



**Nagoya University**

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Nagoya University Profile 2010-2011

名古屋大学

Profile 2010-2011



# Nagoya University



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## Greeting from the President

As the President of Nagoya University, I offer you my most sincere greetings. I feel the magnitude of responsibility of this office which I assumed in April 2009.

Throughout its history, Nagoya University has done its utmost to maintain a free and vibrant academic culture. As an educational institution, we aim to cultivate what we call “courageous intellectuals”: social contributors endowed with the powers of rational thought and creative imagination. Today, we are taking new steps to become a globalized university where students are able to acquire comprehensive knowledge, develop personal ethics, and aspire to international careers.

Starting in October 2011, we will increase the number of degree programs taught entirely in English. Nagoya University is one of the institutions selected under the Global 30 Program sponsored by the government of Japan and expected to play a major role in globalizing Japanese higher education, increasing both the number of foreign students studying in Japan and the number of Japanese students studying abroad.

Even today, I still sense how my three years as a research student in New York has significantly changed my life. My time abroad exposed me to knowledge and experiences that went far beyond what I had encountered in Japan. It broadened my horizons and brought me to feel and think about things that had never occurred to me before.

The Hamaguchi Plan comes from a desire to provide students with the same opportunity for personal growth I enjoyed in New York as well as a wish to develop a student body that will emerge as the global leaders of tomorrow.

I cordially invite you to join us at Nagoya and explore the “traditional” free and vibrant academic culture in the very central part of exciting Japan.

### Dr. Michinari HAMAGUCHI

#### Educational Background and Professional Experience

- 1980 M.D., Ph.D., Nagoya University  
Research Associate, Cancer Research Facility, School of Medicine, Nagoya University
- 1993 Professor, Pathological Control Research Facility, School of Medicine, Nagoya University
- 2002 Director, Pathological Control Research Facility, School of Medicine, Nagoya University
- 2003 Professor, Center for Neural Disease and Cancer, Graduate School of Medicine, Nagoya University
- 2004 Director, Center for Medical Education Research and Support, Graduate School of Medicine, Nagoya University
- 2005 Dean, Graduate School of Medicine and School of Medicine, Nagoya University
- 2009 President, Nagoya University

**Area of Expertise** Cancer biology, cancer biochemistry, cellular biology

**Area of Research** Molecular mechanism in cancer invasion and metastasis

**Hobbies** Music appreciation, drawing, gardening

### Dr. Michinari HAMAGUCHI

President  
Nagoya University



## The Hamaguchi Plan

### Education, Research, and Social Contribution

#### Cultivation of Globally Effective Leaders

- Improving the core curriculum : Strengthening the Institute of Liberal Arts and Sciences and improving learning support systems
- Improving English proficiency of Japanese students
- Emphasis on the development of knowledge, social awareness, and critical thinking skills
- Augmenting programs for international students : Establishment of programs taught in English with a target of over 2,000 international students within 5 year
- Organizing a linguistics consortia with area universities
- Substantial increase in scholarships through a variety of funding sources

#### Conducting World Class Research

- Conducting cutting-edge research through, among other initiatives, the Global COE Project
- Exploring new frontiers in research through the use of High Voltage Electron Microscope and Synchrotron Radiation equipment
- Proactively applying for large research grants in support of world class research
- Support the development of graduate students, postdoctoral fellows, and junior faculty
- Encouraging inter-disciplinary interaction through collaborative research

#### Internationalization of Nagoya University

- Bolstering relationships with partner institutions as well as institutions within Academic Consortium 21 (AC21) : Encourage the exchange of students and junior researchers and faculty
- Establishing joint international degrees and programs
- Recruiting outstanding international students
- Internationalizing support services within the campus

#### Industry, Government, and Community Relations

- Strengthening cooperation with industry, and government entities : Innovation through joint research, technology transfer, and creation of centers of excellence with industry
- Strengthening collaboration with local government : Bolstering research projects and communicating and sharing research outcomes through the “Knowledge Hubs” Project
- Expanding the “Center for the Development of Human Resources for Contribution to Society” : Developing human resources through the cooperation with industry and government
- Strengthening ties with media agencies to improve external communication
- Strengthening ties with Alumni, Parents, and Community Organizations

### Transforming Nagoya University to a World Class Institution

#### 1. Cultivation of Globally Effective Leaders

Through our core curriculum, Global 30 Project, and the increase in international students to over 2,000 within 5 years

#### 2. Conducting World Class Research

Conducting cutting-edge research through, among other initiatives, the Global COE Project, developing internationally recognized young researchers, and in particular, exploring new frontiers in research through the use of High Voltage Electron Microscope and Synchrotron Radiation equipment

#### 3. Organizational Reform

Establishing a graduate program focused on drug discovery and development, reorganizing educational and research functions, and evaluating collaborations with other universities

#### 4. Expanding Alliances with and Further Contributing to the Local and Regional Communities

Collaborating with the “Knowledge Hubs” Project and revitalizing community health systems

#### 5. Fundraising

Raising 500 billion yen within 5 years for use towards scholarships, improvements to facilities, internationalization of the campus, etc.

### University Affiliated Hospital and Senior and Junior High Schools

#### Solidifying the University Hospital as a Nationally Recognized Institution

- Delivery of high-quality medical care with utmost priority on safety : Establishing a comprehensive prenatal center and increasing beds in ICU by 50%
- Actively contributing to the cultivation of the next-generation healthcare professionals : Establishing a clear career path for healthcare professionals, fortifying Nagoya University’s network of postgraduate clinical training, and taking leadership with community health programs
- Developing innovative solutions for use in the healthcare industry : Practicing translational medical research and establishing support centers for state-of-the-art medical technology
- Developing IT systems towards globalization of healthcare

#### Improvements to Affiliate Senior and Junior High Schools

- Improve management through the School Council
- Improving education through closer collaboration between the schools and the university
- Establishing international exchange programs

### Administration and Finance

#### Making Administrative and Support Functions More Efficient to Enable Effective Education and Research

- Evaluating and reorganizing functions to ensure optimization
- Creating a “Graduate School of Pharmaceutical Science” and the “Institute for the Origin of Particles and Universe”
- Expanding cooperative relationships with universities
- Reinforcing integrity through university administration
- Improving educational and research facilities : Expansion of administrative support and services, and consolidating functions and faculty meetings
- Promoting gender equality

#### Maintaining Financial Stability

- Maintaining the highest integrity with regard to the use of research funds
- Maintaining sound financial management practices at University affiliated Hospital
- Perennial fundraising to increase endowment : Raising 500 billion yen within 5 years for use towards scholarships, improvements to facilities, internationalization of the campus, etc.

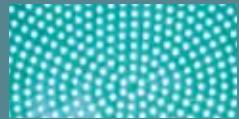
#### Evaluation, Benchmarking, and External Communication

- Assessing institution-wide academic activities every three years
- Increase publicity of faculty profiles and achievements
- Publicizing outstanding research projects and innovative courses
- Continuous assessment of all University functions by the International Advisory Board
- Maintaining our presence in the top 100 of world university rankings

#### Facilities, Safety, and Other Aspects

- By cooperating with local government agencies, further enhancing the eco-friendliness of the campus
- Effective and efficient management of campus-wide plant and equipment
- Optimization of campus space and facilities
- Increase living accommodations for international students by 2-fold, and upgrading the same for foreign faculty
- Enhancing core research and education facilities and upgrading the general campus environment
- To be equipped to respond in a timely manner to harassments and other complaints
- Maintain proper use and storage of high-risk chemicals including radioactive materials in accordance with government regulations
- Maintain strict occupational health and safety measures in accordance with government regulations
- Compliance with regulations pertaining to disaster prevention and crisis management

# Excellence in Research Fostered by a Free and Vibrant Academic Culture



Professor Isamu AKASAKI and Blue Light-emitting Diodes



Four Nobel Laureates Demonstrate Nagoya University's World-class Research Excellence



New Flagship Research Initiatives

Inauguration of the Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI)  
Realizing a Low-Carbon Society



GCOE Programs at Nagoya University

Prof. Gen SOBUE, Graduate School of Medicine  
Prof. Naoshi SUGIYAMA, Graduate School of Science  
Prof. Toshio FUKUDA, Graduate School of Engineering  
Prof. Tetsuzo YASUNARI, Hydrospheric Atmospheric Research Center

自由闊達な空気が生む際だつ研究力

## Professor Isamu AKASAKI and Blue Light-emitting Diodes



Dr. Isamu AKASAKI



### Producing a New Light Source for the 21st Century

Thinking it would be too difficult to realize within the 20th century, many researchers abandoned development of high-performance blue light-emitting diodes (LEDs). However, Nagoya University professor Isamu Akasaki remained steadfast in his research for 20 years. In 1989, he succeeded in becoming the first to achieve the goal of producing a new light source for the 21st century.

Professor Akasaki achieved this by using the compound gallium nitride (GaN), revolutionizing the field of semiconductor research. Blue LEDs offer immeasurable benefits to society, and are utilized today in a wide range of technologies such as traffic lights, large-scale display monitors, next-generation optical memory discs, and even home lighting. The applicability of GaN and related semiconductors does not end with its use in light sources. It is also expected that they can be applied to such technologies as ultra high-speed, high-power transistors and UV detectors, which will be indispensable in an IT-based society.

During his life as a researcher, Professor Akasaki held fast to his idea that "Once you've resolved to accomplish something, never give up."

Among the many awards he has received, in 2004, in honor of the research results he achieved with such unwavering resolve, he was recognized as a Person of Cultural Merit by the Japanese government for his significant contributions to culture.

## Four Nobel Laureates Demonstrate Nagoya University's World-class Research Excellence



### Nobel Prize in Chemistry, 2001

In October 2001, the Royal Swedish Academy announced its award of the Nobel Prize in Chemistry to Dr. Ryoji Noyori and Dr. W. S. Knowles (USA) for their work on chirally catalyzed hydrogenation reactions, and to Dr. K. B. Sharpless (USA) for his work on chirally catalyzed oxidation reactions. Their research – an important topic of study in the 20th century – enabled Dr. Noyori and his fellow laureates to realize their dream of making possible the artificial and preferential production of enantiomers. Enantiomers are molecules existing in many organic compounds that are mirror images of each other but not identical, i.e., with a right- and left-side relationship but with each side having a different character. While one side could become a promising medicine, the other could equally become a dangerous toxin. It has therefore become a major issue in chemistry to find ways to preferentially produce right- and left-side products. Dr. Noyori's research makes it possible to artificially produce right- and left-side molecules using catalysts. This research has

tremendous potential in the creation and production of medicines, aromatic chemicals, and materials in harmony with the natural environment.

In 1957, Dr. Noyori entered the Undergraduate School of Industrial Chemistry, Faculty of Engineering at Kyoto University, and later was appointed associate professor at Nagoya University, involved in synthetic organic chemistry. After switching his research base from Nagoya University to Harvard for postdoctoral work, he returned to Nagoya University and become a full professor in 1972. The research contacts he made with many renowned chemists offered him expanded opportunity to continue his search for the development and application of new methodologies in the field of organic chemistry. Presently, Dr. Noyori is an organic chemist based at Nagoya University and president of the RIKEN and continues to realize remarkable achievements in the field of organic chemistry through his collaborations with numerous researchers worldwide.



