

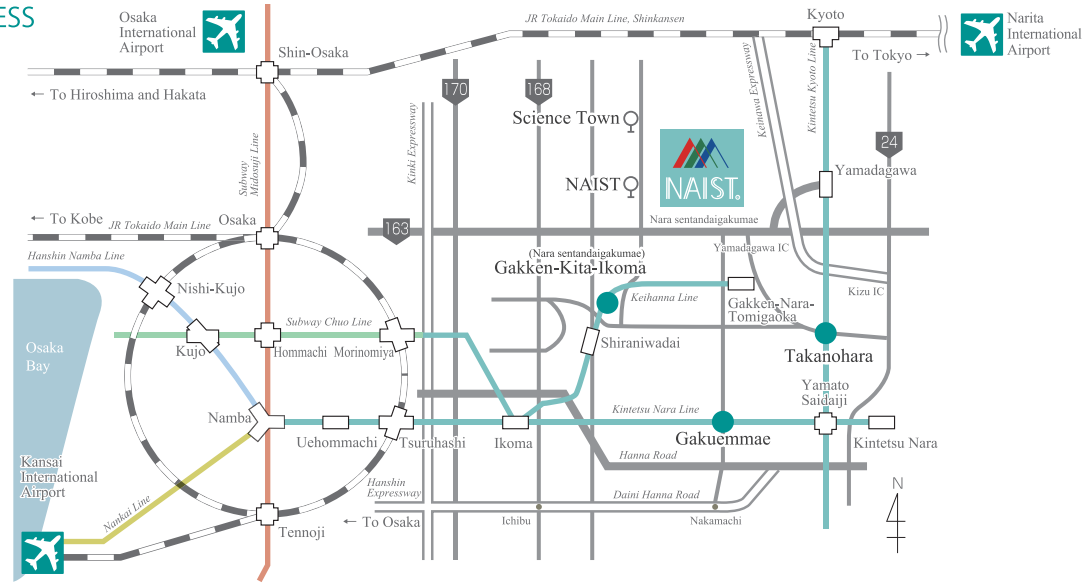

from Japan

NARA INSTITUTE of
SCIENCE and TECHNOLOGY
GUIDEBOOK 2013

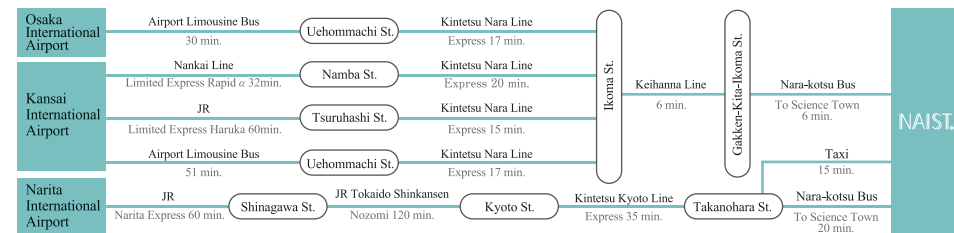
NAIST[®]
NARA INSTITUTE of SCIENCE and TECHNOLOGY

to the world

ACCESS



NAIST can be reached in approximately 1.5 hours from Osaka International Airport and Kansai International Airport.



In addition to its main campus, NAIST has liaison offices in Tokyo and Higashi-Osaka.



NAIST Tokyo office



NAIST Higashi-Osaka office



website
<http://www.naist.jp/en/>



twitter
http://twitter.com/naist_main_en



facebook
<https://www.facebook.com/naist.jp.en>



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Purpose · Focus · Performance

Highly-focused research and education
at the forefront of science and technology

from Nara, Japan.



