



NAIST®

奈良先端科学技術大学院大学
NARA INSTITUTE OF SCIENCE AND TECHNOLOGY

NAIST®



NAra **I**nstitute of **S**cience and **T**echnology (**NAIST**)

NAIST: Located in Kansai Science City

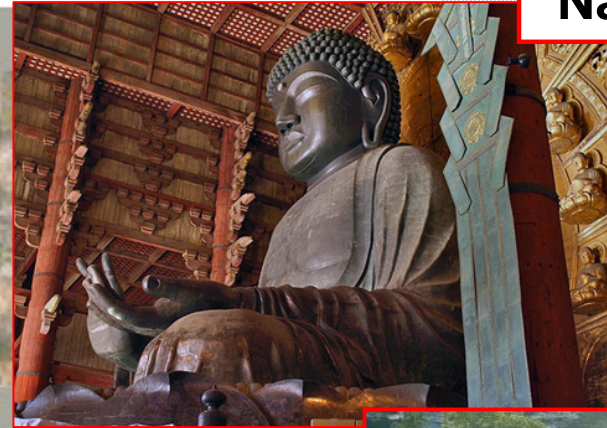
Osaka



Kyoto



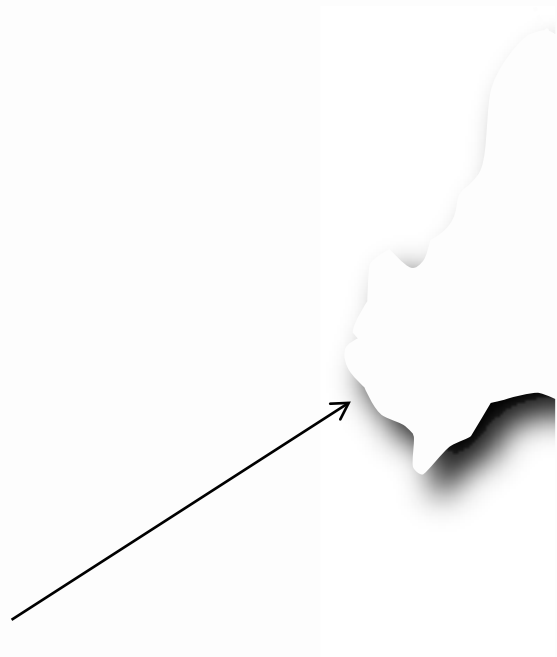
Nara





NAIST: Located in Kansai Science City

Kansai
International Airport



Kansai Science City (Keihanna)

Research park in the Kansai Hills area, extending to three prefectures, Kyoto, Osaka and Nara, and covering about 150 km². More than 110 companies and institutes such as:

Kyocera



Panasonic



ATR (Advanced Telecommunications Research Institute International)



NICT (National Institute of Information and Communications Technology)



RITE (Research Institute of Innovative Technology for the Earth)





NAIST®



NAIST®



NAIST®





NAIST Campus

Student & Staff
Dormitories

Interdisciplinary/Integrated
Research Building

Administrative
Offices

Division of Information Science

Division of Materials Science

Division of Biological Science

Interdisciplinary/Integrated
Research Building

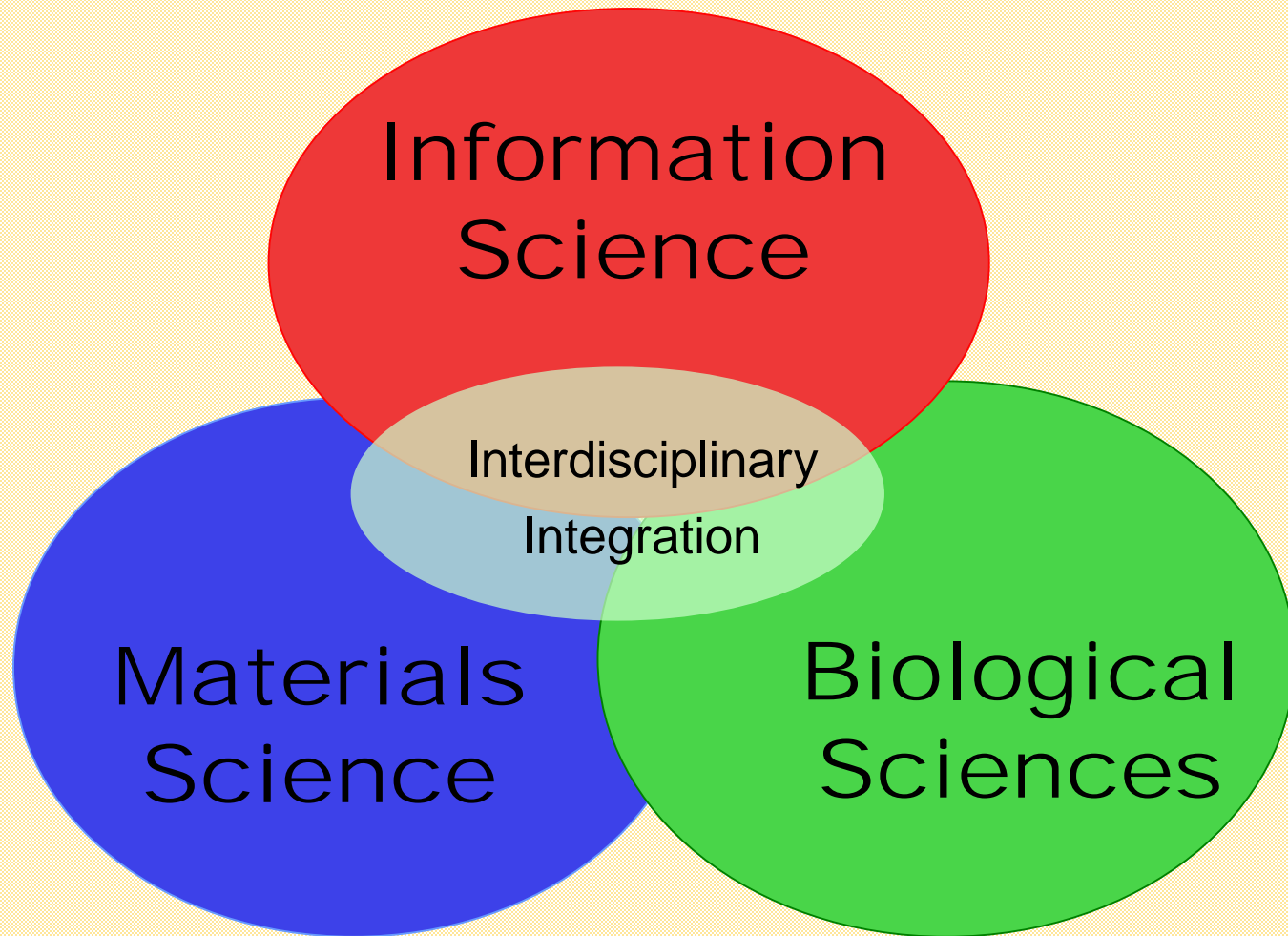
Students	1,045
Executive Members	6
Faculty	203
Administrative Staff	165

