission technology based on the latest human informatics (perception and intelligent information) and innovative diagnostic and therapeutic systems for advanced medicine based on cutting-edge nanobioscience. Furthermore, the Center aims to create innovative medical technologies to enhance, restore, and regenerate biological and sensory functions through the synergy effect of such research as well as to promote technological development necessary for the realization of Society 5.0, thereby extending healthy life expectancy and realizing a prosperous and happy society. Currently, the Center is conducting the following activities:

(1) Research activities related to information communication technology for the five senses
(2) Research activities related to innovative medical technology
(3) Implementation of sensory enrichment research projects through innovative nanobioscience
(4) Interdisciplinary research-base activities with domestic and overseas research collaboration
(5) Developing research activities through industry-academia-government-finance collaboration utilizing the framework of the Hokuriku Future Co-creation Forum (diversity & innovation)



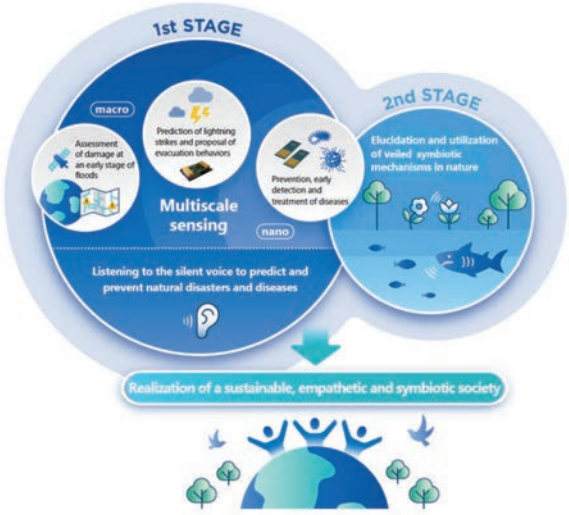
Research Center for Carbon Neutral

The Center conducts research on materials, such as polymeric materials that can withstand multiple recycling and do not degrade during processing and use, and environmentally adaptable materials including optical functional materials for energy storage and energy conservation with the intent of effective use of carbon dioxide, and on processes for highly efficient conversion of renewable and carbon neutral biomass resources. Additionally, the Center promotes technological development in order to achieve the de-carbonization of society as well as early realization of a sustainable society through research on highly functional materials utilizing AI, DX, and other information technologies.



Research Center for Empathetic and Symbiotic Technology with Nature

By listening to the silent voice (voice of the voiceless) of the natural world through nano-to-macro multiscale sensing technologies, the Center develops innovative technologies that enable us to forecast and prevent natural disasters and infectious diseases, and explore actions for disaster prevention to minimize damage. The Center also aims to enhance empathy with nature and build a wholesome and safe symbiotic society with tolerance in diversity by elucidating and harnessing veiled symbiotic mechanisms in nature. DX, and other information technologies.



Social Cooperation Division

Industrial Collaboration Promotion Center

In addition to continuous support from activation of research activities to technology transfer to society, this center promotes the management and use of intellectual property and also promotes human resource development, career support, etc. As a collaboration window with society and industry, and as a center of innovation creation, this center promotes the collaboration not only with industries, but also with public research organizations and administrative institutions.

Regional Innovation Promotion Center

This center contributes to realization of regional symbiotic society by modeling efforts in Hokuriku region, developing them in other region and leading to activation of whole Japan.
The Matching HUB, a JAIST unique platform for promoting the fusion of the seeds of university research with the needs of industry and other sectors, is being promoted and expanded nationwide.

Center for Digitalization Endeavors

This center supports the digital transformation of companies, local governments and other organizations by utilizing the intellectual resources of JAIST and developing human resources specializing in digitalization technologies, thereby contributing to solving the problems of local communities in Hokuriku area.

■Support for digital transformation of companies and local governments

In addition to supporting the promotion of digitalization technologies and development of digital transformation related products in companies, through joint research we also support local governments towards the realization of the Vision for a Digital Garden City Nation.

■Development of human resources specializing in digitalization technologies

In addition to solving problems, joint research between this center and an organization also aims to develop human resources specializing in digitalization technologies. Through appropriate guidance, employees of a company or a local government eventually become capable of solving future problems independently.

Startup Promotion Office

The aim of startup promotion office established in April 2024 are responsible for the operation and promotion of the project related to "Tech Startup HOKURIKU (TeSH)", which was selected for the program of Japan Science and Technology Agency as the "Startup Ecosystem Co-Creation Program, Support for Regional Platform Co-Creation".
TeSH has been led by our university and Kanazawa University with 10 universities and 3 technical colleges in the Hokuriku region, which significantly enhances the environment of startup creation both in quality and quantity by nurturing new world-class industries and contributing to solve social issues by creating new human resources and capital investments.

TeSH
Tech Startup HOKURIKU

Achievements

Matching HUB

“Matching HUB” is a series of unique interactive events for revitalization of local communities and companies.
Over the years, it has been expanded throughout the nation from Hokuriku to various regions in Japan including Kyusyu and Hokkaido. Its main purpose is to connect social needs, research seeds and various supports from local administrations liaised by University Research Administrators (URA) and coordinators of JAIST to facilitate local innovation.
In 2021, a platform consists of business, academia, financial institutions and local governments founded through Matching HUB was chosen as a part of “J-NEXSUS Program for Model Creation for Industry-Academia Collaboration” organized by Ministry of Economy, Trade and Industry (METI).

北陸発の産学官金連携マッチングイベント
Matching HUB
Hokuriku
北陸地域の活性化を目指した研産業創出と人材育成

Designated,by METI,as a “Local Open Innovation Facilitator”

In October 2021, our outstanding efforts in Industry-Academia Collaboration including the above-mentioned Matching HUB were designated, by METI, as one of Local Open Innovation Facilitators.