A Japanese national university
composed solely of
graduate schools



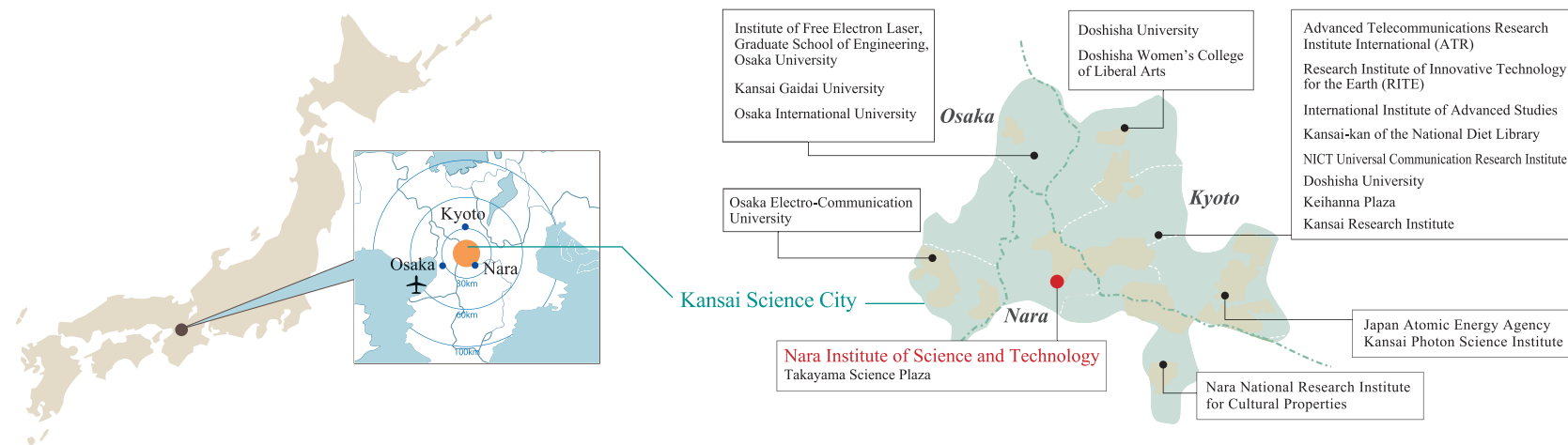
About NAIIST

NAIIST was founded in 1991 as a Japanese national university consisting solely of graduate schools in three integrated areas: information science, biological sciences, and materials science. At present, about 1,000 students— 14% from overseas— are supervised by roughly 200 NAIIST faculty.

With its cutting-edge facilities and a 5 to 1 student-to-faculty ratio, NAIIST's world-leading education and research are a direct result of its rich, global environment and supportive

infrastructure. Moreover, the high caliber achievements of NAIIST's faculty and students are shared world-wide through patents, licenses, spin-off companies, and active exchange with overseas partners.

As a result, NAIIST has quickly established itself as a world-recognized education and research center where young scientists and technologists become tomorrow's global leaders.



Location

NAIIST is located in Ikoma City, in Japan's historic Nara Prefecture. Home of the first official capital of Japan, Nara Prefecture has an incredibly rich history as a center for international trade and relations. In addition to its prolific ancient heritage, Nara Prefecture is also conveniently located in close proximity to Kyoto and Osaka, and just 90 minutes from Kansai International Airport.

Kansai Science City

NAIIST is located in the area called "Kansai Science City" (also known as "Keihanna") a national science project constructed in the Kansai Hills area, extending into three prefectures: Kyoto, Osaka, and Nara. The aim of Kansai Science City is to establish a new base for creative, international, interdisciplinary and inter-industrial academic research through the close cooperation of industrial, governmental, and academic

organizations. More than 110 prestigious companies and institutions, including Kyocera, Panasonic, Advanced Telecommunications Research Institute International (ATR), the National Institute of Information and Communications Technology (NICT), and the Research Institute of Innovative Technology for Earth (RITE) now operate in Kansai Science City and have made great contributions to science and technology.

Concept: Education through Research

NAIST tackles problems at the frontiers of science in an environment of interdisciplinary and international cooperation. Students and researchers have access to world-class facilities in a stimulating environment that promotes individual research achievements, collaboration across traditional research fields, and flexible course curricula.

- Research-focused Environment: NAIST was established without undergraduate departments to allow the faculty to commit themselves towards achieving superior research results.

- Research-based Education: Through the research of our accomplished faculty and collaboration with industry and academic partner institutions, NAIST's students learn both in traditional settings and through hands-on experiences at the forefront of science and technology.

Admission Policy

NAIST eagerly promotes admission of students from both Japan and overseas who have strong basic academic capabilities regardless of their previous academic background. Additionally, the university actively admits researchers, engineers and others currently working in society with strong enthusiasm for advanced scientific research and clearly defined aspirations for the future.

