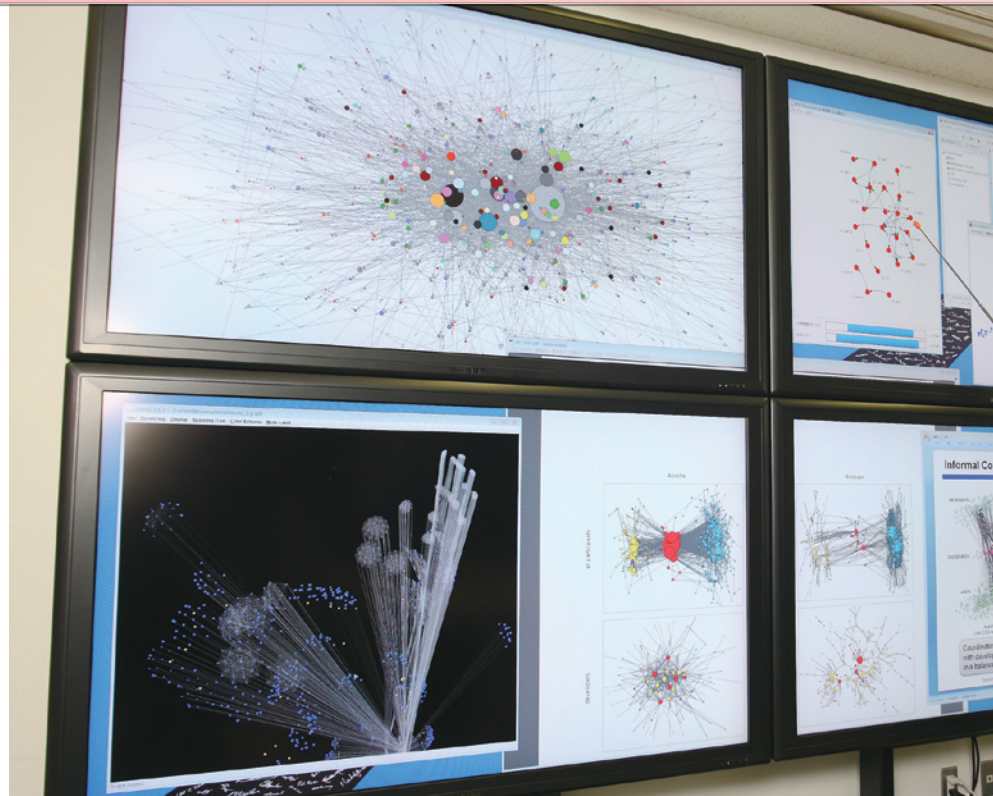




The Graduate School of Information Science undertakes high-level basic research in information science. We also systematically train students to be researchers and engineers as pioneers in the area of information, communication and life science technologies. The Departments of Information Processing, Information Systems, and Bioinformatics & Genomics, and the Information Technology Center provide educational programs that cover the majority of areas related to information science.

Since our initial selection (2002–2006) as a research and education center for the Ubiquitous Networked Media Computing 21st Century COE Program, we have been selected for numerous education and research programs, and, as we press ahead with the creation of an internationally competitive, world-leading graduate school, we are actively engaging in projects involving industry-government-academia collaboration.

Special systems designed to accept and encourage excellent students, such as entrance examination by interview, excellent student program, accelerated admission and early course completion, are implemented. Through our acknowledged curriculum and research base, we educate students who will lead the highly advanced information society.



■ *Admission system that places high value on individuality*

Interview-based admission / Cross-disciplinary admission and recruitment / Fast-track admission for outstanding students

■ *Internationally competitive school of the highest standards*

- Support Program for Improving Graduate School Education: Educational Program to Promote Creativity and International Competitiveness in Information Science
- Leading IT Specialist Training Promotion Program: IT Spiral-IT Specialist Program Initiative for Reality-based Advanced Learning / IT Keys-IT Specialist Program to Promote Key Engineers as Security Specialists
- EPEER Project: Education Program for Engineers and Enterprisers in Robotics

■ *Open-minded, active faculty and diverse course structure*

Seminars coordinated by Departments of Information Processing, Information Systems, Bioinformatics and Genomics, and Information Technology Center / Collaborative Laboratories in external institutions