Establishment of Research Center for Exponential Biomedical DX (Excellent Core)

The Research Center for Exponential Biomedical DX (Excellent Core) was established in JAIST Innovation Plaza on JAIST campus in April, 2023.
This center was selected for the subsidy project by METI under the "Subsidy for Industry-Academia Collaboration Promotion Project (development of industry-academia fusion centers at core universities in the region)" (J-Innovation Platform type) in fiscal 2021.
It is expected to serve as a new center of industry-academia-government collaboration and social contribution centered on the Hokuriku region where the university is developing, and will actively contribute to the development of the local community, including the development of DX and start-up human resources and the creation of biomedical ventures.

Shared Open Innovation Room

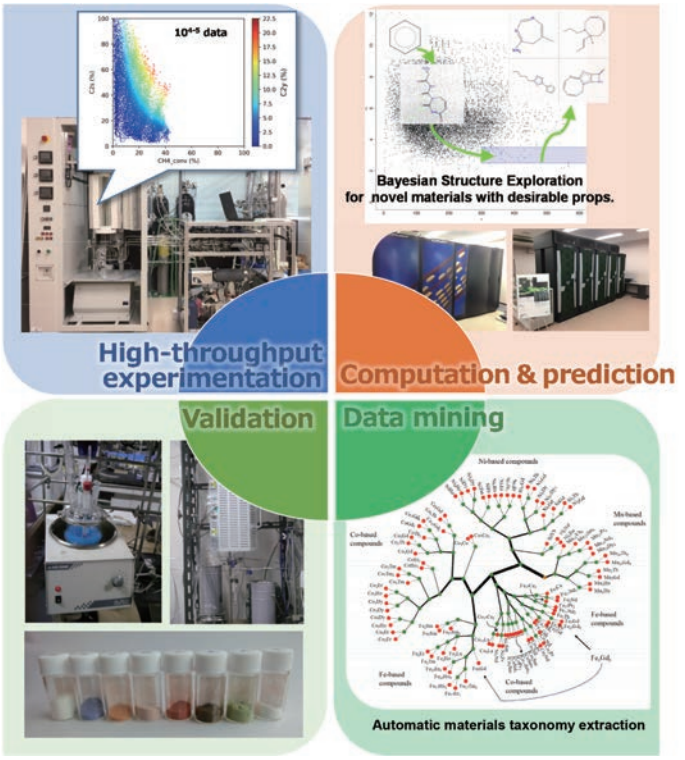
Work Room

Open Lab.

International Research Center for Materials Informatics (Excellent Core)

Towards data-driven materials science of a new age

Materials informatics (MI) corresponds to attempts of applying approaches of data science to materials science, with an expectation that MI irreversibly changes the way of research and development in materials science. The concept of MI is already well-established, while its success in creating innovative materials and knowledge largely relies on the most intimate as well as the most interdisciplinary collaboration among researchers of relevant fields. Our research center embodies such collaboration among five research groups of JAIST through implementation of MI for practical materials development and towards materials science of new age. In doing so, we pursue research items such as 1) high-throughput experimentation for materials big data, 2) data-driven materials extrapolation, 3) explainable and interpretable AI for extracting knowledge from materials data, and 4) experimental validation of proposed materials and descriptors, along with active international collaboration with various partners. The center also cultivates young researchers who can embody MI by their own.

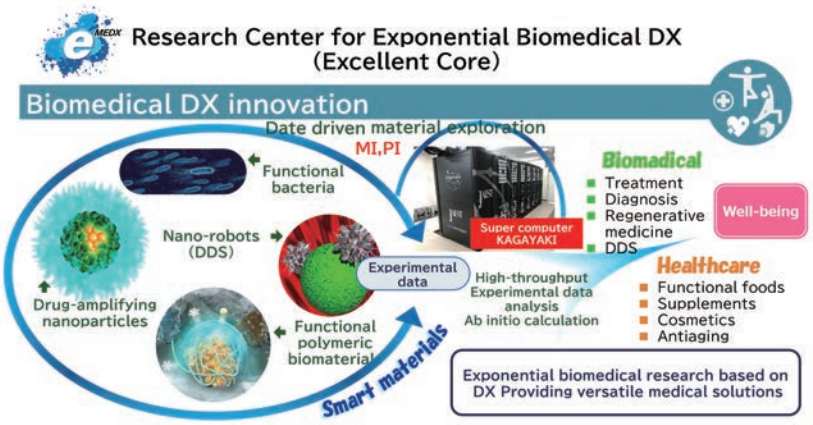


Research Center for Exponential Biomedical DX (Excellent Core) (eMEDX)

Biomedical innovation through DX

In an ageing society with a declining birthrate, various medical needs are increasing day by day, such as optimizing medical costs, resolving the shortage of doctors, balancing the import and export of the medical industry and improving the quality of medical care itself, and there is a strong need for radical medical innovation.

The Exponential Biomedical DX Research Center, centered on four laboratories in materials science and information science, aims to answer these global medical needs by developing innovative early diagnosis, drug discovery platform tools and biomaterials for regenerative medicine to realize healthy longevity and a high quality of life. The project will promote the creation of innovations aimed at creating completely new concepts by integrating medical and materials chemistry research, including disease diagnosis and treatment technologies, artificial organs, drug delivery systems and regenerative medicine, with machine learning, digital transformation (DX) and data science. The term 'exponential' has the connotation of a novel technology or concept that breaks the boundaries of performance limits and is not bound by existing frameworks, with the aim of building disruptive biomedical engineering innovations with transcendent, unlimited potential.