Flexible Student Acceptance

- NAIST accepts students from various fields who are enthusiastic to learn and conduct research, and researchers / engineers who are active contributors to society.
- Entrance Examinations held 3 times a year
- April and October enrollment
- No comprehensive written exam, but rather a general assessment based on interviews, survey reports, etc.
- Curriculum created to suit students from diverse fields (basic and introductory courses, wide-ranging lectures, seminars, problem-based research)
- Flexible curriculum management (multiple faculty member guidance, exchange of credits from other universities, research guidance counselors, semester system)

International Student Enrollment - 146 students

As of October 1, 2012

| Asia: | | | |
|-------------|----|------------|---|
| China | 38 | Korea | 3 |
| Indonesia | 19 | Bangladesh | 2 |
| Thailand | 13 | India | 1 |
| Philippines | 12 | Laos | 1 |
| Malaysia | 14 | Mongolia | 1 |
| Vietnam | 8 | Pakistan | 1 |
| Taiwan | 3 | Nepal | 1 |

| Europe: | |
|---------|---|
| Germany | 4 |
| Finland | 2 |
| Romania | 1 |
| Italy | 1 |

| S. America: | |
|-------------|---|
| Brazil | 4 |
| Paraguay | 2 |
| Ecuador | 1 |
| Panama | 1 |
| Costa Rica | 1 |
| Mexico | 1 |

N. America: United States 3

| Africa: | |
|---------|---|
| Kenya | 2 |
| Senegal | 1 |
| Egypt | 1 |

| Oceania: | |
|------------------|---|
| Papua New Guinea | 2 |
| New Zealand | 1 |

| Middle East: | |
|--------------|---|
| Saudi Arabia | 1 |

Examination and Enrollment Fees / Tuition

| | Examination | Enrollment | Tuition |
|--|-------------|------------|-------------------|
| Master's and Doctoral Program Students | ¥30,000 | ¥282,000 | ¥267,900/semester |
| Research Student | ¥9,800 | ¥84,600 | ¥29,700/month |
| Special Research Student (Short-term Exchange Student) | — | — | ¥29,700/month |

*Tuition shown is as of March 2013

Financial Support

Japanese Ministry of Education, Culture, Sports, Science & Technology (MEXT) Scholarship

MEXT offers full scholarships to excellent overseas students and researchers to continue their studies in Japan.

NAIST and Private Scholarships, Etc.

There are numerous scholarships and grants exclusively for international students offered by NAIST and other public and private institutions.

Admission and Tuition Fee Exemption

International students who are unable to pay enrollment fees and / or tuition due to financial difficulties may apply for full / partial exemption. (MEXT scholarship students are exempt from both fees.)

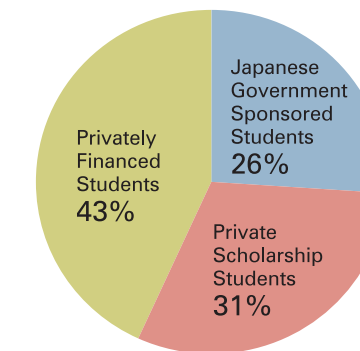
Teaching / Research Assistantships

NAIST actively supports students through teaching / research assistantships where they also gain valuable experience in education and research.

Dormitories

Affordable, On-campus Housing

All international students are eligible for on-campus housing with internet access. Housing fees range from ¥10,000 - ¥15,000 /month for single, married or family housing.



International Student Financial Aid

(as of October 2012)