As of May 1, 2018

NAIST®

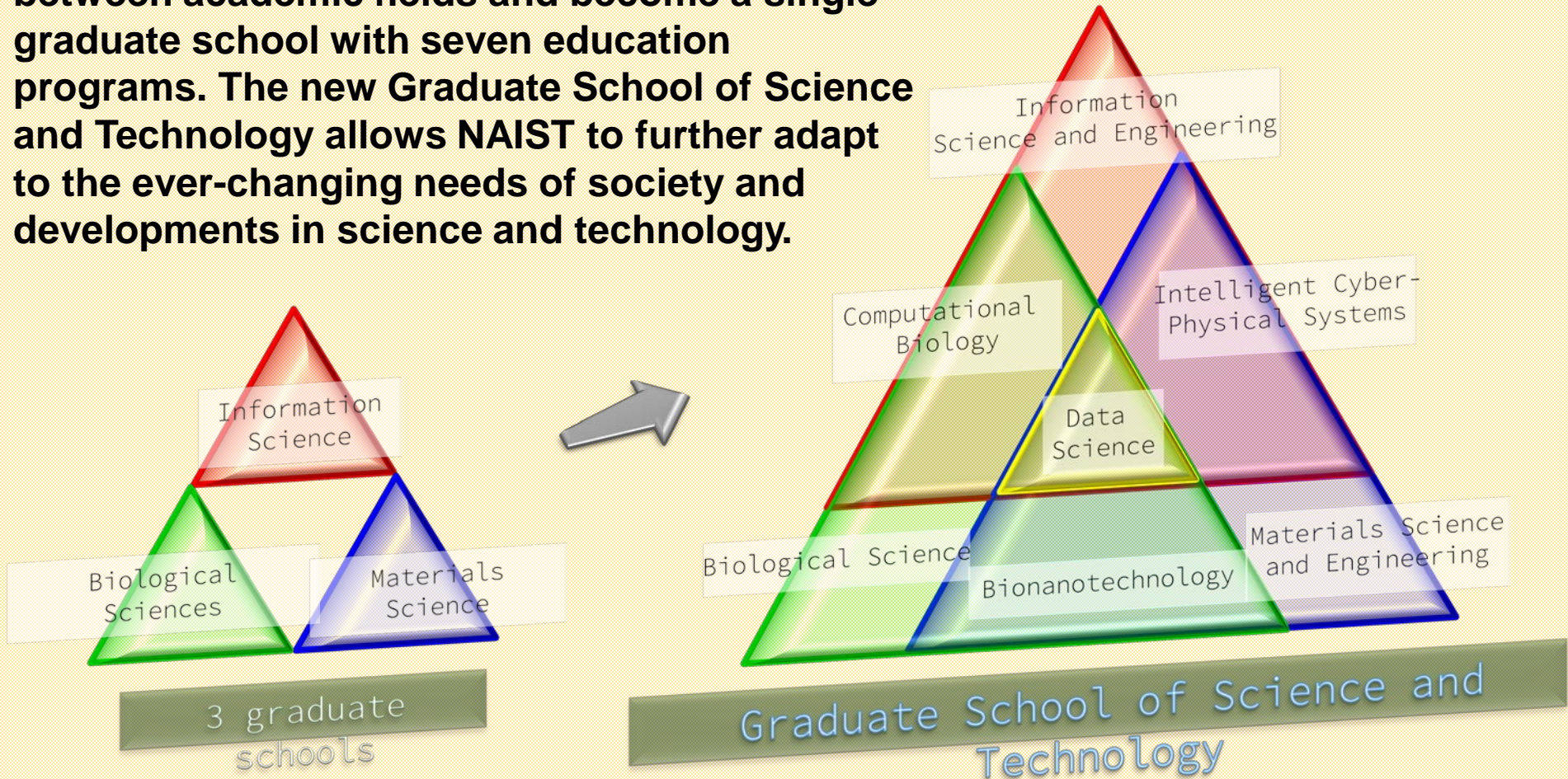
NAIST: Purpose and Focus

Founded in 1991, NAIST was composed of 3 graduate schools



Transformation to One Graduate School

In April, 2018, NAIST underwent an organizational transformation to lower barriers between academic fields and become a single graduate school with seven education programs. The new Graduate School of Science and Technology allows NAIST to further adapt to the ever-changing needs of society and developments in science and technology.



The Goals of the Shift to the Graduate School of Science and Technology

- Pursuits in the interdisciplinary fields of information, biological and materials science
- <Education> Structuring of a flexible interdisciplinary-area educational program

~Fostering of transferable skills~

- <Research> Produce new research areas through interdisciplinary fusion research

~Creating the new forefronts in science and technology~

Multidisciplinary-Focused Education Programs

- **Program of Information Science and Engineering**
- **Program of Computational Biology**
- **Program of Biological Science**
- **Program of Bionanotechnology**
- **Program of Materials Science and Engineering**
- **Program of Intelligent Cyber-Physical Systems**
- **Program of Data Science**

NAIST will produce creative leaders in research and skilled technicians to be active in Japan and abroad, pivoting around information, biological and materials sciences and focusing on their interdisciplinary fields that evolve from frontier science.

«**Master's Program**» develops human resources with specialized knowledge and training, a wide understanding of the related interdisciplinary fields, and the ability to approach issues and phenomena holistically to undertake the application of science and technology and its innovation throughout society.

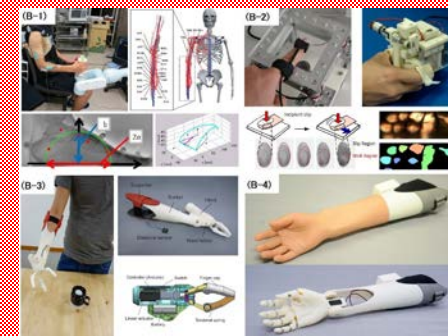
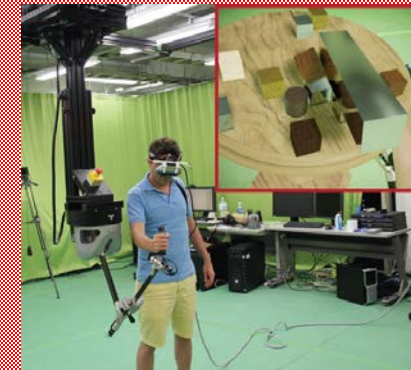
«**Doctoral Program**» fosters international awareness, self-reliance, and independence and develop researchers and skilled technicians with high ambitions that will advance the boundaries of science and technology taking leading roles throughout international industry, academia and government.

Graduate School of Science and Technology

Seven Education Programs

Program of Information Science and Engineering

A focused **information science** program which fosters students able to support today's dynamic advanced information society, implementing further achievements in information science in diverse fields & their wide-spread application. This program enriches students' broad interdisciplinary vision & cultivates cutting-edge specialized knowledge and skills covering computer hardware, software & information network technology; computer/human interaction & media technology; & various systems to fully utilize robotics & computer technology.

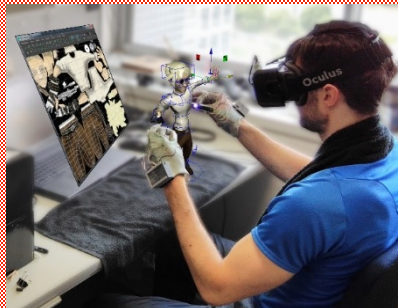


Program of Information Science and Engineering

Laboratories

Division of Information Science

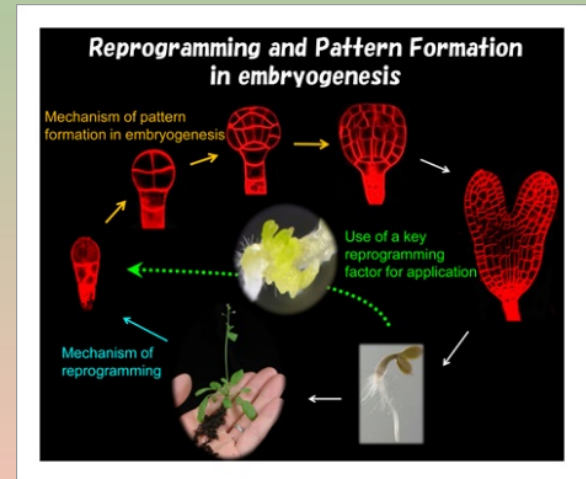
- Computing Architecture
- Dependable System
- Ubiquitous Computing Systems
- Mobile Computing
- Software Engineering
- Software Design and Analysis
- Cyber Resilience
- Information Security Engineering
- Internet Architecture and Systems
- Computational Linguistics
- Augmented Human Communication
- Network Systems
- Interactive Media Design



- Optical Media Interface
- Cybernetics and Reality Engineering
- Ambient Intelligence
- Social Computing
- Robotics
- Intelligent System Control
- Large-Scale Systems Management
- Mathematical Informatics
- Imaging-based Computational Biomedicine
- Computational Systems Biology
- Robotics Vision

Program of Computational Biology

An interdisciplinary **information science** and **biological science** program which fosters students who are able to collect & analyze the huge amounts of data related to the phenomena of life, such as medical imaging data & the enormous amounts of bio-information concerning genes, proteins, & metabolism, while fostering persons who will undertake the development of these technologies.



Program of Computational Biology

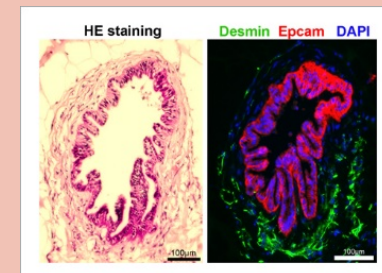
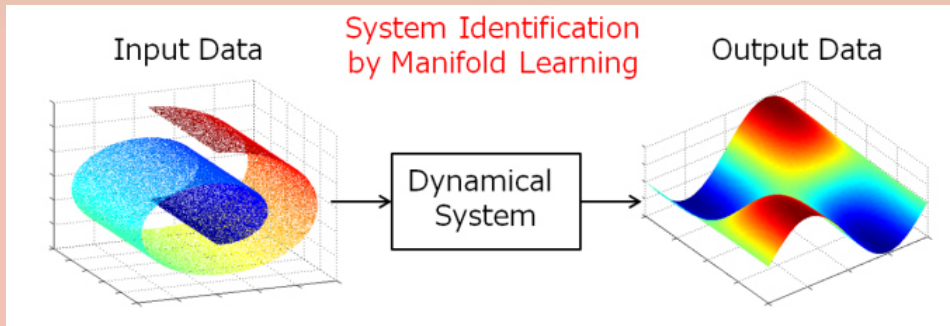
Laboratories

Division of Information Science

Ubiquitous Computing Systems
Network Systems
Optical Media Interface
Robotics
Intelligent System Control
Mathematical Informatics
Imaging-based Computational Biomedicine
Computational Systems Biology
Robotics Vision