International Research Center for Artificial Intelligence and Entertainment Science

Bridging the objective and the subjective for a democratic future

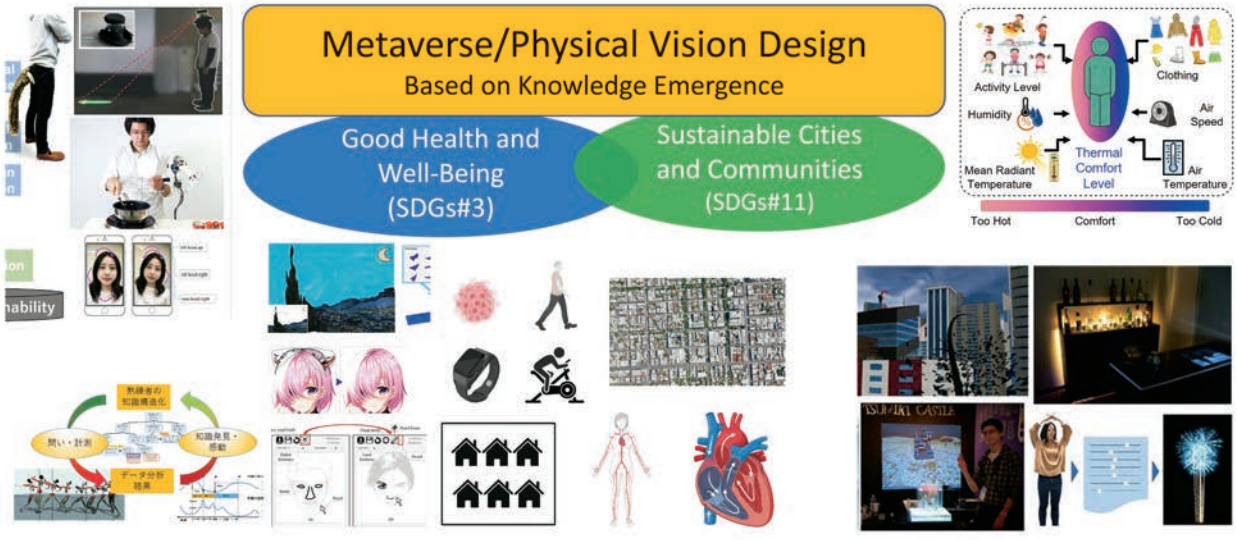
For decades, artificial intelligence (AI) has been developed with intelligent search techniques and powerful learning agents to adapt to competitive settings. This condition leads to the notion of robust AI, which applies its data-driven knowledge to a wide range of problems systematically and reliably, synthesizing them from a variety of sources, where it can reason flexibly and dynamically about the world, transfer what it learns from one context to another, and finally build some semblance of trust. In conjunction with the AI research, entertainment science (ES) had gained momentum where aggregate value functions, enhanced affordance, improvised utility, and diverse reward systems were designed to make the process entertaining (i.e., gamification), subjective outcome measurable (i.e., engaging, fun, etc.), and quantifiable affective characteristic (i.e., exciting, motivating, etc.). Bridging AI and ES applied in a game environment provided the platform to benefit both sides as a new form of scientific venture while establishing common interests to understand better how those fields interact in popular media and other real-life problems.

Such research has undergone concerted efforts that brought together fields such as game informatics, human-like AI, human-computer interactions, entertainment computing, game analytics, AI search, information system, and the like. As digital games have explored human-driven phenomena, AI agents that are emotionally sentient would enable complex tasks to be performed more effectively, make better decisions, and offer more practical and effective services. In the post-corona, the need to intertwine AI and ES was becoming more critical, especially in learning, services, safety, workforce, robotics, supply chain, manufacturing, etc. Overhaul in interaction design, physical and virtual stimuli, relative to co-creation and collaboration between human and machine could be observed and significantly impacted. This research center acts as a platform for multi-disciplinary research efforts that disseminate and produce new knowledge and service development by capitalizing on games as the basis of a dynamic testing environment; therefore, solving real-world problems step by step.

Research Center for Vision Oriented Society Design

Designing a metaverse real-world fusion society where everyone can flourish

With various social changes and technological advances, there is a need for a society that can achieve sustainable health and well-being. To that end, we will lead society by designing a future vision where we can have dreams and hopes, and by promoting technological development guided by that vision. To formulate a vision that will spark this new leap forward, we will integrate Metaverse and Physical Designs, which create a future supported by social trends and technology, as well as physical design, and develop Knowledge Emergence Technology to realize that vision. In Metaverse Design, we formulate a vision that goes far beyond the constraints of reality with a variety of people that would be difficult in the real world. In Physical Design, new activities, city designs, and risk avoidance are researched based on people's activity data. Furthermore, based on the JST Moonshot Project and collaboration with Professor. Hyota Echizenya, we will research knowledge emergence technology that supports the search for new knowledge.



Education for Working Professionals –Tokyo Satellite–

JAIST has a satellite facility in metropolitan Tokyo. It is located in the Shinagawa Intercity Building-A, which is a 3-minute walk from the JR Shinagawa Station's Konan Exit, and is on the 19th floor of the characteristic oval-shaped building.

The start of the JAIST Tokyo Satellite was in October 2003, when its Management of Technology (MOT) Course for master's degree within the School of Knowledge Science was inaugurated at its first location in Yaesu Campus just next to JR Tokyo Station. Afterwards the School of Information Science started Embedded Systems Course, Advanced Information Technologies Course for master's and doctoral degrees and, in collaboration with the National Institute of Informatics, Advanced Software Engineering Course for doctoral degree, in October 2005, April 2007 and April 2009 respectively in the Tamachi Campus. During this period, MOT Course was moved to Tamachi in October 2006, taking the opportunity of redevelopment project of Tokyo station Yaesu area. In October 2009, Management of Service (MOS) Course was launched by collaborative efforts of School of Knowledge Science and School of Information Science based on the successful experiences of MOT Course operation.

In April 2010, Advanced Knowledge Science Course for doctoral degree was added, and it was decided to move the facility to Shinagawa to establish the firm base for the courses, all of which are dedicated to working professionals. The relocation to Shinagawa was completed in October 2010. Then in October 2011, MOT and MOS courses were merged to be called iMOST (Innovation Management of Service and Technology) course, showing the important future direction of the innovation for industries to be competitive.

As of April 2023, total of six programs are offered to working professionals, which are MOT (Management of Technology) program, MOS (Management of Service) program and IOT･AI (Internet of Things & Artificial Intelligence Innovation) program for master's students, Advanced Knowledge Science program, Advanced Information Technologies program and an optional Creating Value program for doctoral students. In recent years, Internet of Things (IoT) and Artificial Intelligence (AI) are sources of competitiveness in many industries. JAIST has started a new program IoT･AI Innovation Program from April 2019, which is designed to foster IoT and AI innovation professionals based on information science and knowledge science.
In addition, JAIST has started an optional program, Creating Value program, from April 2022, which is designed to cultivate innovation professionals who can realize value co-creation.

