

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.

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. We have increased the number of degree programs taught entirely in English for the Global 30, and we began to accept students in this brand-new program from October 2011.

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 opportunities for personal growth I enjoyed abroad 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 (Version 2013)



Accelerating Nagoya University's Internationalization

1. Cultivation of Global Leaders Enrichment of liberal arts education Strengthening of global competitiveness through the Global 30 Program, Re-Inventing Japan Project, and Programs for Leading Graduate Schools	2. Promotion of World Class Research Cultivation of internationally recognized young researchers Exploration of new frontiers through the utilization of cutting-edge facilities	3. Organizational Innovation Development and expansion of the Graduate School of Pharmaceutical Sciences Reorganization of educational and research functions Collaboration with other universities	4. Collaboration with and Further Contribution to Local and Regional Communities Collaboration with the "Knowledge Hub" Project and Promotion of community health systems	5. Raising of Nagoya University Fund Five billion yen within 5 years for use toward scholarships and student support
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Education, Research and Social Contributions

Cultivation of Global Leaders <ul style="list-style-type: none"> • Enrichment of liberal arts education <ul style="list-style-type: none"> • Strengthening of the Institute of Liberal Arts and Sciences and improvement of learning support systems • Improvement of the English ability of Japanese students • Emphasis on the development of academic competence, sociality, and critical thinking • Promotion of Programs for Leading Graduate Schools • Enrichment of programs for international students <ul style="list-style-type: none"> • Increase of programs taught in English and of international students to over 3,000 by 2020 • Collaboration with language education consortium and with the area universities • Increase in number of scholarships through a variety of funding sources • Support of extracurricular activities 	Promotion of World Class Research <ul style="list-style-type: none"> • Establishment of the World Premier International Research Center Initiative (WPI) - Institute of Transformative Bio-Molecules • Exploration of new frontiers in research through the utilization of the Ultra High Voltage Electron Microscope and Synchrotron Radiation facility • Acquisition of major research grants and support of world class researchers • Cultivation of graduate students, postdoctoral fellows, and junior faculty (Young Leaders Cultivation Program etc.) • Encouragement of inter-disciplinary collaboration and joint research
Internationalization of Nagoya University <ul style="list-style-type: none"> • Strengthening of relationships with overseas partner institutions as well as institutions within Academic Consortium 21 (AC21) • Strengthening of global competitiveness through the Global 30 Program and the Re-Inventing Japan Project • Recruitment of outstanding international students • Internationalization of support services on-campus 	Collaboration with Industry, Government and Community <ul style="list-style-type: none"> • Strengthening of collaboration with industry and government institutions <ul style="list-style-type: none"> • Establishment of centers of excellence and promotion of technology transfer and innovation • Strengthening of collaboration with local government <ul style="list-style-type: none"> • Support of research projects and sharing of research outcomes through cooperation with the "Knowledge Hub" Project • Cultivation of human resources through cooperation with industry and government • Further collaboration with media agencies for outward communication • Strengthening of ties with alumni, parents, and community

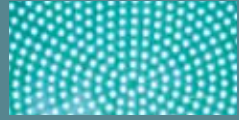
University Hospital and University Affiliated Secondary Schools

Further Improvement of the University Hospital as a Flagship Institution at National Level <ul style="list-style-type: none"> • Provision of high-quality medical care with utmost priority on safety • Cultivation of the next generation of healthcare professionals <ul style="list-style-type: none"> • Consolidation of a career path for cultivation of medical specialists • Strengthening of the network of postgraduate clinical training • Display of leadership through promotion of community health • Development of innovative healthcare for the future community <ul style="list-style-type: none"> • Promotion of translational medical research and development of centers for the advancement of state-of-the-art medicine • Promotion of Chubu Regional Consortium for Advanced Medicine (C-CAM) • Globalization and development of ICT systems toward borderless health care 	Enrichment of the Affiliated Secondary Schools <ul style="list-style-type: none"> • Strengthening of management through the School Council • Improvement of education through collaboration between the schools and the University • Establishment and development of a system to accept international students in senior high school 
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Administration and Finance