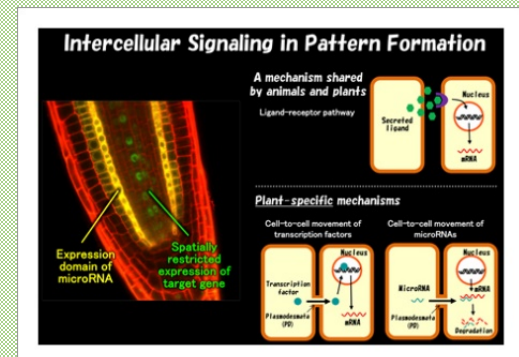
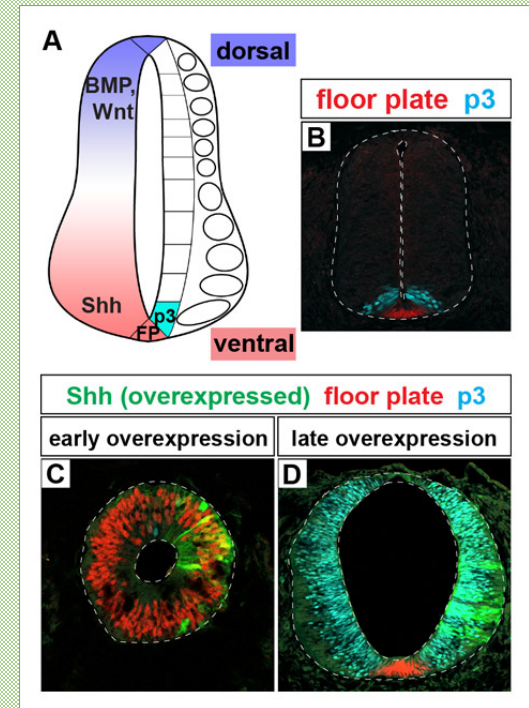
Division of Biological Science

Plant Developmental Signaling
Plant Immunity
Plant Secondary Metabolism
Plant Symbiosis
Tumor Cell Biology
Stem Cell Technologies
Developmental Biomedical Science
Systems Microbiology
Cell Signaling
Structural Biology
Gene Regulation Research
Systems Neurobiology and Medicine
Computational Biology
Molecular Microbiology and Genetics
Medical Genomics



Program of Biological Science

A focused **biological science** program which fosters students able to facilitate societal development & environmental protection through activities concerning areas such as the environment, energy, food supply, resources, life quality & health maintenance, within industry & public institutions foreign/domestic. This program enhances students' knowledge & cultivate expertise in areas from the basic principles of the phenomena of life to the biodiversity found at the molecular, cellular & individual level of plants, animals & microorganisms.

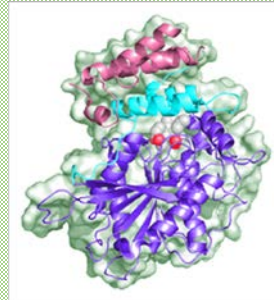


Program of Biological Science

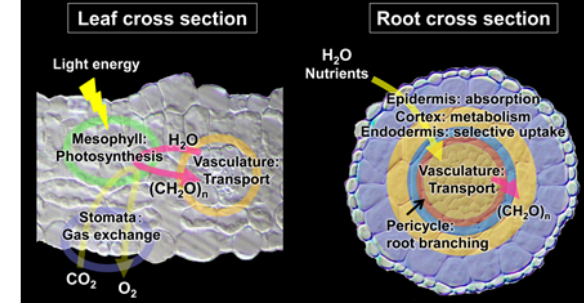
Laboratories

Division of Biological Science

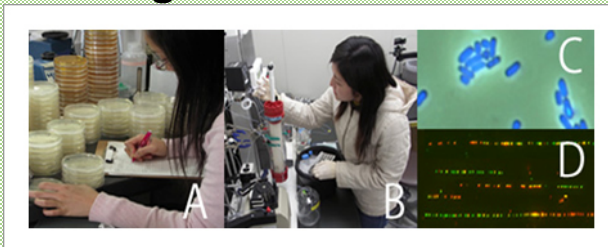
- Plant Cell Function
- Plant Developmental Signaling
- Plant Metabolic Regulation
- Plant Growth Regulation
- Plant Stem Cell Regulation and Floral Patterning
- Plant Immunity
- Plant Secondary Metabolism
- Plant Symbiosis
- Molecular Signal Transduction
- Functional Genomics and Medicine
- Tumor Cell Biology
- Molecular Immunobiology
- Molecular Medicine and Cell Biology
- Stem Cell Technologies



Plant Tissue Patterns –The Beauty of Nature–

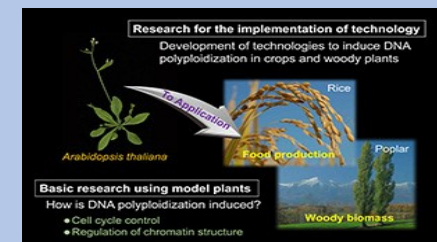
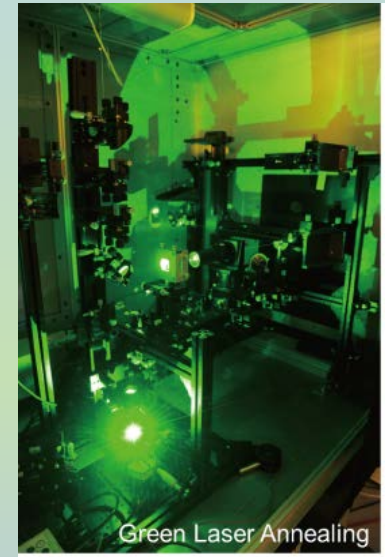


- Developmental Biomedical Science
- Organ Developmental Engineering
- Microbial Molecular Genetics
- Systems Microbiology
- Cell Signaling
- Applied Stress Microbiology
- Environmental Microbiology
- Structural Biology
- Membrane Molecular Biology
- Gene Regulation Research
- Systems Neurobiology and Medicine
- Computational Biology
- Cell Growth Control
- Molecular Microbiology and Genetics
- Medical Genomics

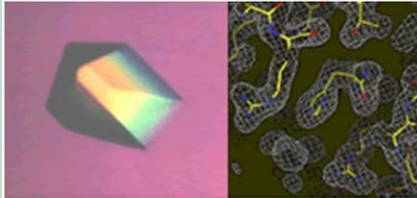


Program of Bionanotechnology

An interdisciplinary **biological science** and **materials science** program which fosters students who pursue new trends in bioscience based on materials science understanding, & cultivates abilities necessary for the creation of novel functional materials to contribute to the future of society, including development of pharmaceuticals & medical engineering materials, development of new polymers which imitate biological functions, development of novel compounds to increase farming productivity, & exploration of new cellular engineering to support regenerative medicine through an understanding of the molecular foundation of biogenic activity.



Program of Bionanotechnology



Laboratories



Division of Biological Science

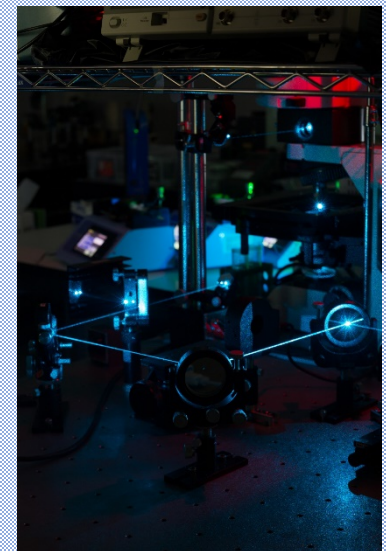
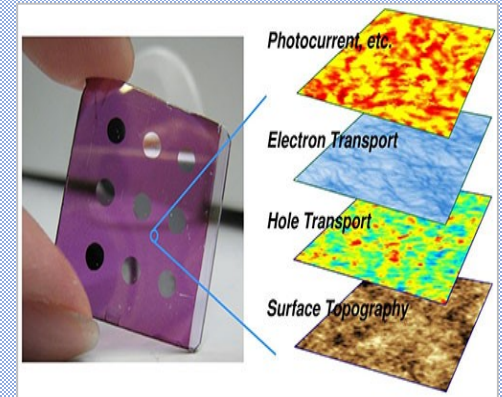
Plant Cell Function
Plant Metabolic Regulation
Plant Growth Regulation
Plant Stem Cell Regulation
and Floral Patterning
Molecular Signal Transduction
Tumor Cell Biology
Molecular Immunobiology
Molecular Medicine and Cell Biology
Developmental Biomedical Science
Organ Developmental Engineering
Cell Signaling
Applied Stress Microbiology
Structural Biology
Membrane Molecular Biology
Systems Neurobiology and Medicine
Cell Growth Control

Division of Materials Science

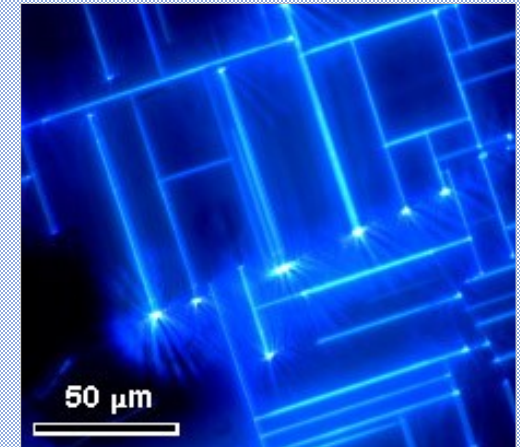
Photonic Device Science
Information Device Science
Synthetic Organic Chemistry
Supramolecular Science
Photonic Molecular Science
Photofunctional Organic Chemistry
Bio-Process Engineering
Complex Molecular Systems
Precision Polymer Design and Engineering
Nanomaterials and Polymer Chemistry
Functional Polymer Science
Sensory Materials and Devices
Advanced Functional Materials

Program of Materials Science and Engineering

A focused materials science program which fosters students with the foundational knowledge of materials science & advanced knowledge to fully utilize their expertise through a program spanning solid state physics, device engineering, molecular chemistry, polymeric materials and bionano-engineering, & undertake next generation science & technology to maintain affluent living & support societal development.