The Tokyo Satellite offers advanced technological and managerial education to students of working professionals who are unable to attend classes at the JAIST campus in Hokuriku. It also allows workshops and seminars to be held in Tokyo, enabling JAIST to maintain close contact and increase collaboration with industry, government and academic institutions throughout Japan. JAIST is planning to offer opportunities for its students to broaden their views about management associated with technologies, services and global business skills. The satellite facility is located in Shinagawa, the nearest business center to the Haneda International Airport, which is now directly connected to major international airports in Europe, the USA and Asia. Taking this advantage together with JAIST's globalized educational system, Tokyo satellite facility will allow JAIST to fulfill its role as a leader in Japan's technological development in industry to be globalized.

Center for Reskill & Recurrent Education

The Center for Reskill & Recurrent Education was established in April 2022.
JAIST's recurrent education has from its inception begun with the active acceptance of working professionals who are dispatched from companies. JAIST also has a long history of offering courses for working professionals, including the Tokyo Working Professional Programs, which allow students to earn a degree while working through the JAIST Tokyo Satellite.
Based on our experience accepting many adult students, the Center offers reskill education for working professionals to acquire specialized knowledge and skills in specific fields rather than focusing on receiving a degree. We hope to further promote recurrent education at JAIST and contribute to the revitalization of industry at large.

Library

The library at JAIST is administered based on the three principles of “Open 24 hours a day”, “Research library” and “Electronic library”. We are confident that the quality of our library is appropriate for a graduate school in terms of accessibility and the contents of its collection.

The Main Features of the JAIST Library

■Open 24 hours a day

Since research is being carried out throughout the day, the library is open 24 hours a day, seven days a week, so books and other materials can be viewed freely whenever you need them. Books can be checked out anytime by using a self-checkout machine.

■Research library

The library’s collection is focused on academic materials that are highly specialized/advanced in order to support research in the state-of-the-art science and technology.

■Electronic library

We are promoting a digital system of academic materials. Users can use the online public access catalog, e-journals, e-books and databases through JAIST’s well-developed information network.

『Novum Organum (INSTAURATIO MAGNA) 1620』
FRANCIS BACON

(As of Mar 31, 2024)

Building/Premises	Three stories; reinforced concrete; 3,076㎡
Seats	141 (including 36 carrels)
Facilities	Library information system,Entry / exit management system,Automatic checkout system
Number of Books	160,994 (Japanese: 85,828 / Foreign: 75,166)
E-Journals	5,678 titles

JAIST Repository

JAIST Repository is a digital collection for providing access to JAIST's research materials through the Internet.

J-BEANS (Learning Commons)

The Learning Commons called “J-BEANS (Space for Brainstorming, crEAtion, and iNnovation)” is a place where students, faculty and staff can study together and exchange academic ideas. The room could be used for a group learning or for a presentation, etc. Meals and drinks are allowed here.

Rare Books Collection

The Rare Books Room houses an exhibit of some of the classics in the fields of natural science and philosophy so that researchers dealing with creative work can come back to the origins of their fields by coming into contact with the classics of the pioneers.

Kaitai Shinsho, Sugita Genpaku (1774)

Health Care Center

The Health Care Center located on campus provides general health care services, including health examinations, first aid, health consultations and counseling, so that students and staff members can stay healthy in mind and body. Regular check ups are provided for all students every year. Also people who work with X-ray can be specially examined, if necessary. The Health Care Center is furnished with beds, sphygmomanometer, scales etc. for use. Students can use the room for self enjoyment. All these services are free!

Gymnasium

JAIST gymnasium was established in December 2018 for the facility of sport and recreation. It is used as a place of refreshment and health promotion for students, faculty and staff members.
Built largely of timbers, the gymnasium provides us warm and comfortable atmosphere.
It has a function of a designated evacuation place as well as a place of exchange with the locals.
The gymnasium is large enough to hold 2 volleyball coats and has separate locker rooms with shower for each gender.

JAIST Gallery

JAIST Gallery opened on September 29, 2012 to exhibit our research outcomes and show the world-class puzzle collection, the "NOB Collection".

The gallery exhibits our faculty's research results and the world-class puzzle collection called the "NOB Collection". The "NOB Collection" was collected by the late Mr. Nobuyuki Yoshigahara, who is known around the world as a puzzle designer and collector. The collection was donated to our university by his family. An exhibit room of the gallery itself is designed featuring an assembly puzzle, and there are rare and valuable puzzles in each display of the cube. A variety of puzzles are exhibited, ranging from simple ones for kids to difficult ones for adults. Not only displaying the puzzles, we also have a room where kids can play with puzzles. These puzzles bring you new idea to solve your problems.
Both kids and adults can enjoy the gallery.

Kanazawa Ekimae Office

For the Industrial Collaboration, JAIST has established an office in front of Kanazawa Station, Porte Kanazawa 9th floor. JAIST actively utilizes the office as an operating base for industrial collaboration and regional cooperation by holding meetings for collaborative research, events and seminar for companies, and also for project on seeking new students.