**Dr. Ryoji NOYORI**

1967 Ph.D., Kyoto University  
1968 Associate Professor of Chemistry, Nagoya University  
1997-1999 Dean, Graduate School of Science, Nagoya University  
2003-University Professor, Nagoya University



**Dr. Osamu SHIMOMURA**

1960 Ph.D., Nagoya University  
1963 Associate Professor, School of Science, Nagoya University  
2008-Distinguished Invited University Professor, Nagoya University  
2009-University Professor, Nagoya University



**Dr. Toshihide MASKAWA**

1962 Graduated from School of Science, Nagoya University  
1967 Ph.D., Nagoya University  
Research Associate, School of Science, Nagoya University  
2007-Distinguished Invited University Professor, Nagoya University  
2009-University Professor, Nagoya University



**Dr. Makoto KOBAYASHI**

1967 Graduated from School of Science, Nagoya University  
1972 Ph.D., Nagoya University  
2008-Distinguished Invited University Professor, Nagoya University  
2009-University Professor, Nagoya University

### Nobel Prize in Physics, 2008

In October 2008, the Academy announced its award of the Nobel Prize in Physics to three esteemed scientists: Yoichiro Nambu (USA), and Nagoya University graduates Toshihide Maskawa, a Distinguished Invited University Professor at Nagoya University, professor emeritus at Kyoto University, and professor of physics at Kyoto Sangyo University, and Makoto Kobayashi, professor emeritus at the High Energy Accelerator Research Organization (KEK). The two Nagoya University scientists received the Nobel Prize for forecasting, over three decades ago, "the discovery of the origin of the broken symmetry which predicts the existence of at least three families of quarks in nature." In 1972, the two presented their Kobayashi-Maskawa theory, which states that CP symmetry violation can be explained with six types of quarks, one of the subatomic particles that constitute matter. This theory was proved in 1995 with the discovery of the sixth quark, known as the top quark. Among the numerous theories attempting to explain CP symmetry violation, the Kobayashi-Maskawa theory remains the most concise and well-formed, and today is one of the key components of the standard model of particle physics.

Professor Maskawa graduated from Nagoya University's School of Science in 1962. After completing his doctoral course in science in 1967, he continued his career as a research associate in the science department, then as a professor of the Institute of Nuclear Study at the University of Tokyo and later as a professor at Kyoto University's Yukawa Institute for Theoretical Physics (YITP). In 2003, he became a professor at Kyoto Sangyo University's Faculty of Science, and in October 2007 was appointed Distinguished Invited University Professor at Nagoya University.

Professor Kobayashi graduated from Nagoya University in 1967 and, after completing his doctoral course in science in 1972, became a research associate at Kyoto University's Faculty of Science. He later became a professor at KEK, the High Energy Accelerator Research Organization, and then director of the Institute of Particle and Nuclear Studies at KEK before becoming a professor emeritus at the same institute.



Dr. Maskawa and Dr. Kobayashi while attending graduate school



At a party hosted by Theoretical Particle Physics Group (E-ken), Graduate School of Science



At the 3rd Yoshimasa Hirata Memorial Lecture

### Nobel Prize in Chemistry, 2008

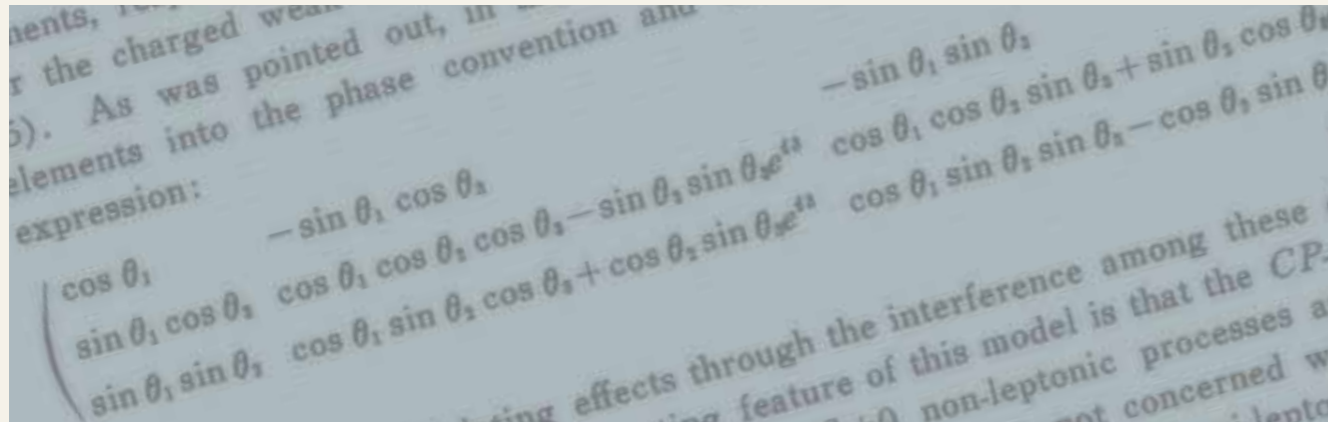
It was great news in October 2008 when organic chemist and marine biologist Professor Osamu Shimomura from Nagoya University was announced as one of three distinguished scientists to receive the 2008 Nobel Prize in Chemistry, sharing it with Martin Chalfie of Columbia University and Roger Y. Tsien of the University of California, San Diego. They received this award for the discovery and development of the green fluorescent protein, GFP. Professor Shimomura was the first to discover and successfully refine GFP in luminous jellyfish. Using this GFP as a marker, it is now possible to directly observe protein behavior in living cells. This significantly

contributes to the development of molecular biology and biosciences.

Professor Shimomura spent two and a half years at Nagoya University's School of Science as a research student and received his PhD in Sciences in 1960. In that same year, he went to Princeton University as a Fulbright scholar, then returned to Japan and for two years beginning in 1963 was an associate professor in the School of Science at Nagoya University. Today he is a professor emeritus at Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts and Boston University Medical School.

## New Flagship Research Initiatives

### Inauguration of the Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI)



On April 2, the Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI) was inaugurated at Nagoya University. The president of Nagoya University, Michinari Hamaguchi, calligraphed the Institute's inauguration banner for this occasion. The ceremony was attended by the director of the new Institute, Toshihide Maskawa; Hiroyuki Sugiyama, vice-president and trustee; Makoto Takahashi, trustee and director-general; Koichi Yamawaki, vice-director of the Institute; Masaharu Tanabashi, director of the Center for Theoretical Studies; and Toru Iijima, director of the Center for Experimental Studies, among others.

The Institute for the Origin of Particles and the Universe opened officially one day earlier. It is headed by Nobel Prize winner and University Professor Toshihide Maskawa. As its name suggests, the Institute pursues the ambitious goal of shedding light on the very origins of our Universe and the particles that constitute it. It also aims to play a major role in training young physicists to conduct research at the cutting edge of their field. The Institute offers a joint view of the

different research projects being carried out at Nagoya University's Center for Theoretical Studies and Center for Experimental Studies, two Inter-Departmental Education and Research Centers. As a focus point for world-class research, the Institute is expected to explore new horizons above and beyond current standards in the field of Physics.

Enthusiastic speeches were made at the inauguration, with Dr. Maskawa declaring that, "Today's inauguration of KMI demonstrates excellent timing, as the field of physics is on the brink of a major transformation," while Dr. Hamaguchi asserted his wish to "develop KMI into a first-class, world-recognized research organization."

After the ceremony, Dr. Maskawa and Dr. Hamaguchi led the attendees and media representatives in a visit of the Nobel Prize exhibition room adjoining the Institute. Early next year, the Institute will be moved to a new location which is currently under construction.

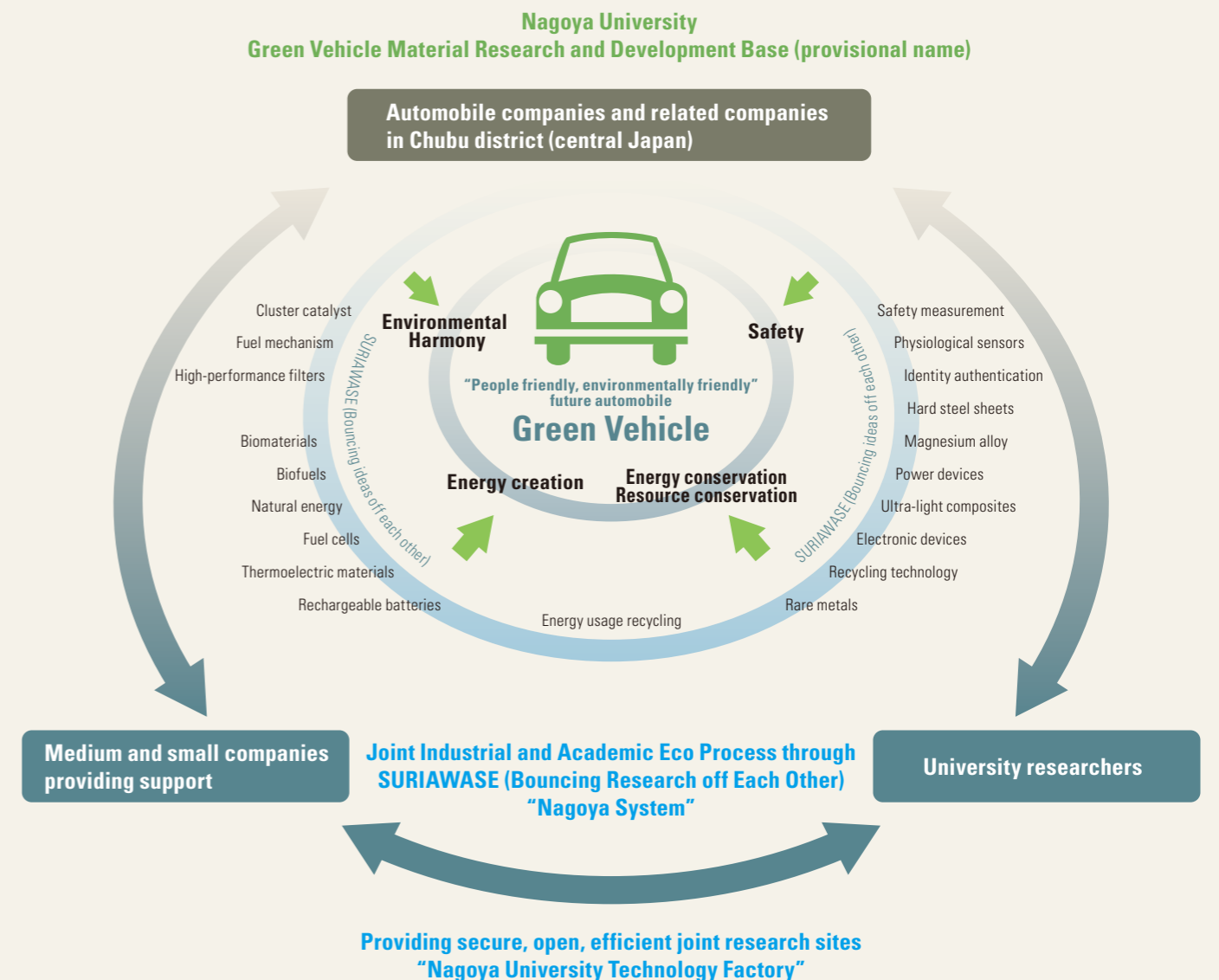


### The Green Vehicle Materials Research and Development Center –Realizing a Low-Carbon Society–

In order to advance the development of materials and components for **green vehicles**—automobiles of the future that can help bring about low-carbon societies—Nagoya University has established a world-leading green vehicle materials research laboratory. The Green Vehicle Materials

Research and Development Center serves as a centralized base for green vehicle material and peripheral technology research that extends from basic studies to development and even commercialization.