Program of Materials Science and Engineering



Laboratories

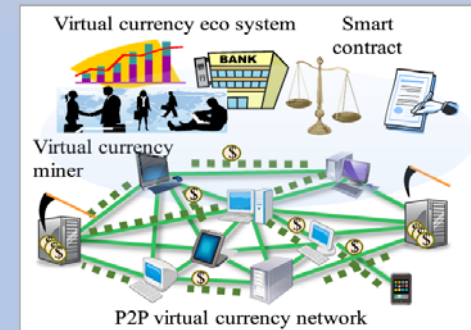
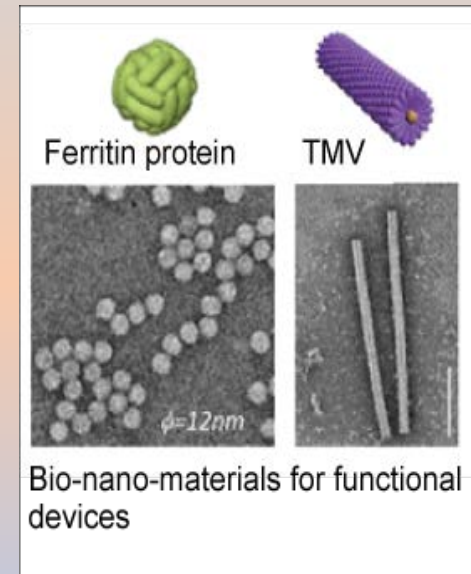
Division of Materials Science

Quantum Materials Science
Surface and Materials Science
Advanced Polymer Science
Photonic Device Science
Information Device Science
Synthetic Organic Chemistry
Supramolecular Science
Photonic Molecular Science
Photofunctional Organic Chemistry
Sensing Devices
Organic Electronics

Bio-Process Engineering
Complex Molecular Systems
Nanostructure Magnetism
Precision Polymer Design and Engineering
Nanomaterials and Polymer Chemistry
Materials Informatics
Mesoscopic Materials Science
Functional Polymer Science
Ecomaterial Science
Sensory Materials and Devices
Advanced Functional Materials

Program of Intelligent Cyber-Physical Systems

An interdisciplinary **materials science** and **information science** program which fosters students able to holistically grasp areas including functional material design, devices with new functions & real-world sensing, analytical device design, system structuring to fully utilize analyzation results, & machine & robot control systems, who have specific, specialized knowledge & experience to support the social systems of this IoT era.



Program of Intelligent Cyber-Physical Systems

Laboratories

Division of Materials Science

Photonic Device Science
Information Device Science
Synthetic Organic Chemistry
Supramolecular Science
Photonic Molecular Science
Photofunctional Organic Chemistry
Bio-Process Engineering
Complex Molecular Systems
Precision Polymer Design and
Engineering
Nanomaterials and Polymer Chemistry
Functional Polymer Science
Sensory Materials and Devices
Advanced Functional Materials

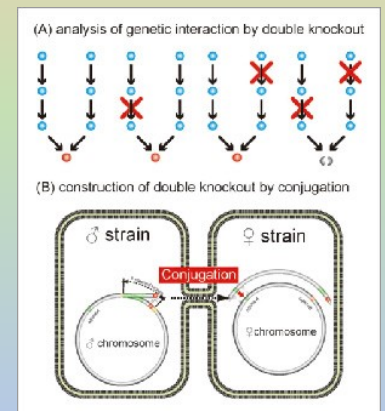
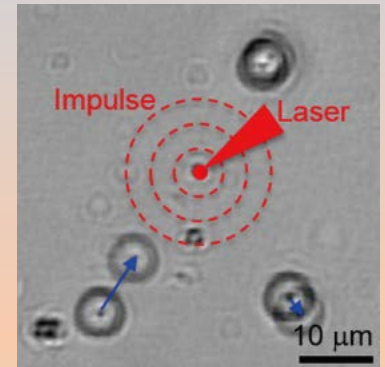


Division of Information Science

Computing Architecture
Dependable System
Ubiquitous Computing Systems
Mobile Computing
Software Engineering
Software Design and Analysis
Cyber Resilience
Information Security Engineering
Internet Architecture and Systems
Network Systems
Interactive Media Design
Optical Media Interface
Cybernetics and Reality Engineering
Ambient Intelligence
Robotics
Intelligent System Control
Large-Scale Systems Management
Computational Systems Biology
Robotics Vision

Program of Data Science

An interdisciplinary **information science**, **biological science** and **materials science** program which fosters human resources with a wide range of expertise in data-driven & AI-driven sciences related to information, biological, & materials science who will find hidden 'value' & 'truth' through data processing, visualization, & analysis of huge amounts of collected data to contribute to next generation of science & technology, & societal development.



Program of Data Science

Laboratories

Division of Information Science

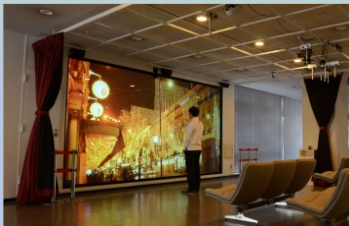
Cyber Resilience
Internet Architecture and Systems
Computational Linguistics
Augmented Human Communication
Social Computing
Intelligent System Control
Mathematical Informatics
Imaging-based Computational
Biomedicine
Computational Systems Biology

Division of Biological Science

Plant Metabolic Regulation
Plant Stem Cell Regulation and Floral
Patterning
Plant Immunity
Plant Secondary Metabolism
Plant Symbiosis
Molecular Medicine and Cell Biology
Systems Microbiology
Gene Regulation Research
Computational Biology

Division of Materials Science

Surface and Materials Science
Information Device Science
Bio-Process Engineering
Complex Molecular Systems
Materials Informatics

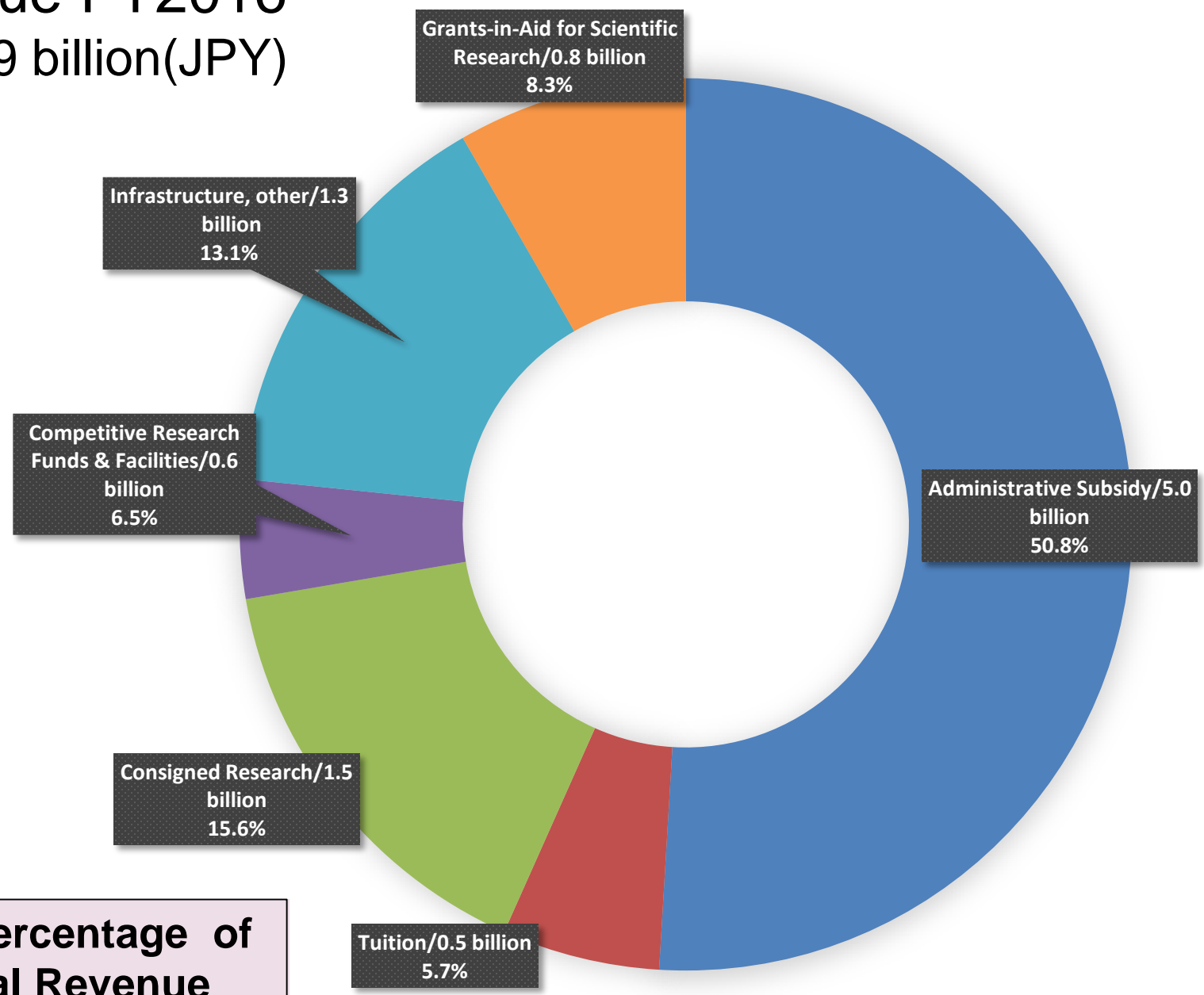




NAIST Numbers

Revenue FY2016

Total 9.9 billion(JPY)