JAIST Innovation Plaza

— An Innovative Hub for Industry-academic-government Collaboration and Social Contribution —

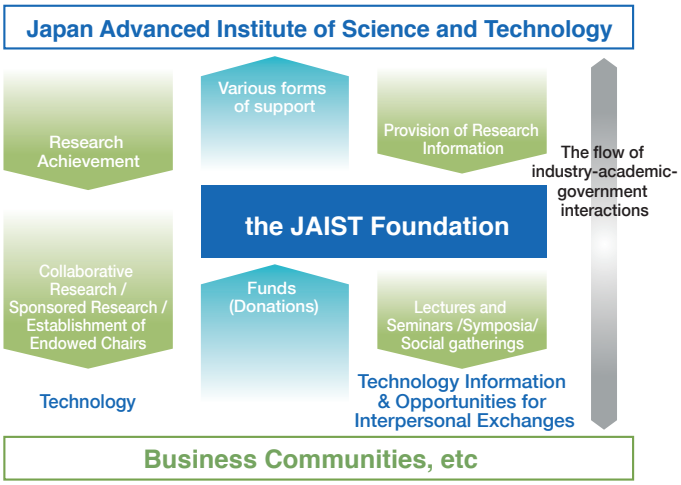
With the aim of giving the fruits of the institute's various research efforts back to the society of the Hokuriku region, JAIST has assumed the activities of the JST (Japan Science and Technology Agency) Innovation Plaza, Ishikawa. JAIST Innovation Plaza will work, in cooperation with public research institutes in Hokuriku, to provide a liaison for industry-academic-government cooperation, and will contribute to innovation in regional society and enterprises.

The JAIST Foundation

The JAIST Foundation was established in August, 1990 (has been a public interest incorporated foundation since April, 2011) mainly by the business communities of Ishikawa Prefecture and Hokuriku area, with purposes of making grants to JAIST for education and research as well as of promoting industry-academic-government interactions. The foundation expands its activities by its endowment's investment income. Its amount has reached about 3.3 billion yen (as of March, 2024), and has become one of the largest foundations of its kind in Japan.

The Foundation arranges and sponsors the following activities:

1. **Education and Research**
2. **Collaborative Research**
3. **Technical Guidance and Consultation**
4. **Scholarship Programs**
5. **Industry-Academic-Government Interactions**



Ishikawa Science Park

Ishikawa Science Park (ISP) was built in 1990 in the hilly area of Tatsunokuchi (Asahidai, Nomi City), the town filled with lush greenery, with the aims of facilitating industry-academic-government interactions in the field of advanced science and technology, and creating the base of global research development. Setting JAIST as the core institution, which was founded as Japan's first institute specializing in advanced graduate education and research, ISP promotes agglomerations of research and development institutions and industry support institutions. ISP exists today that requires responses to rapidly changing environment, such as globalization of society, complication of industrial structures, and rapidly progressing technological innovation, and plays a role in research development relating to sophisticated science and technology.

Students

Admissions

	Type of Examination
Master's Program	Regular Examination
	Examination for Admission on Recommendation for Overseas Residents (*)
Doctoral Program	Regular Examination
	Examination for Admission on Recommendation for Overseas Residents (*)

(*) This examination is conducted by the interview through web communication tools, and screening of the application documents. Applicants can go through the selection process without traveling to Japan.

For more details on admissions, please visit the following website.

https://www.jaist.ac.jp/english/admissions/

Entrance Fee/Tuition Fee

	Screening Fee	Entrance Fee	Tuition Fee
Master's Program	¥30,000	¥282,000	¥267,900 (semester) ¥535,800 (year)
Doctoral Program			

Entrance Fee Reduction

Those who find it difficult to pay the entrance fee because of their financial situation, and are approved as high-achieving students, may be granted a reduction in entrance fees. There is also an entrance fee deferment system.

Tuition Fee Reduction

Those who find it difficult to pay the tuition fee because of their financial situation, and are approved as high-achieving students, may be granted a reduction in tuition fees.

Exemption or Reduction System in Case of Disasters

Students who find it difficult to pay fees due to emergencies or disasters which occur after their application and/or entrance to JAIST, especially emergencies involving their parents, may also be granted an exemption or reduction in entrance fees or tuition fees.

Please refer to the following website.

https://www.jaist.ac.jp/english/studentlife/support/fee.html

Scholarships for International Students

In order to support international students, JAIST has a variety of financial support systems, consisting of scholarships and on-campus employment. Shown below is a list of JAIST's financial support systems. For details and scholarship application procedures, contact the Student Affairs Department.

Scholarships that students can apply for BEFORE arriving in Japan

(1) Japanese Government (Monbukagakusho: MEXT) Scholarship

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) offers scholarships to international students who wish to study at Japanese universities either as a research student or a regular student in Master's / Doctoral program.

Monthly allowance:
143,000 yen for research students
144,000 yen for master's program students
145,000 yen for doctoral program students

There are two types of selection processes for this scholarship.

Embassy Recommendation
MEXT asks each Japanese embassies or consulates in countries that have diplomatic relation with Japan to recommend candidates for MEXT scholarship.
Please contact them directly for the detailed schedule for application as it differs according to the embassy/consulate.

University Recommendation
JAIST recommends candidates to MEXT after selection. Applicants are preferably students or graduates of universities or research institutions with which JAIST has academic exchange agreements.
Please contact a prospective supervisor and obtain his/her informal consent of acceptance before application.

(2) Government Scholarship of Student's Own Country

Many countries are sending students to study abroad on government scholarships.
Contact the relevant authorities of your own country for the detailed information.

(3) Scholarships from Local Governments or Private Foundations

Students can apply for some of these scholarships before arriving in Japan. For more information, visit the website of the Japan Student Services Organization (JASSO).
https://www.studyinjapan.go.jp/en/planning/about-scholarship/

(4) JAIST Original Support System

In order to provide financially secure graduate school life, JAIST has original support systems.

JAIST Scholarships (Benefit type: No repayment required)

Type of Scholarship	Number of Recipients	Benefit
Master's Program Scholarship	High achiever of all second year students in the master's program	-Tuition
	High achiever of all second year students in the master's program	-Half of tuition

Scholarships that students can apply for AFTER entering JAIST

Most scholarships from local governments or private foundations require students to obtain recommendation from JAIST and submit an application via JAIST. For more detailed information, visit the JAIST web page.

Student Housing

Eight five-story Student Housing are located on campus. International students of overseas residence receive priority to live in Student Housing.

■Common Facilities

Common room, meeting room, Japanese-style room, and student housing parking.

Student Housing

Single Room

An E-mail address is provided for each student, and PC can be connected to the campus LAN.