■ *Flexible research and education system*

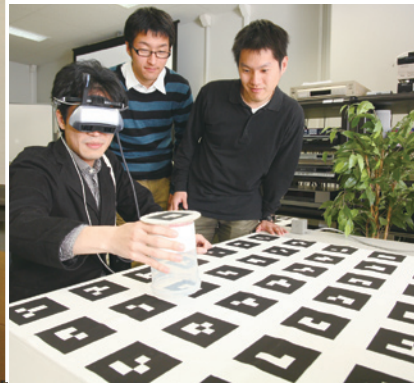
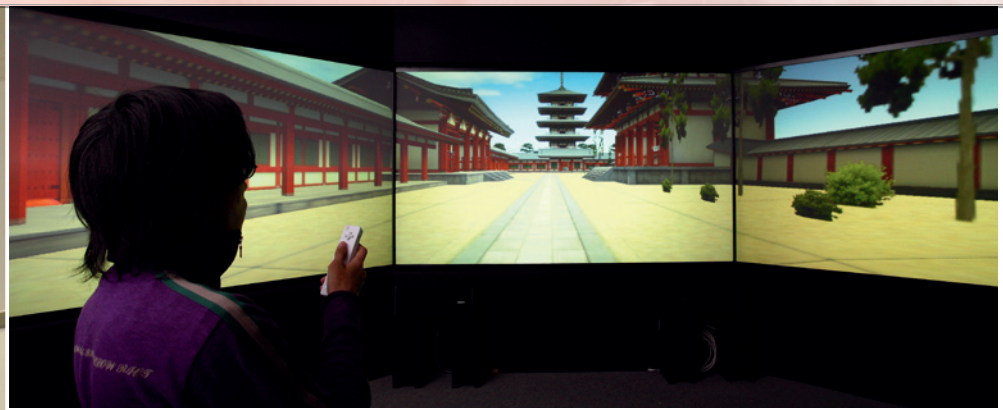
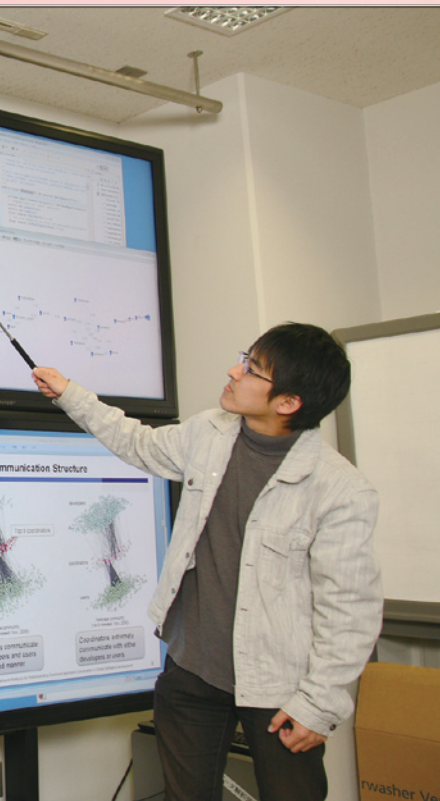
Choice of research laboratory based on student's preference / 4-term-a-year system with intensive training and varied curriculum, including archived lectures / Fast-track system for graduation / The highest grade for appraisal methods by Ministry of Economy, Trade and Industry.

■ *Support for outstanding students*

Excellent student program / Teaching assistant (TA) and Research assistant (RA) program / Support for international exchange activities

■ *Advanced research environment*

“Mandara”, integrated information processing system / Electronic library and archives / Wide range of advanced large-scale research facilities



NAIST^{OPICS}



Kazushi IKEDA, Professor
Theoretical Life-Science Laboratory
Graduate School of Information Science

Exploring the essence of learning systems and applying them to science and engineering

The term “theoretical life” has been coined to designate learning systems in general. Both living systems and intelligent systems are learning systems that transform themselves to adapt to their surrounding environment. In our laboratory, we conduct research in an integrated discipline, attempting to elucidate the essential nature of theoretical life from a mathematical perspective and to utilize its outstanding properties in engineering applications.

Although many things in this world appear to have been designed as the result of guesswork, because of my mathematical and engineering training, I believe that things that work well do so for a reason. I want to clarify, in mathematical terms, why things work well and develop even better methods. When I finally discover the hidden essence of that “something” and express it neatly in a mathematical formula, I am as happy as a miner who has dug up a diamond. In future, I intend to expand the sphere of our research to elucidate the mechanism of neural information processing and develop robot control methods, based on the three main research pillars of machine learning, brain informatics, and adaptive systems.

Since my arrival at NAIST, I have been pleasantly surprised by the high level of student motivation. This is probably not unrelated to the fact that NAIST is a postgraduate university, with students leaving their undergraduate universities to study here, and most being able to join their first-choice laboratory, meaning that they have a very clear idea of what they want to do here. I believe that motivation is the most important factor in research. I look forward to welcoming highly motivated, sincere students who can look at themselves honestly and endeavor to make up for areas in which they may be lacking.

Department of Information Processing

- Foundations of Information Science
- Foundations of Software
- Computer Design and Test
- Internet Engineering
- Computational Linguistics
- Advanced Intelligence
- Image Processing
- Speech and Acoustics Processing
- Interactive Media Design
- Applied Linguistics (Visiting Course)
- Quantum Information Processing (Visiting Course)

Department of Information Systems

- Computing Architecture
- Software Engineering
- Communications
- Vision and Media Computing
- Systems Science
- Systems and Control
- Robotics
- Software Design
- Internet Architecture and Systems
- Ambient Intelligence

Department of Bioinformatics and Genomics

- Database
- Theoretical Life-Science
- Biomedical Imaging and Informatics
- Systems Biology
- Structural Biology
- Functional Genomics
- Comparative Genomics
- Structural and Functional Bioinformatics
- Neural Computation (Visiting Course)

Collaborative Laboratories

- Communication (NTT Communication Science Laboratories)
- Neuroscience (Advanced Telecommunication Research Institute International)
- Network-Human Interaction (Panasonic Corporation, Advanced Technology Research Laboratories)
- Symbiotic Systems (NEC Corporation, Kansai Research Laboratories)
- Human Interface (Fujitsu Laboratories, Ltd.)
- Multimedia Mobile Communication (NTT DoCoMo, Inc.)
- Optical and Vision Sensing (OMRON Corporation, Research and Development HQ Sensing & Control Technology Laboratory)
- Molecular Bioinformatics (National Institute of Advanced Industrial Science and Technology)
- Digital Human (National Institute of Advanced Industrial Science and Technology)
- Technology of Radiological Science (Research Institute of National Cardiovascular Center)
- Universal Communications (Keihanna Cooperation University System)