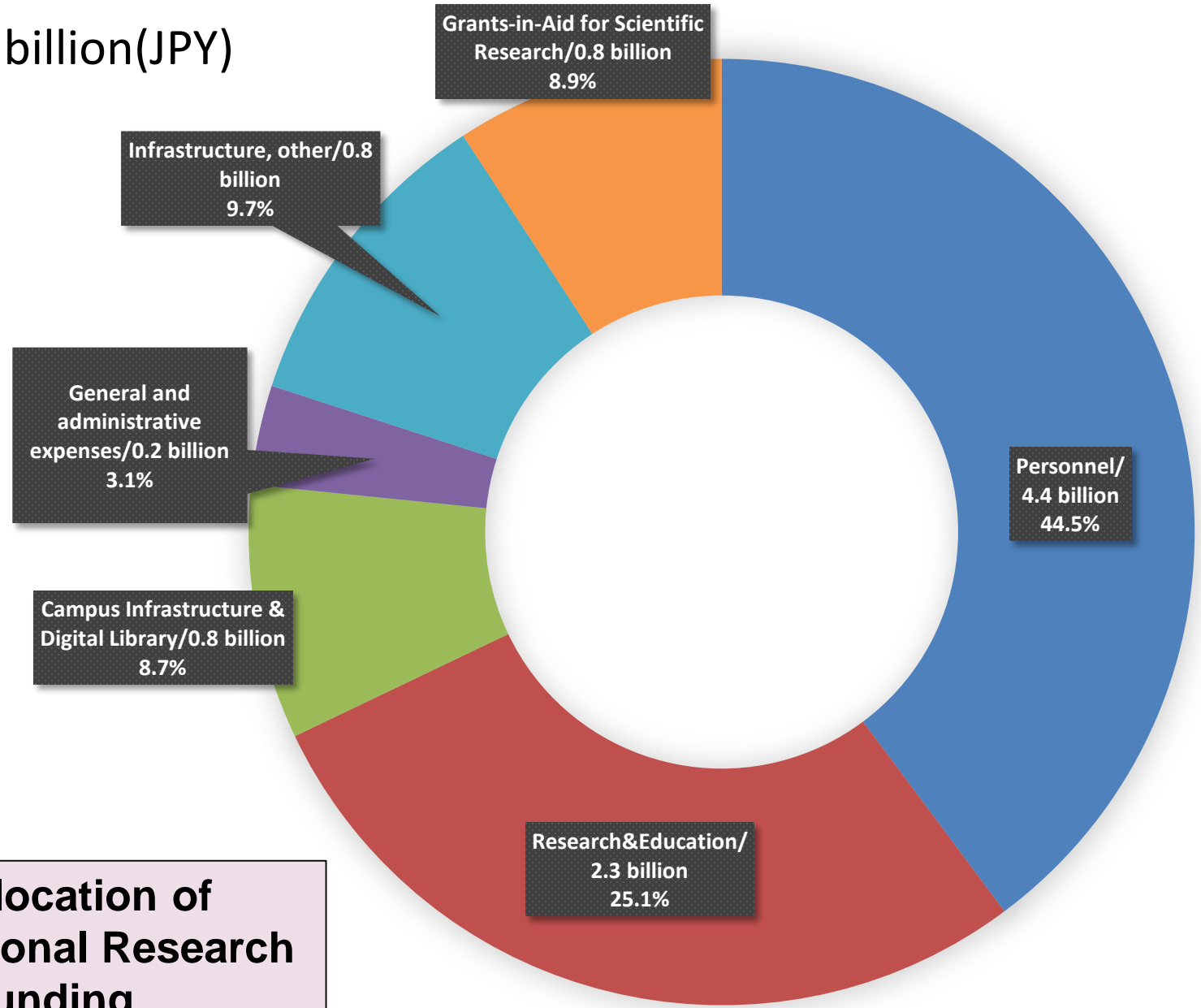


High Percentage of External Revenue



Expenses FY2016

Total 9.2 billion(JPY)



High Allocation of Educational Research Funding



NAIST External Evaluation

The 87th Session of the Council for Science and Technology Policy

Ranked 1st
in Japan

Revenue for research expenses (per faculty member)

Number of Grants-in-Aid for scientific research (per faculty member)

Allotment of Grants-in-Aid for Scientific Research (per faculty member)

Revenue from patent implementation (per faculty member)

Number of university business ventures (per faculty member)

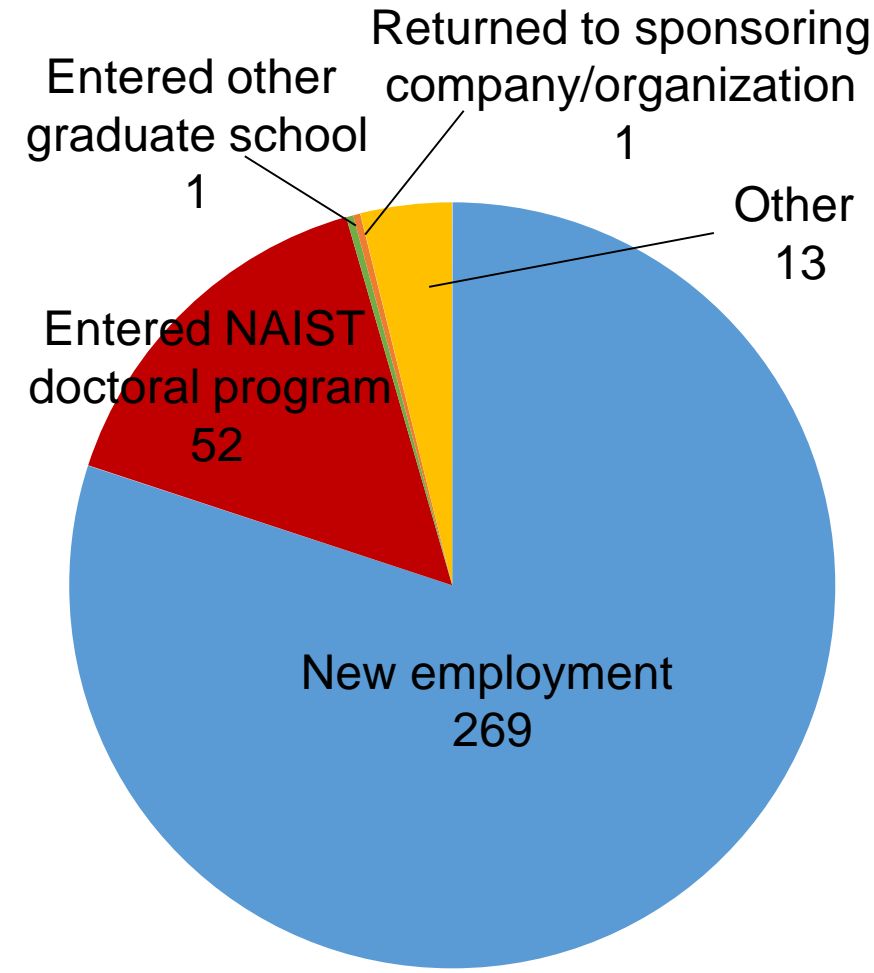
Percentage of Young Faculty (Younger than 37 years old)