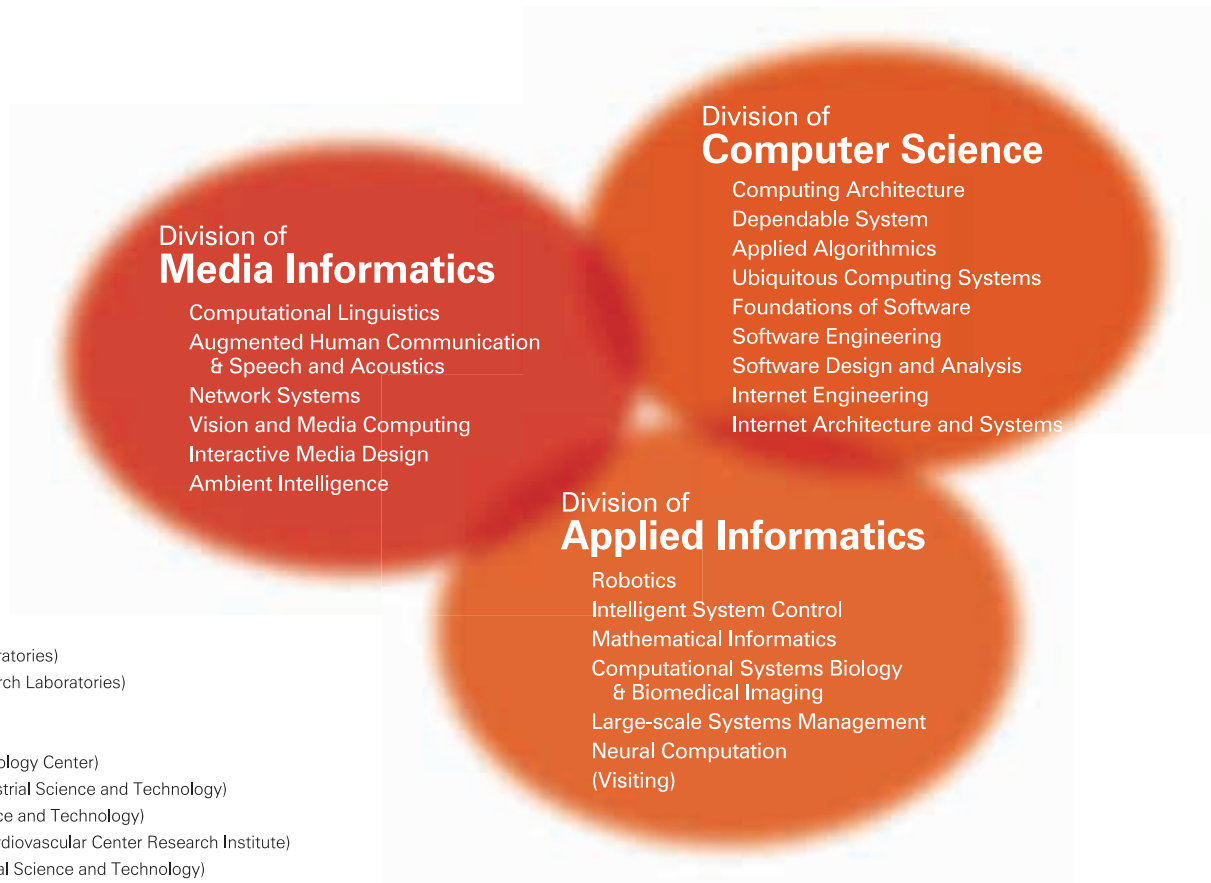


Information Science

The core focus of the Graduate School of Information Science is “communication between society, people, and computers” and a network environment that “can be accessed anytime, anywhere, by any method, and by anyone.” Our established faculty, staff, and curriculum contribute to the cultivation of researchers and engineers who will be leaders in tomorrow’s ubiquitous society.

Affiliate Laboratories

- Communication (NTT Communication Science Laboratories)
- Computational Neuroscience (ATR International)
- Network-Human Interaction
(Panasonic Corporation, Advanced Technology Research Laboratories)
- Symbiotic Systems (NEC Corporation, C & C Innovation Research Laboratories)
- Human Interface (Fujitsu Laboratories, Ltd.)
- Multimedia Mobile Communication (NTT DOCOMO, Inc.)
- Optical and Vision Sensing (OMRON Corporation, Core Technology Center)
- Molecular Bioinformatics (National Institute of Advanced Industrial Science and Technology)
- Digital Human (National Institute of Advanced Industrial Science and Technology)
- Technology of Radiological Science (National Cerebral and Cardiovascular Center Research Institute)
- Programming Science (National Institute of Advanced Industrial Science and Technology)
- Network Orchestration (National Institute of Information and Communications Technology)



Biological Sciences

The core focus of the Graduate School of Biological Sciences is to uncover various functions of microorganisms, plants, and animals at the molecular and cellular levels, and to clarify basic phenomena of life and biological diversity. Based on highly advanced basic research, we provide research and development that benefits human well-being, through which we train researchers to play active roles in the global community.