Contributing to reducing CO<sup>2</sup> emissions by 25% for the sake of constructing a lower carbon society



## GCOE Programs at Nagoya University

Nurturing next-generation leaders with original research projects and quality postgraduate education

### Integrated Functional Molecular Medicine for Neuronal and Neoplastic Disorders

Program Leader: Prof. Gen SOBUE, Graduate School of Medicine

#### Promoting interdisciplinary research and leading molecular target-based treatments that transform next-generation medicine

The most important challenge for medicine in the 21st century is conquering cancer and neurodegenerative diseases such as Alzheimer's disease. Previously, research into neurodegenerative diseases caused by the death of specific nervous cells, and cancer, which is abnormal growth of cells, used to be conducted separately because of their differences. At this Center, however, for more than ten years now, researchers of these two types of disease have been collaborating following the discovery of functional molecules common to neurodegenerative disorders and cancer, hoping to apply research results on each side to diagnosis and treatment on the other. Other research centers have since followed this Center's example, making it the world's leader in the field for its foresight.

This Center's ultimate objective is to develop molecular target-based treatments of neurodegenerative disorders and cancer. A number of treatment methods targeted at functional molecules common to the pathogenesis of the two disease types are currently in the clinical testing stage, only one step away from application to human patients, with this Center's research results attracting attention from all over the world. This Center's program is characterized by its full scope of research from fundamental studies to practical application. Collaborations with the National Center for Geriatrics and Gerontology and the Aichi Cancer Center, Japan's top research centers specializing in neurodegenerative disorders and cancer, also add strength to the educational and research functions of the Program.



The Global Center of Excellence (GCOE) Program of the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT) supports universities in establishing internationally competitive education and research so as to nurture future world-leading researchers through projects conducted at the world's highest standards. Nagoya University, recognized as an educational and research center worthy of the support, has had seven of its research projects designated as GCOE Programs between academic years 2007 and 2009. In fact, these projects had already produced internationally acclaimed results before their GCOE designation and have remained at the world's front

line of interdisciplinary collaboration in their respective fields. Given the rapid development of globalization and innovative research, fostering next-generation researchers represents a national strategy whose results can determine the country's future. Nagoya University plays an important role in this vital task, supporting Japan's and the world's progress into the future through its original research projects and quality postgraduate education. The following pages offer an overview of four of the seven GCOE research projects selected for special funding in 2008-2009.

### Quest for Fundamental Principles in the Universe: from Particles to the Solar System and the Cosmos

Program Leader: Prof. Naoshi SUGIYAMA, Graduate School of Science

#### Collaborating with research centers worldwide in interdisciplinary research covering the entire universe

Throughout the universe, diverse forms of matter and structures exist, from the smallest, such as elementary particles, to the largest, such as planets, galaxies and larger-scale structures. Because of this diversity, research on the cosmos has been carried out in separate segments. It is necessary, however, to understand this diversity comprehensively on an overall scale if basic laws common to all matter and structures are to be identified. Accordingly, this Center works in an interdisciplinary manner, covering the entire universe from elementary particles to the solar system and the rest of the cosmos. The Center comprises mathematical physicists, planetary science specialists, and researchers from a variety of disciplines including the Division of Particle and Astrophysical Science of the Graduate School of Science, which conducts research into elementary particles, space observation and theoretical

studies, and the Solar-Terrestrial Environment Laboratory, engaged in direct observation of solar and terrestrial phenomena.

This Center is characterized by its leading international research activities in the world's most advanced projects in various areas. It leads projects at the NANTEN Telescope in Chile and the OPERA Experiment testing neutrino oscillation in Italy, and participates in the Suzaku project (X-ray telescope-equipped satellite), CERN's LHC Experiment using the world's largest particle accelerator in Switzerland, and ESCAT radar observations. This Center also conducts interdisciplinary research projects on such themes as particle acceleration, dark matter and energy, the origin of interstellar matter and structures, and the origin of matter, space and time, in order to cultivate "seeds" for new research.



## Global COE Programs

Year	Field	Program Title	Program Leader
2007	Life Sciences	Advanced Systems-Biology: Designing The Biological Function	Graduate School of Science Prof. Takao KONDO
	Chemistry, Material Sciences	Establishment of COE for Elucidation and Design of Materials and Molecular Functions	Research Center for Materials Science Prof. Yoshihito WATANABE
	Humanities	Hermeneutic Study and Education of Textual Configuration	Graduate School of Letters Prof. Shoichi SATO

	Field	Program Title	Program Leader
2008	Medical Sciences	Integrated Functional Molecular Medicine for Neuronal and Neoplastic Disorders	Graduate School of Medicine Prof. Gen SOBUE
	Mathematics, Physics, Earth Sciences	Quest for Fundamental Principles in the Universe: from Particles and to the Solar System and the Cosmos	Graduate School of Science Prof. Naoshi SUGIYAMA
	Mechanical, Civil Engineering, Architectural & Other Fields of Engineering	COE for Education and Research of Micro-Nano Mechatronics	Graduate School of Engineering Prof. Toshio FUKUDA
2009	Interdisciplinary, Combined Fields, New Disciplines	From Earth System Science to Basic and Clinical Environmental Studies	Hydrospheric Atmospheric Research Center Prof. Tetsuzo YASUNARI

## COE for Education and Research of Micro-Nano Mechatronics

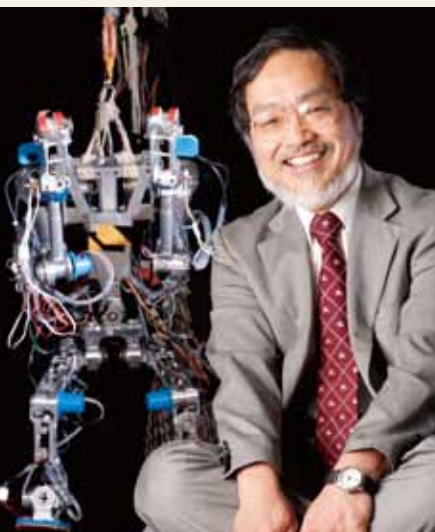
**Program Leader: Prof. Toshio FUKUDA, Graduate School of Engineering**

### Creating new materials, developing new systems and realizing practical applications in advanced biomedicine

Micro-nano mechatronics technology is applied in a wide range of fields from game machines and automobiles to medical inspection and robotics. This Center has developed as Japan's pioneer in micro-nano mechatronics research, based on research achievements by the Department of Micro-Nano Systems Engineering of the Graduate School of Engineering, the first graduate program of its kind, and with support from the industrial community which uses such achievements. At present, the Center continues its world-level research with UCLA as its partner and UCLA researchers as members of the Center.

This Center gathers together researchers in materials science, mechanical science, system measurement/control engineering and biomedicine to participate in research concerning new functional materials and mechatronics. Research achievements in these areas are then integrated for system development. The Center conducts its research

with an eye toward practical application in regenerative medicine and other advanced biomedical areas. The Center's research is characterized by its approach, which covers not only devices but also system development. Practical application is also included in the Center's research scope so as to respond to society's needs.



## From Earth System Science to Basic and Clinical Environmental Studies

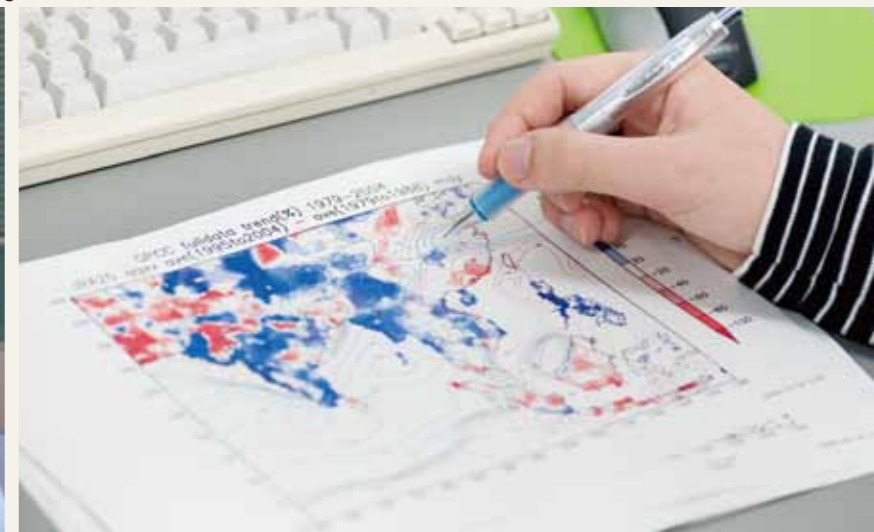
**Program Leader: Prof. Tetsuzo YASUNARI, Hydrospheric Atmospheric Research Center**

### Creating an innovative approach to earth science and environmental studies

The GCOE Program "From Earth System Science to Basic and Clinical Environmental Studies" is an educational and research program that takes over, and attempts to further develop, the achievements of the 21st Century COE Program "Dynamics of the Sun-Earth-Life Interactive System (SELIS-COE)" (2003-2007). This Center aims at forming a center for new environmental studies that brings together previously separate diagnostic disciplines (science) and therapeutic disciplines (engineering, agriculture, etc.) upon the foundation of the new earth system science developed within the framework of SELIS-COE. The Center's pillars are clinical environmental studies that comprehensively diagnose regional environmental problems, and basic environmental studies that examine common inter-regional problems and universal challenges through interdisciplinary approaches.

This Center promotes world-leading research and education in environmental studies. In its research aspect, the Study Consortium for Earth-Life Interactive System (SELIS), an internal organization of Nagoya University making use of

results of SELIS-COE, serves as a base for domestic and international joint research in environmental studies. Its educational aspect focuses on a special doctoral course in integrated environmental studies associated with the Global Environmental Leaders Program of the Graduate School of Environmental Studies. In the framework of this Center, clinical research in environmental studies is promoted in Japan and other parts of Asia in collaboration with research and educational establishments in various countries. The Center maintains close cooperative ties with partner universities including Wageningen University and VU University Amsterdam in the Netherlands, and the University of California, Berkeley and the University of California, Santa Barbara in the United States, so that participants will develop into researchers and experts of international standing in basic and clinical environmental studies and become valuable human resources not only for universities and research institutes but also for international organizations, national and regional governments, and related private businesses.