Ranking 2013 by Asahi Shimbun

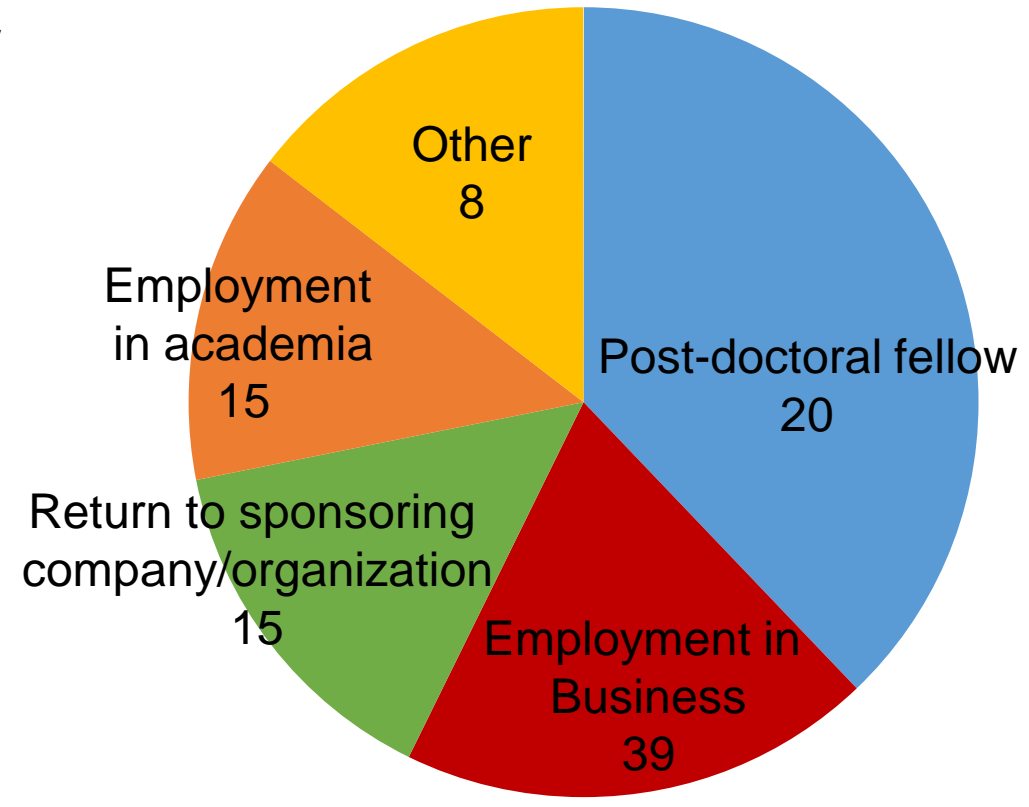
Ranked 1st

Citation Index of ISI (overall) among Japanese National Universities

Careers after NAIST



336 Graduates after Completion of Master's Program



103 Graduates after Completion of Doctoral Program

International Outlook

Academic Exchange Agreement

28 Countries/Regions 101 Institutions

As of May 1, 2018



Academic Exchange Agreements: Asia

China - Institute of Genetics and Developmental Biology, Chinese Academy of Sciences; Tianjin University of Technology; Liaoning University; Soochow University; College of Computer Science and Electrical Engineering, Hunan University; Department of Computer Science, City University of Hong Kong; School of Computer Science and Information Technology, Northeast Normal University; School of Chemistry and Chemical Engineering, Nanjing University; School of Information Science and Engineering, Yunnan University

Singapore - Temasek Life Sciences Laboratory Limited; School of Materials Science and Engineering Nanyang Technological University (NTU)

Asia 54

Indonesia - Universitas Gadjah Mada; Universitas Indonesia; Bogor Agricultural University; Universitas Hasanuddin; Institut Teknologi Bandung; Universitas Jenderal Soedirman; Faculty of Industrial Technology, Institut Teknologi Sepuluh Nopember (FTI-ITS)

India - Indian Institute of Technology, Bombay; Indian Institute of Science Education and Research, Thiruvananthapuram; KIIT College of Engineering;

Korea - Gwangju Institute of Science and Technology; Hanbat National University; Pohang University of Science and Technology; Graduate School of Culture Technology/Department of Industrial Design, Korea Advanced Institute of Science and Technology (KAIST); Graduate School of Electronics Engineering, Kyungpook National University

Academic Exchange Agreements: Asia (cont'd)

Malaysia - Universiti Sains Malaysia; University of Malaya; Universiti Putra Malaysia; Universiti Teknologi Malaysia; Universiti Tunku Abdul Rahman; Univerisiti Kebangsaan Malaysia

Philippines - Ateneo de Manila University; University of the Philippines

Bangladesh - Bangladesh University of Engineering and Technology; North South University

Taiwan - National Chiao Tung University; Southern Taiwan University of Science and Technology; The National Taiwan University of Science and Technology; Institute of Biophotonics, National Yang-Ming University

Asia 54

Thailand - Kasetsart University; Chulalongkorn University; Mahidol University; Chiang Mai University; King Mongkut's University of Technology Thonburi (KMUTT)

Vietnam - Hanoi University of Science, VNU; VNU University of Engineering and Technology; Hue University of Sciences; Institute of Information Technology, Vietnam Academy of Science and Technology; Faculty of Electronics and Telecommunications, Ho Chi Minh City University of Science, VNU-HCMC; Department of Electronic and Telecommunication Engineering, University of Science and Technology - The University of Danang; Institute of Biotechnology, Vietnam Academy of Science and Technology; Institute of Materials Science, Vietnam Academy of Science and Technology; University of Science and Technology of Hanoi (USTH)

Academic Exchange Agreements: Europe and Africa



Europe 33

Africa 2

Kenya - University of Nairobi

Senegal - Cheikh Anta Diop University

Russia - The St. Petersburg State Polytechnical University
Faculty of Science, Leiden University;

Belgium - Université Catholique de Louvain

Finland - Department of Information Processing Science,
Faculty of Science, University of Oulu; University of Turku

France - Université Paul Sabatier; École Polytechnique; École Normale Supérieure Paris-Saclay; University Lille, Science and Technology (UL1); Telecom SudParis; ESIEE Paris; University Paris-Est Marne-la-Vallee; École nationale supérieure d'ingénieurs de Caen; Telecom Paris Tech; Sorbonne University; Université Paris-Saclay

Germany - Faculty of Engineering, RheinMain University of Applied Sciences; RWTH Aachen University; Justus Liebig University Giessen; Karlsruhe Institute of Technology; University of Regensburg; Faculty of Engineering and Computer Science, University of ULM; Department of Informatics Technical University of Munich(IN-TUM); Department of Electrical and Computer Engineering Technical University of Munich(ECE-TUM); Coburg University of Applied Sciences and Arts

Academic Exchange Agreements: Europe (cont'd)

Hungary - Doctoral School of Physics, University of Debrecen

Italy - University of Cagliari; University of Trento

Netherlands - Faculty of Science, Leiden University; Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology

Switzerland - Faculty of Science, University of Zurich

Britain-University of Edinburgh; Department of Statistical Science, University College London (UCL)

Macedonia - University of Information Science and Technology "St. Paul the Apostle" (UIST)

Europe 33

Academic Exchange Agreements: North America, Latin America and Oceania

Canada - Queen's University at Kingston;
Faculty of Science, The University of British
Columbia

USA - University of California, Davis;
University of Hawai'i at Mānoa; Biotechnology
Institute, University of Minnesota; The Regents
of the University of Michigan on behalf of its
Macromolecular Science & Engineering
program; Mississippi State University

N. America 7

Australia - University of
Technology Sydney; School of
Pharmacy and Molecular
Sciences, James Cook
University; Macquarie
University; The University of
Newcastle