Division of Plant Biology

- Plant Molecular Genetics
- Intercellular Communications
- Plant Cell Function
- Plant Metabolic Regulation
- Plant Growth Regulation
- Plant Morphological Dynamics
- Plant Differentiation and Morphogenesis
- Plant Developmental Biology

Division of Biomedical Science

- Molecular and Developmental Biology
- Molecular Signal Transduction
- Neuronal Cell Morphogenesis
- Functional Neuroscience
- Gene Function in Animals
- Molecular and Cell Genetics
- Tumor Cell Biology

Division of Systems Biology

- Microbial Molecular Genetics
- Systems Microbiology
- Genomics of Bacterial Cell Functions
- Cell Signaling
- Applied Stress Microbiology
- Structural Biology
- Biodynamics and Integrative Biology
- Gene Expression Research

Plant Global Educational Project

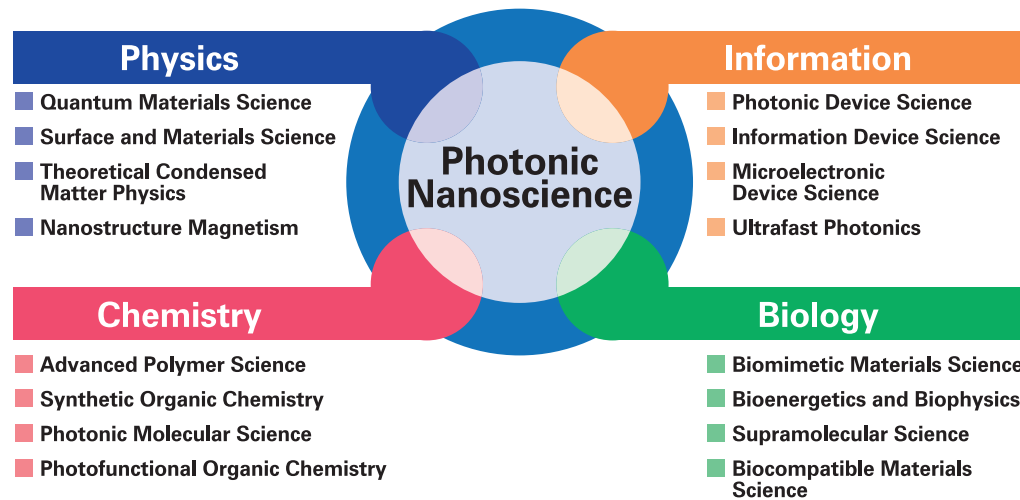
- Plant Protein Analysis

Affiliate Laboratories

- Molecular Genetics of Human Diseases
(Research Institute, Osaka Medical Center for Cancer and Cardiovascular Diseases)
- Neuronal Network Formation (Osaka Bioscience Institute)
- Tissue Development Dynamics (Center for Developmental Biology, RIKEN)
- Cell Growth Control (Center for Developmental Biology, RIKEN)
- Molecular Microbiology and Genetics (Research Institute of Innovative Technology for the Earth (RITE))

Materials Science

The core focus of the Graduate School of Materials Science is “Photonic-Nano-Science”, which is to understand the mechanisms of materials on the electron, atomic, and molecular levels from the viewpoint of “seeing with light,” “creating with light,” and “transmitting with light.” Researchers aim to create new materials, structures, and functions. We systematically educate students who will become excellent leaders in research and development fields in the global society.



Collaborative Laboratories

- Functional Materials Science (Panasonic Corporation)
- Mesoscopic Materials Science (Panasonic Corporation)
- Intelligent Materials Science (SHARP Corporation)
- Functional Polymer Science (Santen Pharmaceutical Co., Ltd.)
- Ecomaterial Science (Research Institute of Innovative Technology for the Earth (RITE))
- Sensory Materials and Devices (Shimadzu Corporation)
- Advanced Functional Materials (with Osaka Municipal Technical Research Institute)

Specific Research Laboratories

- Organic Electronics
- Green Nanosystem
- Green Bio Nano

Innovative Educational Programs

NAIST constantly strives to create new educational programs to produce researchers and technicians prepared to meet the demands of today's global scientific community and these programs are often chosen for external funding for their benefit towards education.

Global Initiatives Program for Promoting Overseas Collaborative Research Toward Graduate Education in Biological Sciences, Nano-science, and Information Technology (Global Initiatives Program)

In 2011, the Global Initiatives Program was started with funding from the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) to promote the cultivation of researchers that will undertake active roles in today's global science community through the further international expansion and development of NAIST's research and educational activities.

This program aims to establish and develop joint research opportunities for students enrolled at NAIST and our overseas partner institutions. NAIST students participate in overseas graduate research programs and international student workshops and students from partner institutions participate in NAIST internships.