Reorganization of Education and Research Institutions and Improvement of Administrative and Support Efficiency <ul style="list-style-type: none"> • Evaluation and reorganization of functions to ensure total optimization • Development of the Graduate School of Pharmaceutical Sciences and the Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI) • Encouragement of inter-university collaboration • Promotion of integrity of university administration • Enhancement of administrative support and services, and consolidation of their functions for improvement of educational and research environment • Promotion of Equal opportunities 	Maintenance and Improvement of Financial Stability <ul style="list-style-type: none"> • Securement of sufficient competitive research funding • Maintenance and improvement of sound financial management practices at University Hospital • Raising of Nagoya University Fund <ul style="list-style-type: none"> • Five billion yen within 5 years for use toward scholarships and student support
Evaluation, Benchmarking, and Outward Communication <ul style="list-style-type: none"> • Assessment of academic activities of Nagoya University institutions every 3 years • Enrichment of the information in Faculty Profile and increase of publicity of faculty's activities • Publicizing of outstanding research results and lectures • Keeping our status as one of the world's top 100 universities 	Facilities, Safety, and Other Aspects <ul style="list-style-type: none"> • Further enhancement of the eco-friendly campus • Improvement of the management system of facilities and equipment on campus • Optimized use of campus space and facilities • Expansion of accommodations for international students and faculty • Improvement of core research and education facilities as well as campus environment • Timely response to harassments and other issues • Proper use and storage of high-risk chemicals and radioactive materials in accordance with government regulations • Observance of the Occupational Safety and Health Act • Compliance, risk management, and preparation against disaster

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

Toward a "Blockbuster Drug" from Nagoya University – Graduate School of Pharmaceutical Sciences was launched in April, 2012 –
Institute of Transformative Bio-Molecules (ITbM)
National Composite Center (NCC)
Green Mobility Collaborative Research Center – Realizing a Low-Carbon Society –
Disaster Mitigation Research Center (DMRC)

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, 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 became 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.

Toward a “Blockbuster Drug” from Nagoya University –Graduate School of Pharmaceutical Sciences was launched in April, 2012–



Staffs of the Graduate School of Pharmaceutical Sciences (10 Jan, 2013)

A blockbuster drug is a class of medicines that generate more than US\$ 1 billion of annual revenue for the selling company. Blockbuster drug usually corresponds to a kind of “first-in-class” drugs. It has been first developed as using a novel and unique mechanism of action for treating a medical condition. The advent of such the “first-in-class” drugs to the market satisfies unmet medical needs, thereby generating a huge amount of worldwide revenue. At the same time, such the blockbuster drugs can cure many patients and contribute human well-being.

There are less than twenty countries in the world that can perform an entire process of discovery and development of novel drugs from scratch. Japan is one of them. However, in detail, impacts of Japanese pharmaceutical companies are decreasing whereas the other mega-pharmas are still growing in the last decade. Accordingly, the academic activities in the basic pharmaceutical sciences in Japanese universities seemed slowing down. This is partly because a previous drastic change in the educational curriculum of school of pharmacy in Japanese universities. MEXT and MHLW in Japan decided to change the former 4-year program to 6-year program for schools of pharmacy in 2006. Thus, the number of the students who are studying the basic pharmaceutical sciences

at master’s courses in graduate schools of pharmacy decreases. There is a fear that young talented persons for basic pharmaceutical research will be exhausted.

In response to such social requirements, in April 2012 Nagoya University founded a new graduate school, the Graduate School of Pharmaceutical Sciences. To create an integrated platform for science education and pharmaceutical research for drug discovery, we go beyond the traditional framework of departments divided along classic categories. We are aware that the pharmaceutical science is a total process science, including the disciplines of pharmaceutics, medical science, chemistry, and biotechnological research and development, and encompassing all stages from basic research on target symptoms through to final product design and production. It is clear that the next innovation in pharmaceutical science will also require innovation in approach.

The Graduate School of Pharmaceutical Sciences is comprised of a single department with three divisions, “Division of Organic Chemistry”, “Division of Bioscience”, and “Division of Structural Biology” and an additional unit of “Industry, Government and Academia Collaboration” (Table 1). The Graduate School is propelled by the cutting-edge fields of synthetic



Prof. Yushu Matsushita, Dean, in the memorial opening ceremony (9 Nov, 2012)



Logo of the Graduate School of Pharmaceutical Sciences

organic chemistry, which influences the design and composition of pharmaceutical products, of bioscience, which is the basis for disease and drug efficacy analysis, and of structural biology, which analyzes the molecular structure and mechanisms of proteins and their interaction with bioactive compounds. The students will learn how to lead the field toward finding solutions to current issues in the conventional drug discovery process by fusing together knowledge and experience covering clinical medicine, basic sciences (biology, chemistry, physics). To develop technologies (cellular technologies, informatics, high throughput screenings) is another important issue.