	Single room unit	Double room unit	Family room unit	Single room unit (JAIST HOUSE)
Number of Units	533	33	33	30
Floor Space	12.5m² (One room)	41.4m² & 46.9m² (1 bedroom, living/dining room and kitchen)	59.8m² (2 bedrooms, living/dining room and kitchen)	17.6m² (One room)
Housing Rent	¥12,540 (per month)	¥14,920 (per month)	¥17,220 (per month)	¥16,350 (per month)
Facilities	desk, chair, shoe rack, loft bed, bookshelf, closet, air-conditioner, kitchenette, lavatory, refrigerator	desk, chair, shoe rack, table, chairs for dining room, closet, washing and drying machine, air-conditioner, kitchen, lavatory, bathroom, refrigerator	desk, chair, shoe rack, table, chairs for dining room, closet, washing and drying machine, air-conditioner, kitchen, lavatory, bathroom, refrigerator	desk, chair, shoe rack, bed, bookshelf, closet, refrigerator, microwave, washing machine, air-conditioner, curtain, kitchenette, bathroom,etc.
Shared Facilities	bathroom, laundry space	—	—	—

Facilities for Campus Life

Cafeteria

Convenience Store

Training Room

Tennis Courts

JAIST Shuttle

The JAIST Shuttle Bus runs between JAIST and the closest stations for free of charge and eligible for everyone on-campus and outside the campus. “Komatsu Line” runs between Komatsu Station and JAIST and requires a reservation in advance. “Tsurugi Line” runs between Tsurugi station of Hokuriku Railroad and JAIST.

JAIST Shuttle buses are painted with characters that are “JAI-LEON (JAIST's mascot)”, “nomimaru-kun (Nomi city)”, “Hiponon & Yuzumin (Nomi city)”, “KABUKKI (Komatsu city)” and “Yuki Mama and Shizuku-chan (Hakusan Tedorigawa Geopark Mascots)” to contribute to local PR. These characters are all image characters of local communities that JAIST has signed collaboration agreement with.

Data : Outline of JAIST

Number of Board Members

(As of May 1, 2024)

President	Trustee	Auditor
1	5	2

Number of Faculty and Office Staff

(As of May 1, 2024)

Professor	Associate Professor	Senior Lecturer	Assistant Professor	Subtotal	Office Staff	Total
Research Professor	Research Associate Professor	Research Senior Lecturer	Research Assistant Professor			
54	42	8	21	152	143	295
17	1	2	7			

Number of International Faculty

(As of May 1, 2024)

Country Region	Professor, Research Professor	Associate Professor, Research Associate Professor	Senior Lecturer, Research Senior Lecturer	Assistant Professor, Research Assistant Professor	Total
Vietnam	3	1		6	10
Korea	2	3			5
Thailand			2	3	5
China		1		3	4
India				2	2
Pakistan			1	1	2
Taiwan			1		1
Indonesia				1	1
Australia		1			1
USA	1				1
Romania		1			1
Greece		1			1
UK		1			1
Israel		1			1
Total	6	10	4	16	36

Number of Students

(As of May 1, 2024)

	Master's Program				Doctoral Program					Total
	Capacity of Admission	1st year	2nd year	Total	Capacity of Admission	1st year	2nd year	3rd year	Total	
Graduate School of Advanced Science and Technology (Division of Advanced Science and Technology)	282	285 (56) [114]	387 (80) [123]	672 (136) [237]	90	108 (29) [56]	94 (24) [63]	226 (63) [105]	428 (116) [224]	1100 (252) [461]
Graduate School of Advanced Science and Technology (Division of Transdisciplinary Sciences)	10	8 (0) [2]	10 (1) [2]	18 (1) [4]	5	5 (0) [1]	4 (0) [3]	2 (0) [1]	11 (0) [5]	29 (1) [9]
Total	292	293 (56) [116]	397 (81) [125]	690 (137) [241]	95	113 (29) [57]	98 (24) [66]	228 (63) [106]	439 (116) [229]	1129 (253) [470]

※ ( ) Number of female students within the total. [ ]Number of international students within the total.

Number of International Students (Including research students)

(As of May 1, 2024)

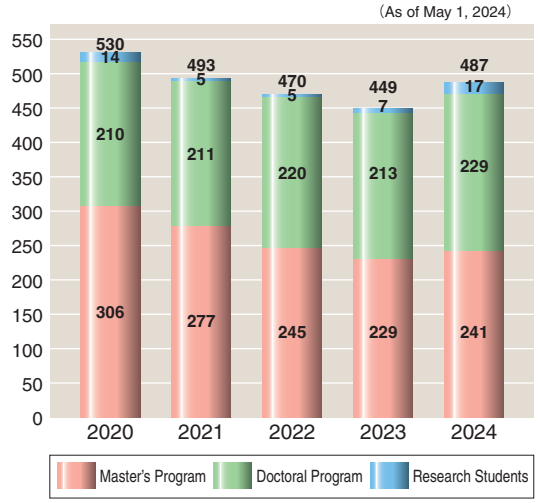
Country Region	Graduate School of Advanced Science and Technology (Division of Advanced Science and Technology)			Graduate School of Advanced Science and Technology (Division of Transdisciplinary Sciences)			Total				
	Master's Program	Doctoral Program	Research Students	Master's Program	Doctoral Program	Research Students	Master's Program	Doctoral Program	Research Students	Total	Rate %
China	191	143	10	3	3		194	146	10	350	71.9%
Vietnam	18	34		1			19	34	0	53	10.9%
Thailand	4	21	2		1		4	22	2	28	5.7%
Indonesia	7	6					7	6	0	13	2.7%
India	6	7					6	7	0	13	2.7%
Bangladesh	1	5					1	5	0	6	1.2%
Korea	3	1			1		3	2	0	5	1.0%
Pakistan	2	2					2	2	0	4	0.8%
Myanmar		3					0	3	0	3	0.6%
France			3				0	0	3	3	0.6%
Taiwan	2						2	0	0	2	0.4%
Philippines			1				0	0	1	1	0.2%
Malaysia		1					0	1	0	1	0.2%
Nepal	1						1	0	0	1	0.2%
Brazil	1						1	0	0	1	0.2%
Germany			1				0	0	1	1	0.2%
UK		1					0	1	0	1	0.2%
Nigeria	1						1	0	0	1	0.2%
Total	237	224	17	4	5	0	241	229	17	487	-

※ The composition ratios are rounded to the second decimal place, so the sum is not always 100%.