Global Environmental Leaders Program



Automobile Engineering Summer Program



Global Human Resource Development Program

## Global Environmental Leaders Program

### Promoting Active Leaders in Solving Global Environmental Problems

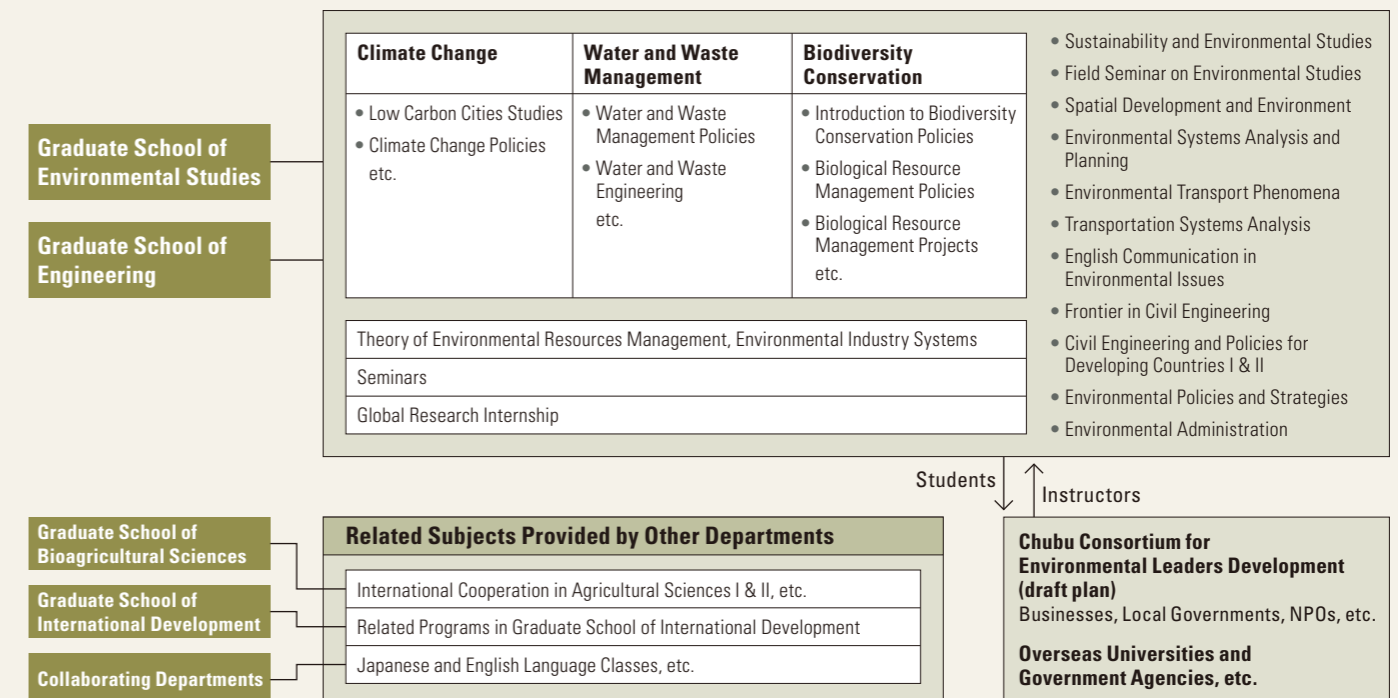
Due to rapid economic growth and social changes, developing countries worldwide, including in Asia and Africa, face serious environmental problems such as air and water pollution, waste management, biodiversity conservation, and global warming and climate change. Finding solutions to these problems is hard because of interrelated factors such as health education, infrastructure development, energy resources security, integration of environmental and economic concerns, and globalization. Sustainable development cannot be achieved unless these difficulties are overcome on both national and global scales.



Environmental specialists with the expertise and abilities to implement relevant solutions are the key to solving these problems. There is an urgent need to educate professionals with competitive skills and then translate these skills into concrete actions.

In 2008, Nagoya University established the master's course "Nagoya University Global Environmental Leaders Program (NUGELP)" to foster people able to understand and analyze environmental problems from a global perspective, and propose concrete ways of solving problems. Through various efforts such as distinctive curricula and student services, our goal is to become a global center of learning where motivated students from Asia, Africa, and elsewhere in the world, including Japan, can achieve their aims.

### Curriculum Model



## Automobile Engineering Summer Program



### Nagoya University Summer Intensive Program (NUSIP)

With support and cooperation from the Japanese automotive industry and related enterprises, the Graduate School of Engineering will offer a 6-week summer program titled "Latest Advanced Technology & Tasks in Automobile Engineering," from June 15 – July 21, 2011. Conducted entirely in English, the program is aimed at overseas students and Nagoya University students in engineering-related fields. The program's greatest feature is its exciting lectures from various viewpoints regarding state-of-the-art technologies in areas such as hybrid automobiles, fuel cells, environmental strategies, accident prevention, and expressway traffic. The lectures are conducted with support from some of the industry's leading technologists and researchers as well as faculty members of Nagoya University. Although of short duration, the program's objectives enable overseas students to study some of the various fields that are particularly advanced in Japan, as well as increase their interest in this country and its culture. The program also enables Nagoya University students to improve their English and communication skills and broaden their international horizons in conjunction with studies in their specialty fields.

## Global Human Resource Development Program



### Program Founded on Local Industry-academia Collaboration

In April 2009, the Nagoya University's School of Economics launched its Global Human Resource Development Program in partnership with twelve globally developed representative Japanese corporations including Toyota Motor Corporation, Mitsui & Co., Ltd., and Sumitomo Mitsui Banking Corporation.

This Program, a collaboration between the industrial and academic sectors, takes advantage of Nagoya University's location in the Chubu region, which has a high concentration of internationally known industrial sites. The Program aims at training future leaders with a strong sense of responsibility and a business mindset indispensable to globally developed corporations, with each sector providing specialized educational materials. In academic year 2009, three courses are being held: Global Manufacturing Management, Global Financial Management, and Global Logistics Management. The Program's students attend lectures featuring concrete topics and the pragmatic mindset of instructors dispatched from participating corporations. Students also have the opportunity to observe actual manufacturing and distribution sites to identify required skills and abilities. Two-way interactive classes enable students to develop their presentation, communication and thinking skills.

#### Participating corporations:

- Toyota Motor Corporation
- Mitsui & Co., Ltd.
- Sumitomo Mitsui Banking Corporation
- Sintokogio, Ltd.
- Denso Corporation
- Mori Seiki Co., Ltd.
- Daido Steel Co., Ltd.
- Brother Industries, Ltd.
- Toyota Tsusho Corporation
- Meiko Trans Co., Ltd.
- Nipponkoa Insurance Co., Ltd.
- INOAC Corporation

#### Cooperating corporations and organizations:

- Bank of Japan
- Chubu Bureau of Economy, Trade and Industry (METI)
- Chubu Economic Federation
- Central Japan Industries Association (Chu San Ren)
- Nagoya University Graduate School of Law
- Nomura Securities Co., Ltd.
- Toto Ltd.

# International Cooperation



Center for Asian Legal Exchange (CALE)  
- Fostering Legal Assistance in Asia as a Leader in Judiciary Globalization



International Cooperation Center for Agricultural Education (ICCAE)  
- A leading center for international cooperation in agricultural education



Academic Network for Development in Asia (ANDA)  
Skills Development for the Emerging New Dynamism in  
Asian Developing Countries under Globalization

## Center for Asian Legal Exchange (CALE) - Fostering Legal Assistance in Asia as a Leader in Judiciary Globalization



Established in 2002 as a research base for Asian Law and a coordinating center for legal assistance in Asia, the Center for Asian Legal Exchange (CALE) has been expanding activities, remaining the only center within a Japanese University to be professionally involved with legal assistance research and

projects. The center is committed to play a major role in carrying out legal assistance projects centering on Asia, disclosing research outcomes related to those projects and disseminating research and legal information on countries in Asia, and expanding the network of specialists within this field.

### What is "Legal Assistance"?

Legal Assistance refers to the cooperating with developing countries and socialist regimes making the transition to a market economy to reform their legal systems enabling them to achieve a fair market economy, the rule of law, human rights, and democracy. Legal assistance activities include the following:

- Cooperating in the drafting of laws and judiciary system reform
- Cooperating in the consolidation of legal infrastructure such as the improving of maintenance and access to legal and judicial information.
- Cooperating in the human resource development of judicial officers

### Research and Education Centers for Japanese Law

Nagoya University has four centers in Asia and Central Asia regions in order to educate specialists who are able to understand Japanese society, language and law in a systematic and continuous way.



Research and Education Center for Japanese Law (Mongolia)



Research and Education Center for Japanese Law (Vietnam)



Research and Education Center for Japanese Law (Uzbekistan)



Research and Education Center for Japanese Law (Cambodia)

## International Cooperation Center for Agricultural Education (ICCAE) -A leading center for international cooperation in agricultural education



The International Cooperation Center for Agricultural Education (ICCAE) is a research institute mandated to function as a leading center for international cooperation in agricultural education. It was established in April 1999, at Nagoya University, under the initiative of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan.

In developing countries, many problems related to agriculture (for example, food shortages, downturns in agricultural production, poverty, environmental devastation, and animal-borne infectious diseases) have yet to be solved by the international community. To solve these global-scale issues, it is important to develop appropriate agricultural technologies while paying careful attention to socioeconomic impact,

effective use of natural resources, and respect for the environment. In both developing countries and Japan, the development of human resources is a pressing issue. In recent years, the need for international cooperation to overcome these problems and to facilitate human resources development has increased. Japan has been expected to work actively to resolve these issues.

To respond to such expectations, ICCAE was established by the MEXT of Japan at Nagoya University. ICCAE's goal is to become a leading center for international cooperation to help solve problems in agricultural and rural development in developing countries.



## Academic Network for Development in Asia (ANDA) Skills Development for the Emerging New Dynamism in Asian Developing Countries under Globalization

### Research Outline

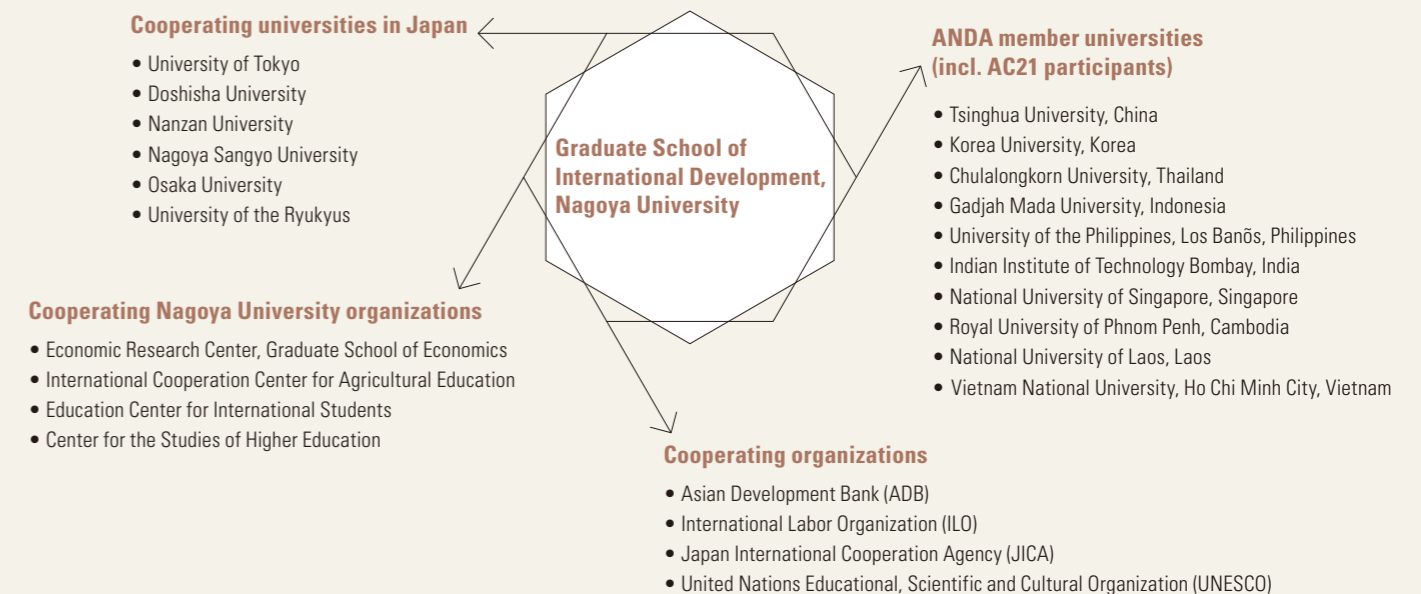
The JSPS-sponsored research project on "Skills Development for the Emerging New Dynamism in Asian Developing Countries under Globalization," initiated by the Graduate School of International Development of Nagoya University, aims to achieve the following through collaboration by a network of universities in Asia: understanding the impacts of the new dynamism in Asia, in particular that of globalization, regional integration and changing international divisions of labor on Asian developing countries; studying socioeconomic changes and challenges to be overcome in promoting reducing poverty

and sustaining growth, and in developing the human resources necessary for industrial development; and providing assistance in industrial human resource development in order to overcome these challenges. Through the researcher interaction for research & action realized through ANDA, this project aims to contribute both to narrowing the gap between late-developing countries and the rest of Asia, and to pan-Asian sustainable development over the long term.