New Zealand - Unitec
Institute of Technology

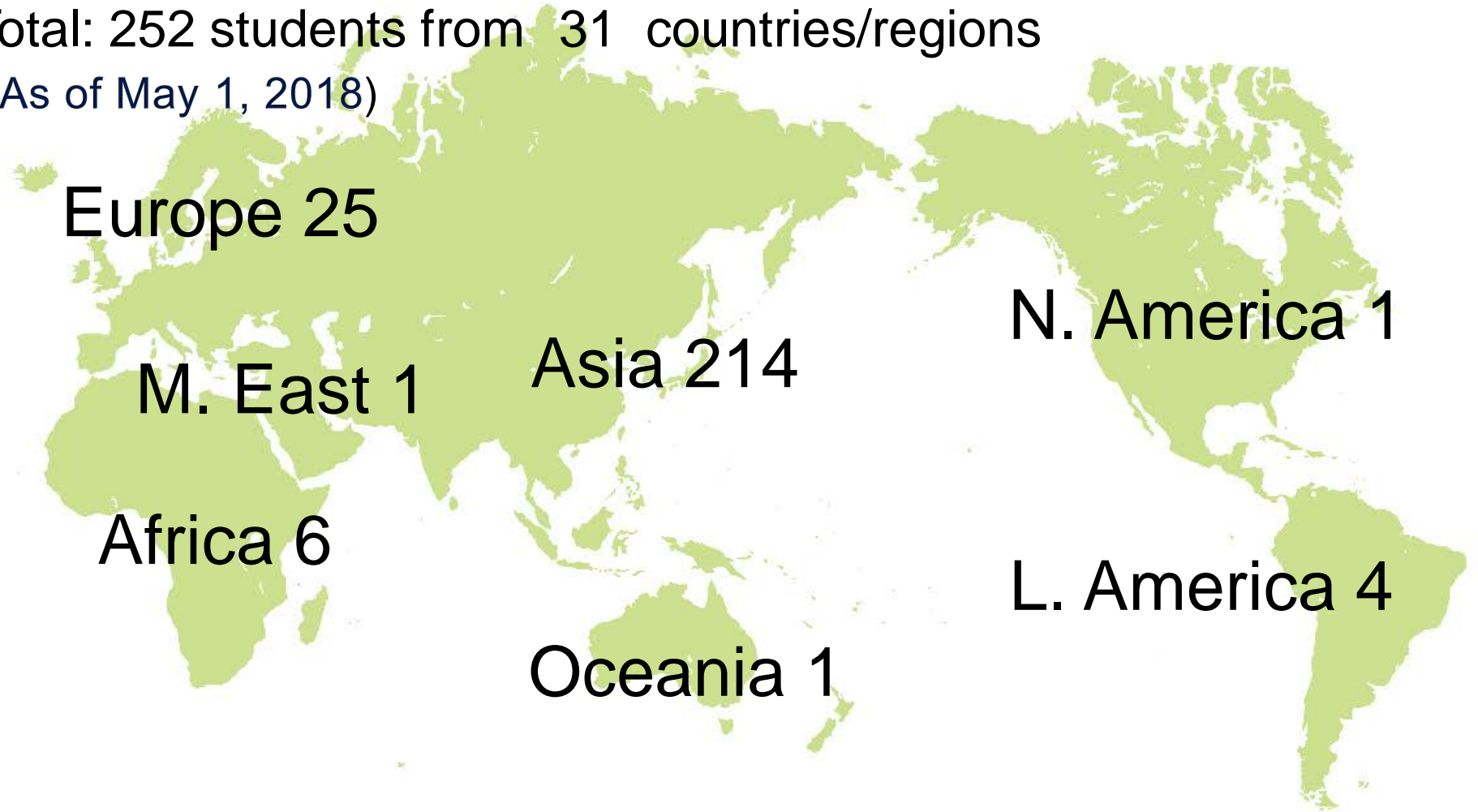
Oceania 5

International Students @ NAIST

International students comprise about 24%

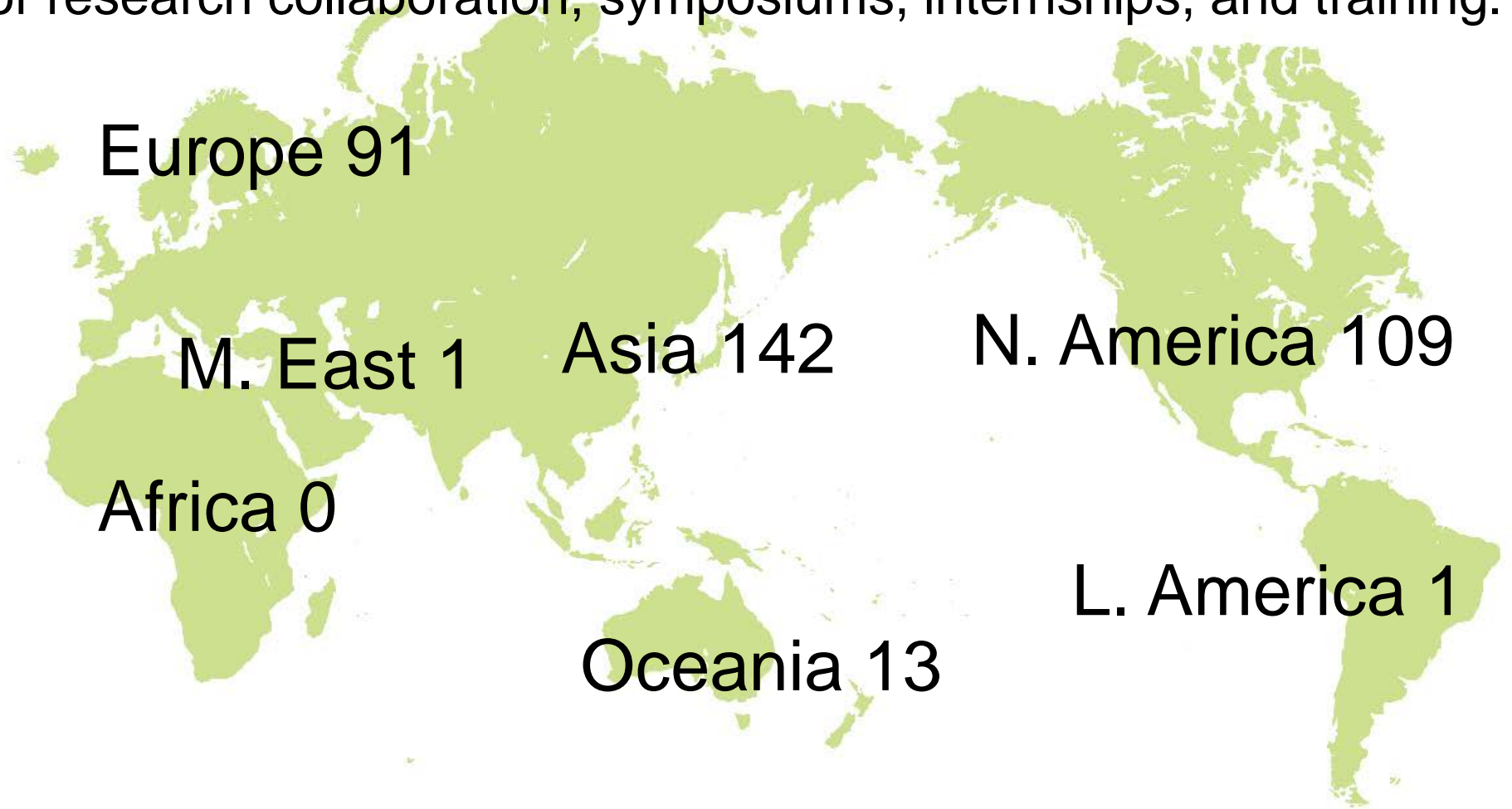
Total: 252 students from 31 countries/regions

(As of May 1, 2018)



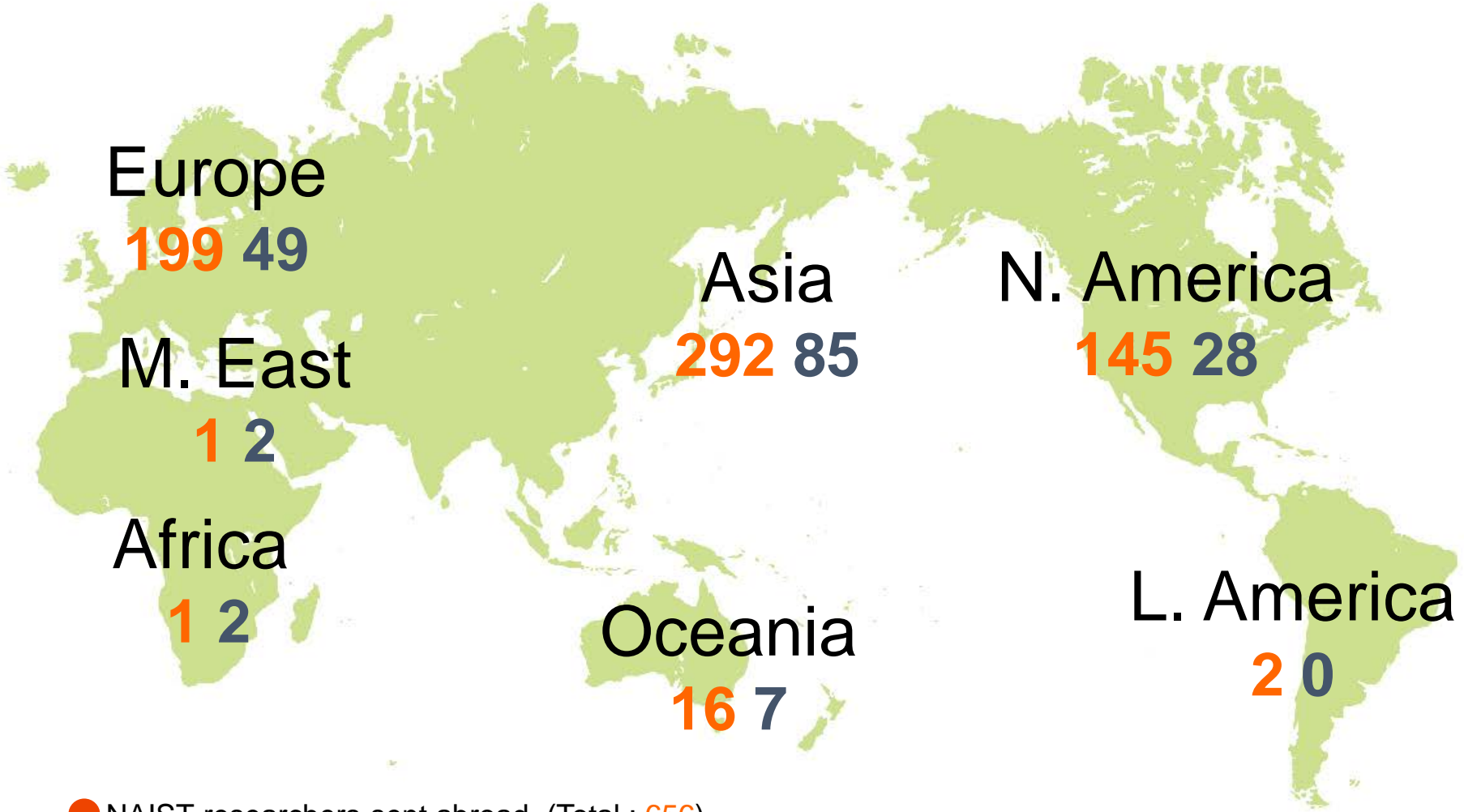
NAIST Students Abroad

More than 1/3 of NAIST students traveled abroad in FY2017 for research collaboration, symposiums, internships, and training.