Change in International Students, 2020-2024

(Including research students)

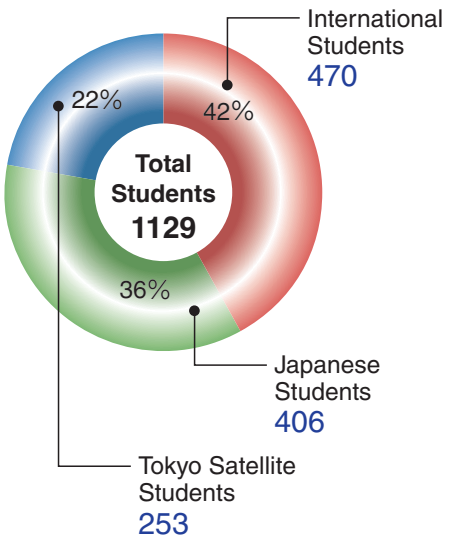
(As of May 1, 2024)



Percentage of Students

(Excluding research student)

(As of May 1, 2024)

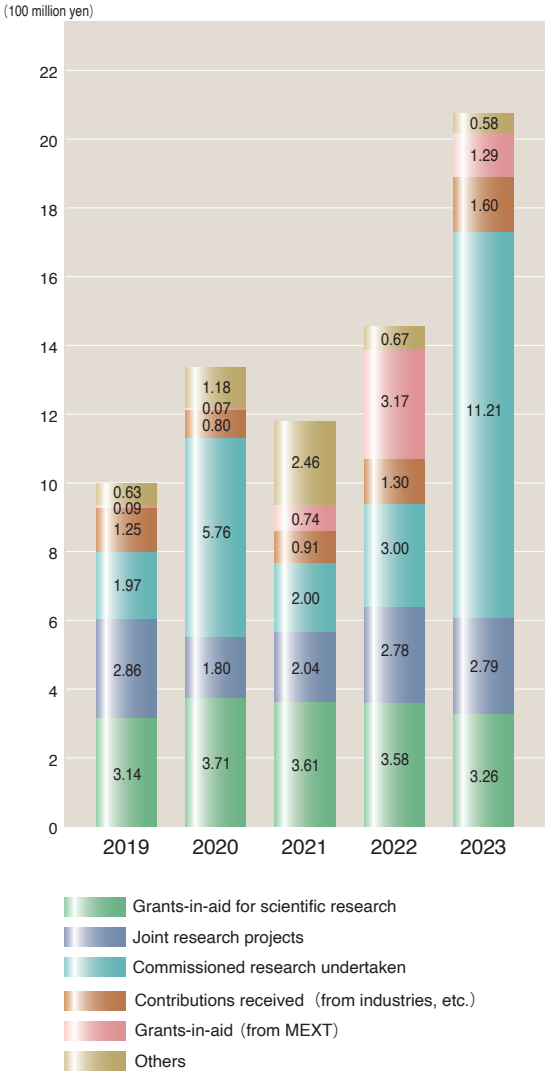


Degrees Awarded

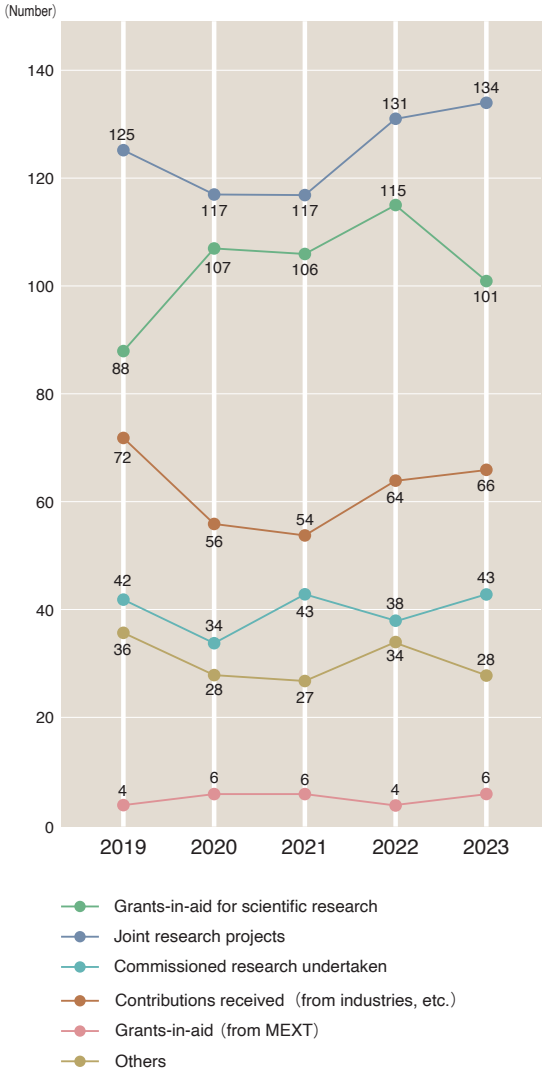
(As of Mar 31, 2024)

	Master's Program		Doctoral Program	
	2023	Cumulative Total	2023	Cumulative Total
Knowledge Science	106	1974	24	356
Information Science	103	3061	24	527
Materials Science	66	2842	14	581
Transdisciplinary Science	11	46	5	6
Total	286	7923	67	1470