The Graduate School now offers a two year Master’s Degree in Pharmaceutical Sciences with the admission capacity of 27. In April, 2014, we are planning to found a three year Doctoral Degree course in Pharmaceutical Sciences in order to develop the educational opportunities presented the current curriculum. Our final goal is to bring our original blockbuster drug out into the world from Nagoya University.

(table 1) Department of Basic Medicinal Sciences, Graduate School of Pharmaceutical Sciences

Division of Organic Chemistry	Laboratory of Natural Products Chemistry
	Laboratory of Organic Synthesis
	Laboratory of Molecular Design
Division of Bioscience	Laboratory of Molecular Microbiology
	Laboratory of Cellular Biochemistry
	Laboratory of Cell and Molecular Bioengineering
Division of Structural Biology	Laboratory of Structural Molecular Pharmacology
	Laboratory of Structural Physiology (Cellular and Structural Physiology Institute)
Unit of Industry, Government and Academia Collaboration for Drug Innovation	

Institute of Transformative Bio-Molecules (ITbM)

Institute of Transformative Bio-Molecules (ITbM)

The Institute of Transformative Bio-Molecules (ITbM) was launched at Nagoya University in December 2012. ITbM is supported by the World Premier International Research Center Initiative (WPI), the flagship program of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

What is WPI?

The WPI provides priority support for projects aimed at creating top world-level research centers staffed at their core with the world's most leading researchers. WPI was established in 2007, and six WPI institutes were selected and established; The University of Tokyo (Math/Physics/Universe), Kyoto University (Cell/Materials), Osaka University (Immunology), Tohoku University (Materials), National Institute for Materials Science (Nano technology), and Kyushu University (Energy). In 2012, the WPI was expanded by three center projects, and Nagoya's ITbM (Synthetic Chemistry/Plant-Animal Biology) was selected together with Tokyo Institute of Technology (Earth-Life Science) and Tsukuba University (Sleep Medicine).

Changing the world with molecules

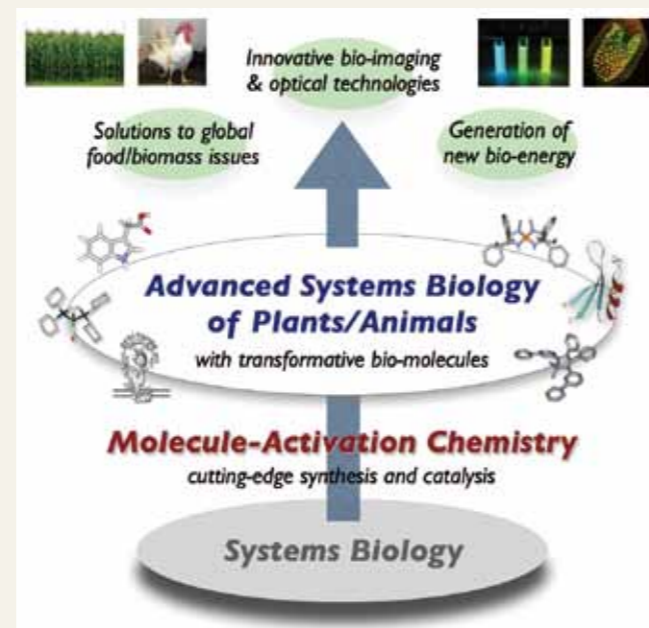
Molecules are small but essential parts of all life on the planet. Molecules are groups of atoms chemically bound together that behave as a single unit. They are central to the operation of all industries, including pharmaceuticals, agrochemicals, electronic materials, solar cells, displays, petrochemicals, automotive manufacturing, and plastics and many more sectors. Molecules have the power to change the way we do science and the way we live. By merging synthetic chemistry, catalysis chemistry, systems biology, and plant/animal science, which are the strengths of Nagoya University, ITbM aims to create cutting-edge molecular science with potentially significant societal impact.