The 2012 International Priority Graduate Program (PGP)

The program “International Program in Information Science Focused on Course Work and Empirical Training” of Graduate School of Information Science was selected for the 2012 International Priority Graduate Program (PGP) of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). 5 international students for the Master's course and 5 students for the Doctoral course will be accepted to the program as Japanese Government Scholarship recipients each year for 5 years. The program was started in 2008 as one of the

MEXT programs supporting the internationalization of Japanese universities. It aims to promote coherent policies and systems to meet the needs of overseas partners from various countries and regions, thus facilitating international cooperation. Furthermore, the program strives to create more globally focused campus environments in order to facilitate effective international student recruiting, and to provide attractive educational and research programs, as well as conduct follow-up activities through the MEXT Scholarship Student Systems.

International Training Program (ITP): Step-up Educational Program for Young Bio-Material Scientists On an International Training Network

The Graduate School of Materials Science Step-up Educational Program for Young Bio-Material Scientists On an International Training Network was chosen for funding as a JSPS International Training Program. The program was established to build upon the existing international cooperative framework in order to create a first-rate international training network which focuses on the

enhancement of communication skills and the development of international perspectives in research. Students in this program are engaged in enhanced English education, participate in overseas English training programs, and take part in lab stays, international symposia to become internationally active, confident researchers.

International Activity Highlights:

NAIST is now actively engaged in globalization efforts to promote its global standing and enhance its on-campus international environment. Exchange agreements with 66 overseas partner institutions serve as a solid foundation for exchanging researchers, staff, and students each year. The Center for International Relations coordinates and brings consistency to NAIST's globalization initiatives. Some recent activity highlights are shown below and opposite.

Joint Workshops and Seminars



Joint Workshop with Kasetsart University



Joint Workshop with Chinese Academy of Sciences and UC Davis



Joint Symposium with Gwangju Institute of Science and Technology and National Chiao Tung University

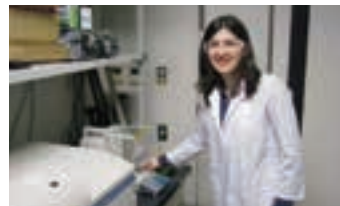
Overseas Education and Research



Research Stay at University of Oulu



Education and Research at University of Minnesota



Research Visit from Université Paul Sabatier

Student Internships at NAIST



From Ateneo de Manila University



From University Malaya, Universiti Sains Malaysia, Bogor Agricultural University



From RheinMain University of Applied Science

interACT Consortium



The International Center for Advanced Communication Technologies



Commemorative Lecture by Prof. Dr. Alexander Waibel of Karlsruhe Institute of Technology and Carnegie Mellon University



Student Exchange from Karlsruhe Institute of Technology

International Faculty and Staff Development



Faculty Development at UC Davis – Seminar



Faculty Development at UC Davis – Observation



Staff Development at Hawaii Tokai International College

Agreements on Academic Exchange with 66 Overseas Institutes in 26 Countries/Regions (as of March 2013)

■ Institution Level Agreements

| | | | |
|--------------------------------|--|--|--|
| U S A | University of California, Davis | China | Institute of Genetics and Developmental Biology, Chinese Academy of Sciences |
| | Cornell University | | Tianjin University of Technology |
| | The University of Hawai'i at Mānoa | | Liaoning University |
| Dominican Republic | Universidad Iberoamericana | | Soochow University |
| Belgium | Université catholique de Louvain | | Changchun Institute of Applied Chemistry, Chinese Academy of Sciences |
| Germany | RWTH Aachen University | China (Hong Kong) | The Hong Kong Polytechnic University |
| | Justus Liebig University Giessen | | Gwangju Institute of Science and Technology |
| Finland | Otto-von-Guericke University Magdeburg | Korea | Hanbat National University |
| | University of Eastern Finland | | Pohang University of Science and Technology |
| France | Åbo Akademi University | Malaysia | Universiti Sains Malaysia |
| | Université Paul Sabatier | | University of Malaya |
| | University of Poitiers | | Universiti Putra Malaysia |
| Italy | École Polytechnique | | International Islamic University Malaysia |
| | The University of Cagliari | | Universiti Teknologi Malaysia |
| Ireland | Trinity College Dublin, The University of Dublin | India | Indian Institute of Technology Rajasthan |
| Russia | St. Petersburg State Polytechnical University | Philippines | Ateneo de Manila University |
| Indonesia | Universitas Gadjah Mada | | Mapúa Institute of Technology |
| | Bogor Agricultural University | Thailand | Mahidol University |
| | Universitas Indonesia | | Chulalongkorn University |
| | Universitas Hasanuddin | | Kasetsart University |
| | Institut Teknologi Bandung | Taiwan | National Chiao Tung University |
| Universitas Jenderal Soedirman | | Southern Taiwan University of Science and Technology | |
| | | Vietnam | University of Science, VNU, Hanoi |
| | | | University of Engineering and Technology, VNU, Hanoi |
| | | New Zealand | Unitec Institute of Technology |