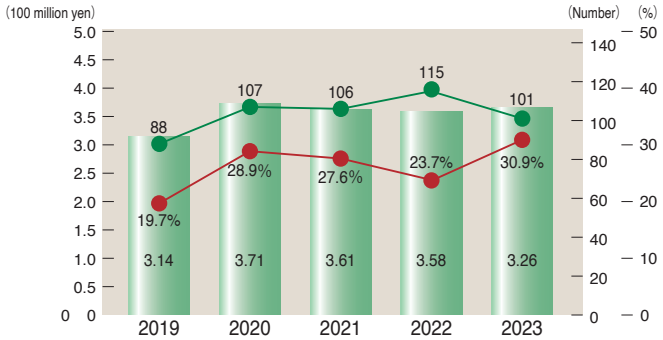
External Funds (amount)



External Funds (number)



Grants-in-Aid for Scientific Research



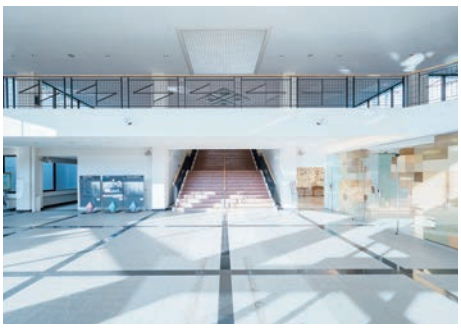
(The number of acceptances for new projects divided by the number of applications for new projects)

Campus Map

HP “Campus Map”

1 School of Knowledge Science, Building I
2 School of Knowledge Science, Building II
3 School of Knowledge Science, Building III
4 School of Knowledge Science Lecture Hall
5 School of Information Science, Building I
6 School of Information Science, Building II
7 School of Information Science, Building III
8 School of Information Science Lecture Hall
9 School of Materials Science, Building I
10 School of Materials Science, Building II
11 School of Materials Science, Building III
12 School of Materials Science, Building IV
13 School of Materials Science Lecture Hall
14 Center for Nano Materials and Technology
15 Technical Annex Center
16 Nano Analysis Building
17 Multidisciplinary Research Center
18 Entry Hall
19 Building for Industrial Collaboration
20 Venture Business Laboratory
21 JAIST Innovation Plaza
22 Institute Hall (Cafeteria)
23 Library
24 Convenience Store, Training Room
25 Gymnasium
26 JAIST International Seminar House
27 Student Housing
28 JAIST HOUSE
29 Apartment Houses for JAIST staff
30 Administration Building
Bus Stop (JAIST Shuttle Komatsu Line)
31 Bus Stop (JAIST Shuttle Tsurugi Line)
32 Parking


Entrance


Entry Hall


Lecture Room

Land/Building

(As of April 1, 2024)

Land	: Area	113,063m^2
Building	: Area	29,464m^2
	Total floor area	100,044m^2

Hakusan Relief

JAIST Gallery

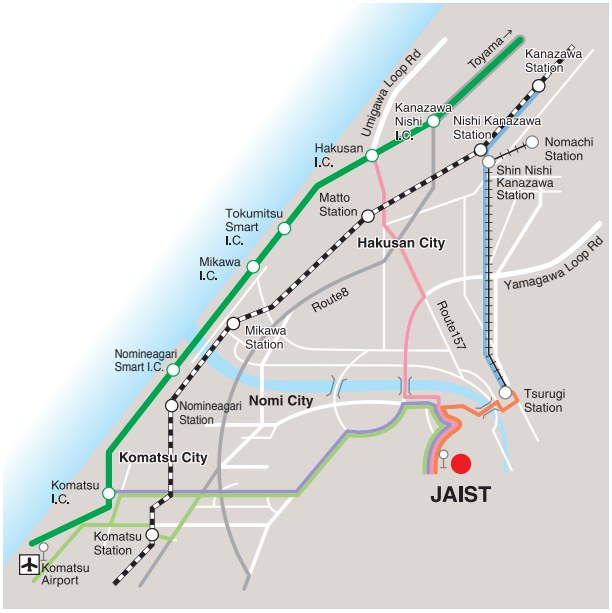
Student Housing

Access

HP “Access”

JAIST is located in the center of the Ishikawa Science Park, high on a hill overlooking the city of Nomi. The campus site offers natural beauty, with views of nearby counties and the city of Kanazawa to the north, the Sea of Japan to the west, forests and pastures to the south, and the spectacular Mt. Hakusan to the east.
The area provides a variety of recreational facilities for every season, including several nearby ski resorts, beaches and seaside parks, golf courses, hot springs and athletic and recreational parks. The area affords easy access to natural scenery, wilderness and outdoor recreation.
While the quiet natural setting of the campus is superbly suited for education and research, JAIST also lies mid-way between the two largest cities in Ishikawa. University shuttles regularly run between the campus and local train stations, making it easy for students to reach both Komatsu and Kanazawa.
The historic city of Kanazawa, often referred to as "Little Kyoto", which is home to various traditional cultural arts and the setting for numerous cultural events year round lies about 20km from JAIST campus and is easily reached by bus or train.

Komatsu Airport offers regular international flights to and from **Seoul, Shanghai and Taipei**.



Air — Komatsu Airport
- Hokuriku Railroad Kaga Bus, 12 minutes → Komatsu Station
  - JAIST Shuttle (Komatsu Line), 35 minutes / Free, Reservation Required※ → JAIST
  - Taxi 35 minutes → JAIST
- Taxi 40 minutes → JAIST

Train — Komatsu Station
- JAIST Shuttle (Komatsu Line), 35 mimutes / Free, Reservation Required※ → JAIST
- Taxi 35 minutes → JAIST

※If visitors will use the JAIST Shuttle (Komatsu Line), reservations should be arranged for them by the JAIST faculty or the departments with whom they are visiting.

Kanazawa Station
- Train, 5 minutes → Nishi-Kanazawa Station
- Walk, 5 minutes → Hokuriku Railroad Ishikawa Line Shin Nishi-Kanazawa Station
- Train, 25 minutes → Hokuriku Railroad Ishikawa Line Tsurugi Station
- JAIST Shuttle (Tsurugi Line), 13 minutes/ Free → JAIST
- Taxi 40 minutes → JAIST

National University Corporation
Japan Advanced Institute of Science and Technology

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JAIST Search