ANDA International Seminar



### Construction of the "Academic Network for Development in Asia" (ANDA)



# Nagoya University's Global Network



Nagoya University around the Globe: International Liaison Offices and Bases



The Global 30 Project – Bringing Nagoya University to the World



NUPACE: Nagoya University's Academic Student Exchange Program



Academic Consortium AC21



Our Partner Institutions

## Nagoya University around the Globe: International Liaison Offices and Bases

In order to establish a world presence to develop true research excellence, Nagoya University has international liaison offices, research and education bases and a technology transfer office around the world. These stations are strategically positioned to recruit top-level students and teaching staff, organize academic exchanges, host workshops, interact with world-level researchers, learn about different countries' education systems, and promote Nagoya University around the globe.



### ■ Shanghai Liaison Office (Shanghai, China)

The Shanghai Liaison Office was inaugurated in November 2005, with the goal of promoting academic exchange with Chinese institutions of higher education and research, advertising Nagoya University in China, and acting as a contact point for Alumni Association members overseas. The Shanghai Office was Nagoya University's first base abroad, and it continues to play an important role in expanding academic exchange with institutions in China.



### ■ Uzbekistan Office (Tashkent, Uzbekistan)

The Uzbekistan Office opened in March 2010 as an "Overseas Office for Shared Utilization by Universities," an element of the Global 30 Project for Establishing Core Universities for Internationalization. The Office strives to recruit students within Uzbekistan as well as all of Central Asia, and it collaborates with universities across Japan on international student activities.



### ■ European Center (Freiburg, Germany)

In April 2010, Nagoya University opened its European Center in Freiburg University with the aim of heightening its presence in Europe. The main objectives of the Center are recruiting outstanding international students for short-term and long-term programs at both undergraduate and graduate levels; developing a European-Japanese research and education network with universities, research institutes and companies; informing European high school and university students about the advantages of studying at Nagoya University; collecting information on research and education; and consolidating an alumni network in Europe.



### ■ Technology Partnership of Nagoya University Inc. (North Carolina, USA)

Headquartered close to the Research Triangle Park (RTP) in North Carolina as a registered nonprofit organization, its mission is to promote and support technology transfers between Japan and the US.

### ■ Research and Education Centers for Japanese Law

These Centers cooperate with local universities in transitional countries in Asia to provide education in Japanese language and Japanese law. Currently, four centers have been established as bases for information exchange and joint research between Japan and the respective host country:

- Uzbekistan: Tashkent State Institute of Law (Center founded Sep. 2005)
- Mongolia: National University of Mongolia, School of Law (Center founded Sep. 2006)
- Vietnam: Hanoi Law University (Center founded Sep. 2007)
- Cambodia: Royal University of Law and Economics (Center founded Sep. 2008)

<http://cjl.law.nagoya-u.ac.jp/content/en/>

### ■ Field Research Center (Ulaanbaatar, Mongolia)

The Nagoya University Field Research Center was established in September, 2009 within the Mongolian University of Science and Technology. The Center is expected to further encourage our active collaborations and exchanges by promoting more effective research.

# The Global 30 Project – Bringing Nagoya University to the World

In July 2009, the selection results of the 2009 Project for Establishing Core Universities for Internationalization (Global 30) were announced, with Nagoya University standing out as one of the Global 30 leaders.



<http://admissions.g30.nagoya-u.ac.jp/en/>

The objectives of Global 30 are to strengthen the international competitiveness of Japanese higher education and to offer an education with standards that appeal to foreign students while, through creating an environment where Japanese students work together with international students, fostering highly educated individuals who can be active internationally. The project comprehensively supports a plan to create universities that act as bases for internationalization by providing both the high level of education expected from universities and environments that make studying in Japan more accessible for overseas students.



## ✓ New All-English Courses

1. Creating undergraduate degrees from which students can graduate entirely in English in the sciences (Physics, Engineering, Agriculture) and in the humanities (Law, Economics).
2. Establishing international courses for master's and doctoral degrees in the sciences and the humanities.
3. Accepting a greater number of international students to the graduate courses already available in English (Law, Engineering, International Development, and Environmental Studies).

	Name of the Courses	Name of the Schools / Graduate Schools	Degrees Offered		
			Bachelor	Master	Doctor
1	Automotive Engineering Program	• School of Engineering	●		
2	Fundamental and Applied Physics Program	• School of Engineering • School of Science	●		
3	Chemistry Program	• School of Science • School of Engineering	●		
4	Biological Science Program	• School of Science • School of Agricultural Sciences	●		
5	Program in Social Sciences	• School of Law • School of Economics	●		
6	Physics and Mathematics Graduate Program	• Graduate School of Science • Graduate School of Mathematics		●	●
7	Chemistry Graduate Program	• Graduate School of Science • Graduate School of Engineering		●	●
8	Biological and Bioagricultural Sciences Graduate Program	• Graduate School of Science • Graduate School of Bioagricultural Sciences • Graduate School of Medicine		●	
9	Biological and Bioagricultural Sciences Graduate Program	• Graduate School of Science • Graduate School of Bioagricultural Sciences			●
10	Medical Science Graduate Program	• Graduate School of Medicine			●
11	Graduate Program in Economics and Business Administration	• Graduate School of Economics		●	
12	Graduate Program in Comparative Studies of Language and Culture	• Graduate School of Languages and Cultures		●	
13	International Development and Cooperation Course	• Graduate School of International Development		●	●
14	Department of the Combined Graduate Program in Law and Political Science LL.M (Comparative Law) Program in Law and Political Science LL.D (Comparative Law) Program in Law and Political Science	• Graduate School of Law		●	●
15	Young Leaders' Program (YLP) (Healthcare Administration Course of Master's Degree Program)	• Graduate School of Medicine		●	
16	The Forefront Studies Program for Civil Engineering	• Graduate School of Engineering			●
17	Nagoya University Global Environmental Leaders Program	• Graduate School of Environmental Studies		●	
18	Special Doctoral Graduate Program of Sciences of Atmosphere and Hydrosphere for International Students	• Graduate School of Environmental Studies			●



## ✓ Short Term Student Exchange and Japanese Language Education

1. Broadening the Nagoya University Program for Academic Exchange (NUPACE), a short term student exchange program, to admit a greater diversity of international students.
2. Requiring international students enrolled in an English course to take Japanese for their foreign language credits, thus improving their chances for interaction with Japanese students.
3. Continuing to hire more international faculty and to send young researchers abroad for education and study.

## ✓ International Student Recruitment through Overseas Offices and Partner Institutions

### ✓ Multiple Screening Methods for Selecting Outstanding International Students

1. Implementing an entrance examination process that can be completed overseas at the undergraduate level.
2. At the graduate level, exploring a variety of screening methods such as applicant document screening, interviews in students' home countries, and videoconferencing.

### ✓ Attractive Scholarships and Fee Exemptions

### ✓ Increased Convenience for International Students

1. Creating a system to facilitate payment of entrance examination fees and other fees from abroad, including credit card transactions and overseas bank accounts.
2. Implementing overseas orientations and other measures to provide a smoother transition for international students who have been accepted to the University.

## ✓ Proactive Employment of Tutors, Teaching Assistants and Research Assistants

### ✓ International Zone and English-speaking Office Staff

1. Creating an International Zone (one-stop office) where international students go for counseling and procedures.
2. Setting up an English-language admission office to deal with recruitment and entrance examinations.
3. Increasing the number of staff with English ability, and creating bilingual intra-university documents and bulletin boards.

### ✓ International Library Resources

### ✓ Adapted Living Environments

1. Opening a new housing facility that can receive as many as 100 international students.
2. Offering diverse menus in University cafeterias for vegetarians and students who are not comfortable with Japanese food.

### ✓ Career Support and Internships

1. Providing orientation and career path guidance to international students who want to work in a Japanese company.
2. Offering a variety of internship programs, such as the Summer Intensive Program on automobile engineering.

### ✓ Sharing NU's internationalization experience with other universities in Japan

1. Opening up the systems developed in the G30 project to other universities
2. Building a network with other G30 leaders

# NUPACE: Nagoya University's Academic Student Exchange Program



## Fresh Insights, Intellectual Stimulation, and a Global Perspective

Established in February 1996, the Nagoya University Program for Academic Exchange (NUPACE) is an academic student exchange program through which international students enrolled at Nagoya University's partner institutions can study in Japan for four to twelve months. The program aims to foster friendships that extend beyond borders, internationalize through education, and motivate overseas students to pursue more extensive studies about Japan. The NUPACE academic year runs on a semester basis, and students can choose one of two admission periods: late September or early April.

NUPACE offers a unique and flexible curriculum comprising Japanese language instruction, Japan area studies, and a wide range of courses in the student's major field of study, with

most courses taught in English. Provided that they take at least fifteen credits per semester, students can design their own curriculum, balancing their interest in Japanese language and area studies with the desire to pursue their major or independent research. Guided research for graduate students is also available. Moreover, students proficient in Japanese are eligible to register for any course offered to degree-seeking students at Nagoya University.

NUPACE, which celebrates its 15<sup>th</sup> anniversary in 2011, has hosted 1,000 international students from over 100 institutions in twenty-seven countries. It is renowned, in both domestic and international arenas, for its quality and leadership in exchange student education.



**Yueqian Fan**  
majoring in English Language at Tsinghua University in China

NUPACE, My Pace.

It is always one of the major challenges to leave for some unfamiliar environment, trying out another way of life. After an entire year of exchange with Nagoya University, with NUPACE, I have grown more and more confident to say that such a new place has to be NUPACE. I have found the teachers and staff here the most friendly and considerate, the students most welcoming and diligent, and the academic facilities most convenient and advanced. Thus, a newcomer will soon be able to feel at home. Besides, NUPACE allows him or her to meet new friends every day from all over the world. It is not that there will hardly be any

difficulty for newcomers, at school or in life, but that with NUPACE, one is well supported when in the face of them.

Exchange provides you much flexibility with regard to planning your own school life. Take myself as an example; I have done more reading and writing during the year in Nagoya than I have ever done during the past two-year university life, which gives me much pleasure and sense of accomplishment. I feel grateful that I have found my pace while at NUPACE. I would be more than happy to recommend this program to everyone who is considering going on an exchange.

## Student Columns



**Sebastien Emptaz-Collomb**  
majoring in English-Japanese-Economics at the University of Grenoble in France

I had never come to Japan before my year in Nagoya, within the NUPACE program, and I tried to imagine how life would be for me in this place that is 10,000 kilometers away from my home in France. And most of these pre-departure ideas were blown away by the real thing. It was by far the best year I've spent in my whole life.