■ Information Science

| | |
|---------|---|
| Finland | Department of Information Processing Science, Faculty of Science, University of Oulu |
| China | School of Computer Science and Engineering & School of Information and Software Engineering, University of Electronic Science and Technology of China |
| | College of Information Science and Engineering, Hunan University |
| | Department of Computer Science and Technology, Tsinghua University |
| Lao PDR | Faculty of Engineering, National University of Laos |
| Vietnam | Vietnam Academy of Science and Technology Institute of Information Technology |

■ Biological Sciences

| | |
|-----------|---|
| U S A | Biotechnology Institute, University of Minnesota |
| Canada | Faculty of Science, University of British Columbia |
| Vietnam | Vietnam Academy of Science and Technology, Institute of Biotechnology |
| Australia | Centenary Institute of Cancer Medicine and Cell Biology |

■ Materials Science

| | |
|-------------|---|
| U S A | Macromolecular Science and Engineering Center, College of Engineering, University of Michigan |
| Germany | Faculty of Engineering, RheinMain University of Applied Sciences |
| Switzerland | Faculty of Science, University of Zurich |
| Netherlands | Faculty of Science, Leiden University |
| Hungary | Doctoral School of Physics, University of Debrecen |
| China | School of Chemistry and Chemical Engineering, Nanjing University |
| | Faculty of Chemistry, Northeast Normal University |
| Taiwan | College of Science, National Chiao Tung University |
| Vietnam | Vietnam Academy of Science and Technology Institute of Materials Sciences |

The Center for Industry-Government-Academia Collaboration

On becoming a national university corporation, NAIST established the Center for Industry-Government-Academia Collaboration and has engaged in the active promotion of joint research, commissioned research, technology transfer and other related activities. As a result, NAIST has achieved top results nationwide. We received the highest evaluation for the MEXT-sponsored "Development of University Intellectual Property Headquarters Project (2003-2007)", and also the highest midterm evaluation for the "Innovation System Improvement Project (2008-2012)".



METI Intellectual Property Achievement Award



- Awarded the Intellectual Property Achievement Award by the Minister of Economy, Trade and Industry (April 2011)
- Highest income per faculty member among national universities for three successive years
- Highest external research funding per faculty member among Japanese institutions (totaling over 3 billion yen annually)
- Consistently among the top spin-off producing Japanese universities

Message from Professor Shinya Yamanaka

2012 Nobel Laureate in Physiology or Medicine
Director, Center for iPS Cell Research and Application,
Kyoto University
Honorary Professor, Nara Institute of Science and Technology



Photo taken at NAIST 20th Anniversary Commemorative Ceremony

From NAIST introduction video

"Currently, my group is conducting research on "iPS" cells, a kind of stem cell, and most of the crucial research which led to the creation of iPS cells began during the five years when I was at NAIST. In other words, without the research conducted in Nara, I don't think iPS cells could have been achieved and I think we would now be pursuing a completely different area of research. Professors at NAIST come from various fields, such as medicine in my case, and others have backgrounds in engineering, science, agriculture, and so on, so NAIST faculty are truly engaged in a broad spectrum of research areas. Not only fundamental research but also applied research and so many kinds of research are being conducted, so even from the perspective of industry

partners, there are many opportunities to conduct collaborative research at NAIST, which makes NAIST a very unique research institute, in my opinion.

With the extremely high level of both its research environment and faculty, NAIST is one of the top research universities in Japan. Although I am now researching iPS cells at Kyoto University, even now most of the core members supporting me in my lab are colleagues and former students from my time at NAIST who came to Kyoto to work with and support me. Nara really is an excellent place to conduct research and I sincerely hope that many students and researchers will choose to pursue their research in Nara."