NAIST Researcher Exchange

Active research collaboration with global partners (FY2017)



● NAIST researchers sent abroad (Total : 656)
● Researchers from abroad (Total : 173)

NAIST elected for major university programs by MEXT



- ✓ 2014 Top Global University Project
(8.7 Million US dollars / 10 years)
- ✓ 2013 The Program for Promoting the Enhancement
of Research Universities
(25 Million US dollars / 10 years)

International Activities Highlights

Joint Workshops and Seminars / Overseas Education and Research / Student Internships at NAIST / International Faculty and Staff Development



NAIST Student Laboratory Internship at UC San Diego (USA)



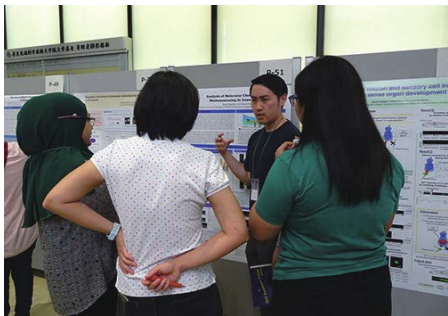
International Student Lab Internship at NAIST (from Kasetsart University)



Global Campus Event for Cultural Exchange "NAIST Tea Time"



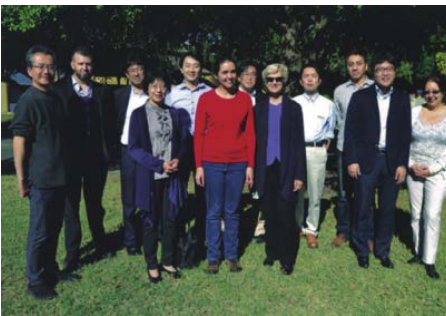
NAIST International Friendship Meeting



Biological Sciences Summer Camp for Research and Academic Skills



NAIST Bio International Student Workshop



NAIST Faculty Development Program at UC Davis (USA)



NAIST Staff Development Program at Hawaii Tokai International College (USA)

Admissions and Student Information

Diversity and Flexibility

NAIST entrance exams & curriculum encourage student enrollment from a broad range of fields and backgrounds

- ✓ Students selected by interview
- ✓ Entrance exam held 3 times per year for master's and 2 times for doctoral program
- ✓ Broad spectrum of lectures by a diverse teaching faculty
- ✓ Flexible curriculum
 - April and October enrollment
 - Masters – 2 years, Ph.D. – 3 years

Financial Support

MEXT Scholarships

NAIST International
Scholarships
(6 students per year)

Graduate School
Scholarships
(RA/TA)

Private Foundation
Scholarships

Dormitories

Single room: 13m²

Furnished

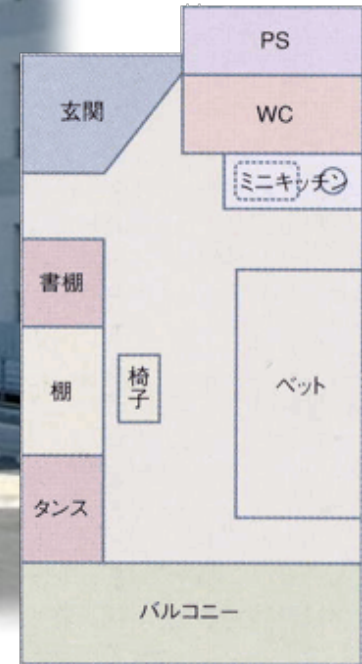
- Desk, bed, dresser cabinet, small kitchen, toilet
- Shower room (shared)

Free Internet Access

Rent: 10,000 JPY/month
(Apartment: ~40,000 JPY/mo)

300 steps to campus

Parking: 4,000 JPY/year



Other Facilities



Digital Library



Health Care Center



Guest House: Sentan

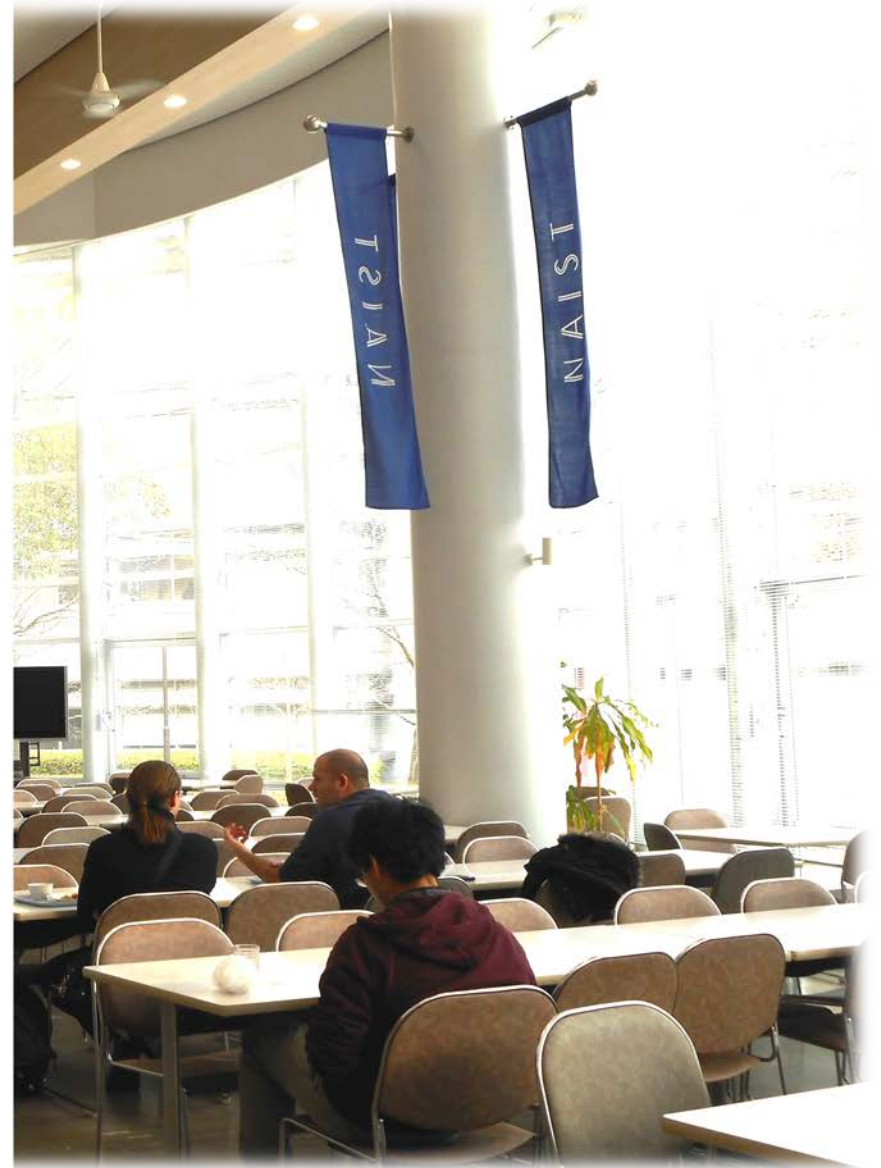
Other Facilities (cont'd)



University Union



Store



Cafeteria

Other Facilities (cont'd)



Fitness Room

Basketball/Tennis Courts



Baseball/Football Field

Support for International Students

- ✓ Immigration Support
- ✓ Academic Support
- ✓ Support for living in Japan
- ✓ Japanese Language Classes
(6 Levels)
- ✓ International Friendship Meeting
- ✓ Excursions (2 times /year)
- ✓ New Student Orientation & Welcome Party



Trip to Shiga



Students and Life at NAIST

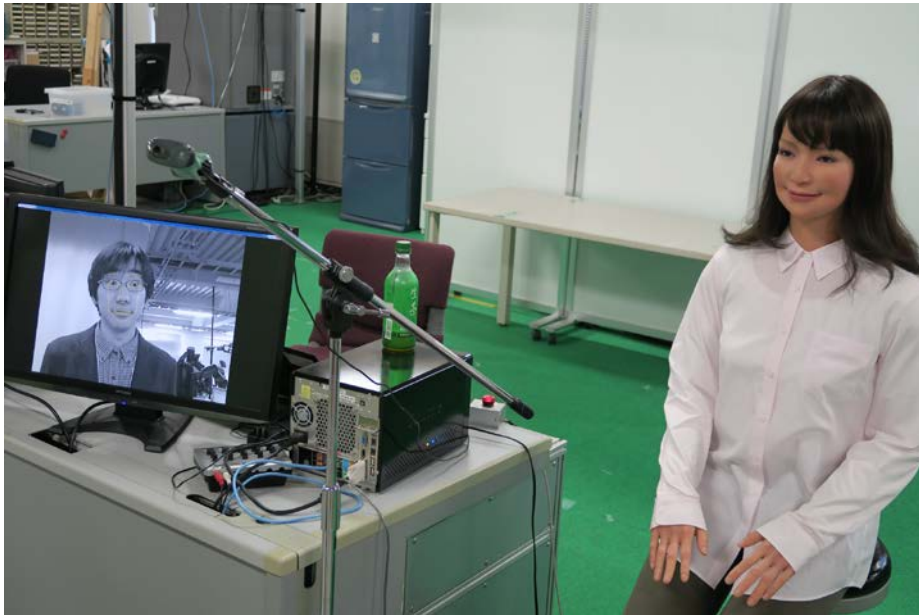








国際交流懇話会
International Friendship Meeting





What NAIST offers?

- ✓ Focused graduate school environment
- ✓ Top quality education and research
- ✓ State of the art research facilities
- ✓ Extensive support for students/researchers
- ✓ Expanding network for global collaboration
- ✓ Growing global campus community

2012 NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE

Shinya Yamanaka, MD, PhD



Professor Shinya Yamanaka's Nobel award winning work on iPS cells is deeply rooted in research he conducted at NAIST.

1996 Assistant Professor at Osaka City University Medical School

1999 Associate Professor at NAIST

2003 Full Professor at NAIST

2004- Professor at Kyoto University

2005-2007 Visiting Professor at NAIST

2007- Senior Investigator at the Gladstone Institutes

2011 Honorary Professor at NAIST

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