Whether you live next to Japan or at the other side of the planet, leaving your family and the places you are the most familiar with is a very big jump, and you're not sure where you are going to land. There is no need to worry since the NUPACE staff is top-notch, and I cannot thank all of them enough for everything they did for me. You will be welcomed by people that like their job and that will do much more for you than just signing papers and organizing information meetings.

I came here mostly to learn Japanese, and if you plan on taking the intensive classes, you'll have to be ready for 3 hours of Japanese classes every morning. They can be a little rough, but you will very soon make friends and be able to survive them. You may also be able to create fantastic memories if you give it a shot. (My friends and I performed "Hamlet" in Japanese and it was just amazing, seriously!)

It was also a great opportunity to meet people from all over the world and befriend many, many people. I could travel all over Japan during the spring break, and I even visited my NUPACE friends in Taiwan and South Korea. I was amazed to find out that, even with the cultural, language and whatever barrier you may think of, you can still build a real, precious friendship that you are sure will never shatter.

# Academic Consortium AC21











## The Global University — Architect of the New Century



The Academic Consortium for the 21st Century (AC21) was established on June 24, 2002 at the International Forum 2002 hosted by Nagoya University, Japan, as an international network comprised of educational, research and industrial organizations throughout the world. The Forum brought together the presidents and high-ranking delegations from twenty-five of the world's leading education and research institutions, and resulted in the founding of a new and vigorous global partnership in higher education, "Academic Consortium AC21."

### AC21 Member Institutions

As of March 2011

 <b>Australia</b> <ul style="list-style-type: none"> <li>University of Adelaide</li> <li>University of Sydney</li> </ul>	 <b>France</b> <ul style="list-style-type: none"> <li>University of Strasbourg</li> </ul>	 <b>Japan</b> <ul style="list-style-type: none"> <li>Nagoya University</li> </ul>	 <b>Thailand</b> <ul style="list-style-type: none"> <li>Chulalongkorn University</li> <li>Kasetsart University</li> </ul>
 <b>China</b> <ul style="list-style-type: none"> <li>Huazhong University of Science and Technology</li> <li>Jilin University</li> <li>Nanjing University</li> <li>Northeastern University</li> <li>Peking University</li> <li>Shanghai Jiao Tong University</li> <li>Tongji University</li> </ul>	 <b>Germany</b> <ul style="list-style-type: none"> <li>Chemnitz University of Technology</li> <li>University of Freiburg</li> </ul>	 <b>Laos</b> <ul style="list-style-type: none"> <li>National University of Laos</li> </ul>	 <b>USA</b> <ul style="list-style-type: none"> <li>North Carolina State University</li> <li>University of Minnesota</li> </ul>
	 <b>Indonesia</b> <ul style="list-style-type: none"> <li>Gadjah Mada University</li> </ul>	 <b>South Africa</b> <ul style="list-style-type: none"> <li>Stellenbosch University</li> </ul>	

**AC21 Partners** Japan: ITOCHU Corporation; CHUBU Electric Power Co., Inc.; Toyota Motor Corporation; NGK INSULATORS, LTD. U.K.: Advantage West Midlands; Asia House

## AC21 Activities

AC21 considers itself a dynamic consortium. It supports its mission and fosters collaboration amongst members through the following forums, activities and projects.



### ✓ Collaboration in Research & Education

#### —International Forums

Held every two years, international forums provide members with the opportunity to reassess the role of higher education in society through keynote addresses by prominent public figures, presentations and panel discussions.

#### —Research Projects

Support for research networking among AC21 members is offered through the provision of funding and resources, which aim at developing and sustaining collaborative projects. The AC21 Special Project Fund (ACSPF), launched in 2009, endeavors to promote research and educational exchanges between member institutions.

#### —Workshops

### ✓ Initiatives for Students

#### —Student World Forums

Biennial conferences at which students from member institutions are invited to exchange ideas on issues of international concern. The conferences facilitate international friendship, encourage students to develop a global mindset, and strengthen the AC21 network.

### ✓ Industry-Academia-Government Collaboration

AC21, taking advantage of its international network, seeks to facilitate collaboration between academia, industry and government at the global level.

## Fifth AC21 International Forum 2010

The Fifth Academic Consortium 21 (AC21) International Forum was held at Shanghai Jiao Tong University (China) on October 19<sup>th</sup> and 20<sup>th</sup>, 2010.

This biennial international forum is one of the core activities of AC21. The Shanghai forum enjoyed the participation of approximately 100 participants, including presidents and vice-presidents from the AC21 member universities around the world as well as researchers, students, government agencies, corporations, and regional institutions involved in the internationalization of education.

At the opening ceremony, greetings were offered by Shanghai Jiao Tong University President Jie Zhang, President Hamaguchi, and former president and National Institution for Academic Degrees and University Evaluation President Shin-ichi Hirano. Nobel Prize winning physicist Makoto Kobayashi, who bears the title of University Professor at Nagoya University (Executive Director of the Japan Society for the Promotion of Science and Director of the Research Center for Science Systems) also attended the opening ceremony for the forum and was introduced to the participants.

This year's international forum was divided into three sub-themes: "University ranking and evaluation of higher education," "Graduate school education in the age of internationalization" and "Building world-class universities in the age of internationalization." There were approximately 30 presentations in total at the forum which produced many lively discussions and exchange among those involved. Three members of Nagoya University made presentations, including Vice-President Watanabe's announcement concerning this university's internationalization strategy.

Additionally, before the main forum on Monday, October 18<sup>th</sup>, the Eighth AC21 Steering Committee meeting was held on the Shanghai Jiao Tong University Minhang Campus. This annual meeting consisted of the addition of new members, recommendations from various committee members, and revisions to the AC21 articles. In addition, in order to develop AC21 activities further, there were concrete discussions about future activities and new activity frameworks, such as the tentative "AC21 Schooling Event" on Science and Technology.

After the end of the forum in the afternoon of October 20<sup>th</sup>, the Fourth AC21 General Assembly was held. There was also an active exchange of opinions and notably an offer from Tongji University (China) to hold the 2013 Student World Forum and from the University of Strasbourg (France) to hold the 2015 Student World Forum.

At this year's forum and meetings, member universities were proactively involved in AC21 activities giving new value to the purpose of AC21. One could feel the enthusiasm of member universities for further developing and utilizing AC21 and the interest focusing on AC21 from inside and outside Japan.





# Our Partner Institutions

As of Jan. 1, 2011

## Academic Exchange Agreements

- = Inter-University Agreement
- = Inter-School Agreement

### Asia

#### BANGLADESH

- Bangladesh Agricultural University
- Bangladesh University of Engineering and Technology
- University of Dhaka

#### BHUTAN

- The Centre for Bhutan Studies

#### CAMBODIA

- Royal University of Law and Economics
- The Royal University of Agriculture
- Royal University of Phnom Penh

#### CHINA

- Nanjing University
- Central South University
- Jilin University
- Huazhong University of Science and Technology
- Beijing University of Technology
- Chinese Academy of Sciences, Purple Mountain Observatory
- Chengdu Institute of Geology and Mineral Resources
- Chengdu University of Technology
- Tsinghua University
- Chinese Academy of Sciences, National Astronomical Observatories
- China University of Political Science and Law
- East China Normal University
- Peking University
- Fudan University
- Xi'an Jiaotong University
- Chinese Academy of Social Sciences, Institute of Literature and Institute of Literature of National Minorities
- Zhejiang University
- China National School of Administration
- East China University of Political Science and Law

- Chinese Academy of Sciences, Institute of High Energy Physics
- Shanghai Jiao Tong University
- Tongji University
- Northeastern University
- Harbin Institute of Technology
- Beijing International Studies University
- Nanjing University of Aeronautics and Astronautics
- University of Science and Technology of China
- Jiangsu Provincial Academy of Social Sciences (JSASS)
- Chinese Academy of Sciences, Shanghai Institute of Organic Chemistry
- Chinese Academy of Sciences, Institute of Process Engineering
- Polar Research Institute of China
- Southwest Jiaotong University
- Beijing Institute of Technology
- Chinese Academy of Sciences, Research Center for Eco-Environmental Sciences
- Tianjin University
- Chinese Academy of Social Sciences, Institute of Population and Labor Economics
- University of International Business and Economics
- Chinese Academy of Sciences, Xinjiang Institute of Ecology and Geography
- Chinese Academy of Sciences, Shanghai Institute of Ceramics
- Hainan University
- The Chinese University of Hong Kong
- The University of Hong Kong
- The Hong Kong University of Science and Technology
- Renmin University of China
- Shenyang University of Technology

#### INDIA

- University of Pune
- Tata Institute of Fundamental Research
- Indian Institute of Technology, Madras
- Indian Institute of Science, Bangalore

#### INDONESIA

- Indonesian National Institute of Aeronautics and Space
- Gadjah Mada University

- The State University of Surabaya
- Universitas Padjadjaran
- Syiah Kuala University
- Diponegoro University
- Agency for the Assessment and Application of Technology (BPPT)
- Institut Teknologi Bandung
- University of Indonesia

#### REPUBLIC OF KOREA

- Korean Research Institute of Standards and Science, Astronomy Observatory
- Korea University
- Chungnam National University
- Mokpo National University
- Gyeongsang National University
- Korea Maritime University
- Ewha Womans University
- Korea Institute for Advanced Study
- Hanyang University
- Seoul National University
- Kyungnam University
- Sungkyunkwan University
- Korea Legislation Research Institute
- Pukyong National University
- Pusan National University
- Hankuk University of Foreign Studies
- Kyung Hee University
- Chonnam National University
- University of Seoul
- Yonsei University
- Chonbuk National University
- Korea Institute of Geoscience and Mineral Resources
- Kyungpook National University
- Institute of Sunchang Fermented Soybean Products

#### LAOS

- National University of Laos
- National Agriculture and Forestry Research Institute, Lao P.D.R.

#### MONGOLIA

- Health Sciences University of Mongolia

- National University of Mongolia
- Mineral Resources and Petroleum Authority of Mongolia
- National Legal Center of Mongolia
- Mongolian University of Sciences and Technology
- Mongolian Academy of Sciences, Institute of Geography
- Mongolian Academy of Sciences, Institute of Philosophy, Sociology and Law

#### NEPAL

- Kathmandu University

#### PHILIPPINES

- University of the Philippines, Los Banõs
- University of the Philippines, Diliman

#### THAILAND

- Kasetsart University
- Chulalongkorn University
- Chulabhorn Research Institute/ Chulabhorn Graduate Institute

#### VIETNAM

- Vietnam Institute of State and Law
- Hanoi Law University
- Ho Chi Minh City University of Law
- Hanoi University of Technology
- Vietnamese Academy of Science and Technology, Ho Chi Minh City Institute of Resources Geography
- Vietnam National University, Ho Chi Minh City
- Foreign Trade University

#### TAIWAN

- National Chengchi University
- National Taiwan Normal University
- Soochow University
- National Chung Cheng University
- National Taiwan University
- National Tsing Hua University

### Pacific

#### AUSTRALIA

- The University of Sydney
- Flinders University
- University of South Australia
- The University of Adelaide
- Monash University
- The University of Melbourne
- The Australian National University

#### NEW ZEALAND

- National Institute of Water and Atmospheric Research
- University of Auckland
- University of Canterbury

### Europe

#### ARMENIA

- Yerevan Physics Institute

#### AUSTRIA

- Johannes Kepler University Linz
- The Medical University of Vienna

#### BELGIUM

- Institut Supérieur de Traducteurs et Interprètes

#### BULGARIA

- Sofia University
- Bulgarian Academy of Sciences, Space Research Institute, Space Astronomy Division
- Bulgarian Academy of Sciences, Institute of Electronics
- Bulgarian Academy of Sciences, Institute of Mathematics

#### DENMARK

- University of Copenhagen

#### FINLAND

- Finnish Meteorological Institute

### FRANCE

- Université Stendhal (Université de Grenoble 3)
- Université de Paris-Sorbonne, Paris 4
- Ecole Nationale des Ponts et Chaussées (ENPC)
- Université Jean Moulin-Lyon 3
- Ecole Normale Supérieure, Lettres et Sciences Humaines
- Université Paris Diderot - Paris 7
- Université Joseph Fourier (Université de Grenoble 1)
- Université Pierre-Mendès-France (Université de Grenoble 2)
- Grenoble Institute of Technology (Université de Grenoble 4)
- Université de Strasbourg
- Université Panthéon Assas, Paris 2
- Université Paul Cézanne, Aix-Marseille 3
- Université Paris-Est
- Ecole Normale Supérieure de Lyon
- Université de Provence, Aix-Marseille 1
- Ecole Nationale Supérieure d'Architecture Paris Val-de-Seine

### GERMANY

- Albert-Ludwigs-Universität Freiburg
- Technische Universität Carolo-Wilhelmina zu Braunschweig
- Universität zu Köln
- Technische Universität München
- Johannes Gutenberg-Universität Mainz
- Deutsches Zentrum für Luft- und Raumfahrt
- Universität Ulm
- Technische Universität Chemnitz
- RWTH Aachen
- Universität Regensburg
- WWU Münster
- Ruhr-Universität Bochum
- Technische Universität Kaiserslautern
- Freie Universität Berlin
- Wissenschaftszentrum Ost- und Südosteuropa Regensburg
- Technische Universität Darmstadt

### HUNGARY

- Hungarian Academy of Sciences, Institute for Legal Studies

## ITALY

- National Institute of Nuclear Physics (INFN)
- University of Catania

## KAZAKHSTAN

- Kazakh Humanitarian Law University
- Legislation Research Institute, Republic of Kazakhstan

## LATVIA

- Latvian State University

## NETHERLANDS

- Wageningen University
- Free University of Amsterdam

## NORWAY

- University of Oslo
- University of Tromsø

## POLAND

- Medical University of Gdańsk
- Warsaw University of Technology
- University of Warsaw

## RUSSIA

- Institute of Theoretical and Experimental Physics
- Ministry of Health of Russia, Institute of Biomedical Problems
- Lomonosov Moscow State University
- Russian Academy of Sciences, Siberian Division, Institute of Cytology and Genetics
- Moscow State Engineering and Physics Institute (Technical University-MEPH)
- Russian Academy of Sciences, Institute of Computer Aided Design
- Russian Academy of Sciences, Far Eastern Branch, Institute of Cosmophysical Research and Radiowave Propagation (IKIR)
- Russian Academy of Sciences, Siberian Division, Institute of Solar-Terrestrial Physics (ISTP)

## SPAIN

- University of Barcelona

## SWEDEN

- Swedish Institute of Space Physics
- University of Lund
- Uppsala University

## SWITZERLAND

- University of Bern
- University of Geneva

## U.K.

- The University of Sheffield
- The University of Warwick
- The University of Nottingham
- University of East Anglia
- The University of Manchester
- University of Bristol
- University of Leicester
- The University of Oxford
- University of London, School of Oriental and African Studies (SOAS)

## UKRAINE

- Ukrainian SSR Academy of Sciences, Institute of Theoretical Physics

## UZBEKISTAN

- Samarkand State University
- University of World Economy and Diplomacy
- Tashkent State Institute of Law

## North America

### CANADA

- Carleton University
- The University of Toronto
- University of Victoria
- York University

### USA

- Oberlin College
- University of Michigan
- University of California, Los Angeles
- University of Houston

- North Carolina State University
- Harvard-Yenching Institute
- University of Cincinnati
- University of California, Berkeley
- The University of North Carolina at Chapel Hill
- University of Alaska Fairbanks
- National Oceanic and Atmospheric Administration
- Massachusetts Institute of Technology, Haystack Observatory
- Harvard Medical School
- Tulane University
- University of Pennsylvania
- University of California, San Diego
- Colorado School of Mines
- St. Olaf College
- Southern Illinois University, Carbondale
- University of Illinois at Urbana-Champaign
- University of Kentucky
- New York University
- Duke University
- Johns Hopkins University
- University of Wisconsin Law School
- University of Maryland
- University of Washington
- Northwestern University
- The University of Texas
- The University of Chicago
- Green Mountain College
- Michigan State University
- UC Santa Barbara
- University of Minnesota

## Latin America and the Caribbean

### ARGENTINE

- National University of Rosario
- Luis F. Leloir, Campomar Foundation, The Research Institute of Biochemistry

### BOLIVIA

- Universidad Mayor de San Andrés

## BRAZIL

- Ministry of Science and Technology, National Institute for Space Research
- Fundação Joaquim Nabuco
- Universidade de Brasília
- Universidade de São Paulo

## GUATEMALA

- Del Valle de Guatemala University

## MEXICO

- Universidad de Sonora

## Middle East

### TURKEY

- Bilkent University

## Africa

### EGYPT

- Tanta University

### GHANA

- University of Ghana

### KENYA

- University of Nairobi
- African Institute for Capacity Development (AICAD)

## SOUTH AFRICA

- South African Astronomical Observatory

## Others (International Organization)

- Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)
- European Organization for Nuclear Research (CERN)

## Agreements for Industry-University Collaboration

### Europe

#### U.K.

- The University of Warwick

### North America

#### USA

- North Carolina State University

## Agreements for International Joint Research

### Asia

#### REPUBLIC OF KOREA

- Sungkyunkwan University

### Pacific

#### AUSTRALIA

- The University of New South Wales

### Europe

#### GERMANY

- Ruhr-Universität Bochum

### North America

#### USA

- The University of Texas at Dallas

## Others (International Organization)

- The Ministry of Science and Technology of Brazil
- The National Institute of Space Research (INPE)
- The Japan Aerospace Exploration Agency (JAXA), Institute of Space and Astronautical Science (ISAS)

## International Networks

- Academic Consortium 21 (AC21)
- International Forum of Public Universities (IFPU)
- Collège doctoral franco-japonais
- University Mobility in Asia and the Pacific (UMAP)
- OpenCourseWare Consortium
- The G8 University Summit
- Canada-Japan Strategic Student Exchange Program



## Academic Charter of Nagoya University

Appreciating the intrinsic role and historical and social mission of universities, Nagoya University, as a seat of learning, hereby defines its fundamental principles of scholarly activity.

Nagoya University maintains a free and vibrant academic culture with the mission of contributing to the well-being and happiness of humankind through research and education in all aspects of human beings, society, and nature. In particular, it aspires to foster the harmonious development of human nature and science, and to conduct highly advanced research and education that overlook the broad sweep of humanities, social and natural sciences. Towards this goal, Nagoya University endeavours to implement a variety of measures based on the fundamental objectives and policies outlined below, and to unremittingly carry out its responsibilities as a pivotal university.



### 1 | Fundamental Objectives: Research and Education

- 1 Nagoya University, through creative research activity, shall pursue the truth and produce results of scholastic distinction on the international stage.
- 2 Nagoya University, through an education that values initiative, shall cultivate courageous intellectuals endowed with powers of rational thought and creativity.

### 2 | Fundamental Objectives: Contribution to Society

- 1 Nagoya University, in spearheading scientific research, and through the cultivation of human resources capable of exercising leadership both in the domestic and international arenas, shall contribute to the welfare of humanity and the development of culture, as well as to global industry.
- 2 Nagoya University shall put to good use the special characteristics of the local community and, through multi-faceted research activities, contribute to the development of the region.
- 3 Nagoya University shall promote international academic co-operation and the education of foreign students, and contribute to international exchange, especially with Asian nations.

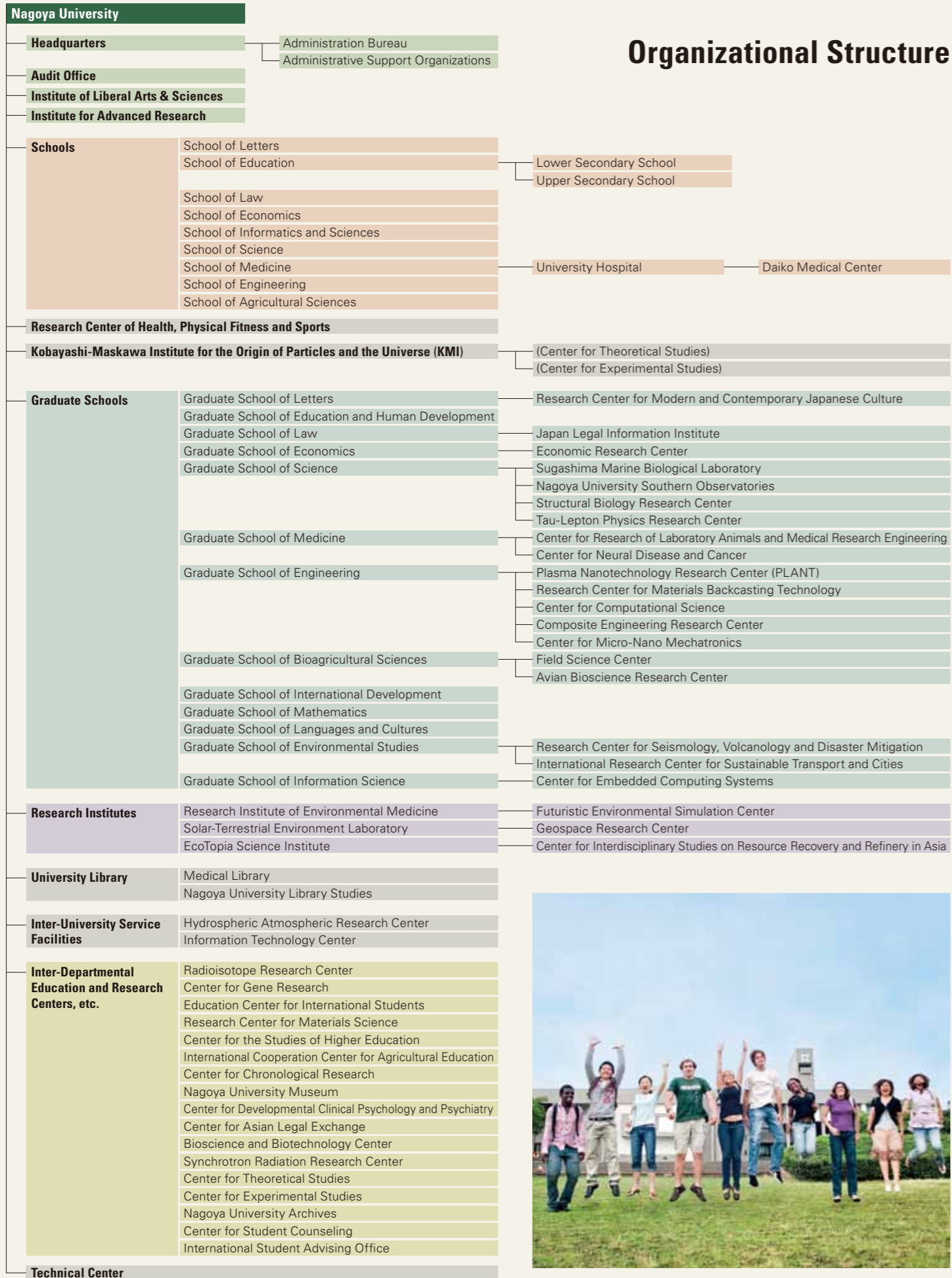
### 3 | Fundamental Policies: Research and Education System

- 1 Nagoya University shall study the various phenomena of the humanities, society and nature from an all-inclusive viewpoint, respond to contemporary issues, and adjust and enrich its education system to generate a new sense of values and body of knowledge founded on humanity.
- 2 Nagoya University shall provide for an education system that rightly inherits and develops intellectual resources cultivated in the world's intellectual traditions, and promote educational activity that is both advanced and innovative.
- 3 Nagoya University, through the active dispatch of information and exchange of personnel, and interinstitutional co-operation in Japan and abroad, shall shape the international foundation of academic culture.

### 4 | Fundamental Policies: University Administration

- 1 Nagoya University shall at all times support scientific enquiry based on the autonomy and initiative of its members, and guarantee freedom of academic research.
- 2 Nagoya University shall require its members to participate in the drafting and implementation of both ideals and objectives related to research and education, as well as administrative principles.
- 3 Nagoya University, in addition to promoting autonomous assessment and evaluation from its members with regard to research, education and administrative activity, shall actively seek critical appraisal from external authorities, and aspire to be an accessible university.

\*This is a provisional translation and subject to change.



## Staff

As of November 1, 2010

Members of the Board of Trustees		
President		1
Trustees		7
Auditors		2
Staff (Full-time)		
Faculty	Professors	650 ( 21)*1
	Associate Professors	497 ( 53)
	Associate Professors / Lecturers	110 ( 54)
	Assistant Professors	441 (170)
	Research Associates	9 ( 1)
	Researchers	0 (167)
	School Teachers at Affiliated Schools	39
	Administrative / Technical Staff*2	1,458 (488)
<b>Total</b>		<b>3,214 (954)</b>

\*1 Data in parenthesis show the number of staff under limited-time contracts.  
\*2 Data include medical staff of the University Hospital.

## International Students by School

As of November 1, 2010

School / Graduate School	
Letters	140
Education	72
Law	158
Economics	112
Informatics and Sciences	28
Science	60
Medicine	91
Engineering	390
Agricultural Sciences	52
International Development	176
Mathematics	5
Languages and Cultures	147
Environmental Studies	132
Information Science	68
EcoTopia Science Institute	1
Education Center for International Students	33
<b>Total</b>	<b>1,665</b>

## Student Enrollment

As of November 1, 2010

Name of Schools / Graduate Schools	Undergraduate Courses		Graduate Courses		Total
	Degree seeking	Non-degree seeking	Degree seeking	Non-degree seeking	
Letters	596	86	294	11	987
Education	327	41	234	29	631
Law	684	25	372	102	1,183
Economics	921	24	157	12	1,114
Informatics and Sciences	347	29	-	-	376
Science	1,192	13	551	13	1,769
Medicine	1,517	72	880	44	2,513
Engineering	3,343	79	1,616	27	5,065
Agricultural Sciences	751	10	442	16	1,219
International Development	-	-	273	44	317
Mathematics	-	-	160	2	162
Languages and Cultures	-	-	223	64	287
Environmental Studies	-	-	551	28	579
Information Science	-	-	377	11	388
Human Informatics	-	-	2	-	2
Others	-	25	-	14	39
<b>Total</b>	<b>9,678</b>	<b>404</b>	<b>6,132</b>	<b>417</b>	<b>16,631</b>



# Campus Map

## Higashiyama Campus



### Main Buildings

- 1 Administration Bureau Buildings
- 2 Toyoda Auditorium / Symposion
- 3 Nagoya University Museum
- 4 University Library (Central Library)
- 5 Noyori Conference Hall
- 6 Noyori Materials Science Laboratory
- 7 Akasaki Institute

### Graduate School / School Buildings

- 8 Graduate School / School of Engineering Buildings
- 9 Engineering and Science Building (Central Building of Graduate School of Engineering / Particle and Astrophysical Science Building)
- 10 Graduate School / School of Science Buildings
- 11 Graduate School of Mathematics Building
- 12 Science and Agricultural Building
- 13 Graduate School of Bioagricultural Sciences / School of Agricultural Sciences Building
- 14 Environmental Studies Hall - Graduate School of Environmental Studies
- 15 Graduate School / School of Economics Building
- 16 Graduate School / School of Law Building
- 17 Graduate School of International Development Building
- 18 Graduate School of Education and Human Development / School of Education Building
- 19 Integrated Research Building (Arts and Social Sciences)
- 20 Graduate School / School of Letters Building
- 21 Central Building for Liberal Arts and Sciences - School of Informatics and Sciences Building - Institute of Liberal Arts & Sciences
- 22 Building A for Liberal Arts and Sciences
- 23 Graduate School of Languages and Cultures Building
- 24 Graduate School of information Science Building

### Centers / Institute Buildings

- 25 Center for Developmental Clinical Psychology and Psychiatry
- 26 Center for the Studies of Higher Education
- 27 Education Center for International Students
- 27.2 Advising & Counseling Services, ECIS
- 28 Center for Asian Legal Exchange
- 29 Information Technology Center
- 30 Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI)
- 31 Research Center for Materials Science
- 32 Bioscience and Biotechnology Center
- 33 Radioisotope Research Center
- 34 Research Institute of Environmental Medicine
- 35 Hydrospheric Atmospheric Research Center
- 36 Institute for Advanced Research Hall
- 37 Solar-Terrestrial Environment Laboratory
- 38 Eco Topia Science Institute
- 39 International Cooperation Center for Agricultural Education
- 40 Research Laboratory Building
- 41 Research Center of Health, Physical Fitness and Sports

### Conference Halls & Galleries

- 42 Noyori Conference Hall
- 43 Noyori Materials Science Laboratory, Lecture Hall
- 44 Engineering and Science Building, ES Auditorium
- 45 Science South Building, Sakata & Hirata Hall
- 46 Environmental Studies Hall, Lecture Hall
- 47 Integrated Building (IB), Lecture Room
- 48 Graduate School / School of Economics, Conference Hall
- 49 Graduate School of International Development, Auditorium
- 50 Integrated Research Building (Arts and Social Sciences), Conference Room



- 51 Nobel Prize Exhibition Room
- 52 Chemistry Gallery
- 53 Akasaki Institute, Exhibition Room

### On-campus Accommodations

- 54 Symposion
- 55 Staff Hall
- 56 Administration Bureau Building No.4
- 57 Green Salon Higashiyama
- 58 Noyori Conference Hall Residence
- 59 Researchers Village Higashiyama
- 60 International Residence Higashiyama

- ☺ Cafeteria
- 🏪 Convenience Store
- 📮 Post Office
- 🚌 Bus Stop
- 🚇 Subway

## Tsurumai Campus



- 1 Medical Science Research Building 1
  - 2 Medical Science Research Building 2
  - 3 Medical Library
  - 4 Center for Promotion of Medical Research and Education
  - 5 Basic Medical Research Building
  - 6 Basic Medical Research Building Annex
  - 7 Human Anatomy Laboratory
  - 8 Ward Building
  - 9 Central Consultation Building
  - 10 Outpatient Building
  - 11 Radioisotope Research Center
  - 12 Energy Center
  - 13 Kakuyu Kaikan (Alumni Hall)
  - 14 Student Facility
- ☺ Cafeteria
  - 🏪 Convenience Store
  - 📮 Post Office
  - 🚌 Bus Stop
  - 🚇 JR Train Station

## Daiko Campus



- 1 School of Health Science - Main Building
  - 2 School of Health Science - South Building
  - 3 School of Health Science - East Building
  - 4 Annex to School of Health Science
  - 5 Daiko Medical Center
  - 6 Annex to Radioisotope Laboratory
  - 7 Energy Center
  - 8 Gymnasium
  - 9 Student Hall
  - 10 Researchers Village Daiko
- ☺ Cafeteria
  - 🚌 Bus Stop

## Access



**To Higashiyama Campus** From Nagoya Station: Take the Subway Higashiyama Line to Motoyama Sta. (15 minutes), then transfer to the Subway Meijo Line to Nagoya Daigaku Sta. Higashiyama Campus is just off the subway exit.

From Centrair (Central Japan International Airport): Take the Meitetsu Line to Kanayama Sta. (30 min.), then transfer to the Subway Meijo Line to Nagoya Daigaku Sta. (21 min.).

**To Tsurumai Campus** From Nagoya Station: Take the JR Chuo Line (bound for Tajimi) to Tsurumai Sta. (6 min.), then walk 5 min.

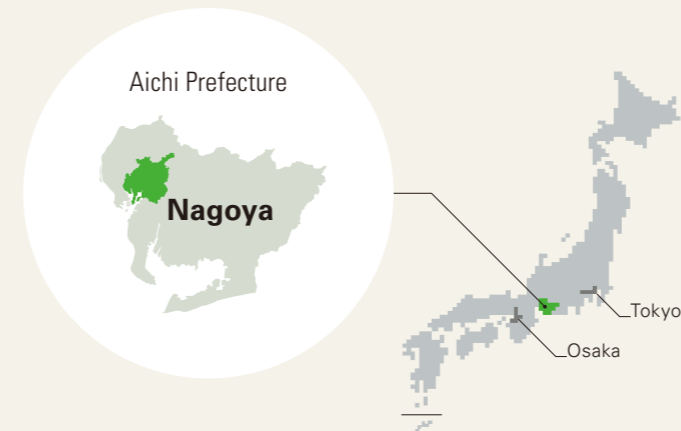
**To Daiko Campus** From Nagoya Station: Take the Subway Higashiyama Line to Sakae Sta. (5 min.), transfer to the Subway Meijo Line to Nagoya Dome-mae Yada Sta. (12 min.), then walk 5 min.

**To Nagoya Station** From Centrair (Central Japan International Airport): Take the Meitetsu Line (30 min.) or the airport bus (60 min.).

From Tokyo Station: Take the Shinkansen (103 min.).

From Shin-Osaka Station: Take the Shinkansen (52 min.).

## The City of Nagoya



Located in the heart of Japan, the Chubu region has played a central role in Japan's history and has long enjoyed a flourishing culture and economy. The area is well known as the home of Oda Nobunaga, Toyotomi Hideyoshi and Tokugawa Ieyasu, the three leaders who unified Japan over 400 years ago, bringing an end to the "Period of Warring States." Nagoya Castle, originally built by Tokugawa Ieyasu and famous for the pair of golden dolphins on top of its donjon, serves as the region's landmark.

Today, this vibrant metropolis occupies an important place in Japan's political and economic spheres. With a population of 2.2 million, Nagoya is the nerve center of the Chubu Industrial Zone, a merger of both traditional and modern industries, most notably the automotive industry. Nagoya offers a variety of urban conveniences, with shops, restaurants and leisure activities that cater to any taste, making it an exciting place to live, work and study.



JR Central Towers



Nagoya Castle



Nagoya Noh Theater



Arimatsu Shibori Matsuri (festival)



Nagoya City Archives



The Golden Dolphin



Nagoya Congress Center



Nagoya Port Triton



Nagoya City Art Museum



OASIS 21