ITbM: The first institute merging synthetic chemistry and plant/animal biology

The goal of ITbM is to develop innovative functional molecules that make a marked change in the form and nature of biological science and technology (transformative bio-molecules) by taking full advantage of the cutting-edge molecular synthesis expertise of our chemistry Principal Investigators (PIs) and intense interactions with our plant/animal biology PIs. Through this interaction, transformative bio-molecules will be synthesized that can (1) enhance biotic productivity and quality

and (2) realize innovative bio-imaging. To ensure the advancement of these projects, we will (3) develop catalysts that enable incredibly efficient synthesis and molecule activation on demand.

ITbM's unique approach is to apply the cutting-edge synthesis (molecule-activation chemistry), with the support of computational chemistry, to synthesize key molecules to explore advanced systems biology in plants and animals. We hope that our ten-year campaign will culminate in a wealth of synthetic bio-molecules that will be key to solving urgent problems at the interface of chemistry and biology. The innovation in food/biomass production, optical technologies, and generation of new bio-energy can be imagined as our dream.



Aim of ITbM



Laboratory

Ambitious, full-scale collaboration of synthetic chemists, plant/animal biologists, and theoreticians

The team of PIs is an innovative mix of chemists and biologists from Japan and abroad, chosen for excellence in science, diversity, and commitment to the project and with a thought to sustainability of the institute. With the average age of the founding PIs at 43, there is no doubt they will be highly active throughout the duration of the project and well beyond the 10 year funding envelope.



Director
Kenichiro Itami (Nagoya Univ)
Synthetic chemistry, Catalysis



Prof. Kenichiro Itami,
Director of ITbM

Vice-Director
Tetsuya Higashiyama (Nagoya Univ)
Plant biology, Live cell imaging

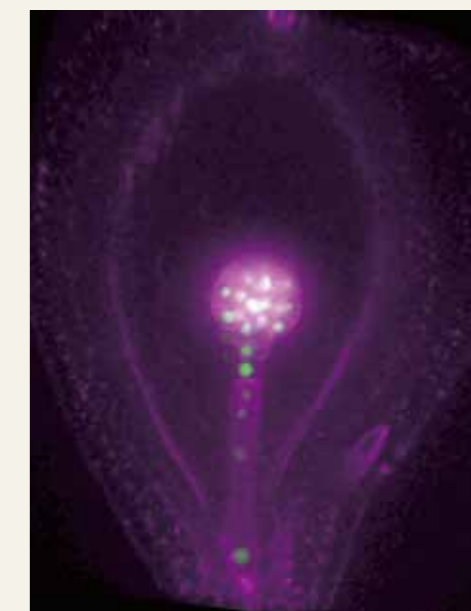
Other Principal Investigators

- Jeffrey W. Bode (ETH Zürich, Switzerland)
Peptide, Molecular catalysis
- Cathleen M. Crudden (Queen's Univ, Canada)
Organometallic chemistry
- Stephan Irle (Nagoya Univ)
Computational chemistry
- Toshinori Kinoshita (Nagoya Univ)
Plant growth, Molecular physiology
- Takashi Ooi (Nagoya Univ)
Non-metal catalysis, Synthesis
- Keiko Torii (Univ Washington, USA)
Plant growth and differentiation
- Shigehiro Yamaguchi (Nagoya Univ)
Fluorescent molecule design
- Takashi Yoshimura (Nagoya Univ)
Animal reproduction, Hormone

Heading for tomorrow

ITbM project is critical to further enhance the prestige and international visibility of Nagoya University, and also to lead a remarkable reformation of research culture. ITbM will establish the "stage" on which researchers, sharing responsibility and problem awareness, can talk about their dreams freely and can put their innovative ideas into practice immediately. What ITbM's future success brings will not be limited to innovations in bio-molecular research. The Institute, with researchers of various backgrounds, will accelerate the mixing/merging of people, ideas, and research, and also help nurture a new generation of scientists unrestricted by the bounds of traditional disciplines. This will surely have a positive influence on the way Japanese universities carry out research and education. In this regard, ITbM must succeed by all means.

ITbM will connect molecules, create value, and change the world, one molecule at a time.



Plant Embryo



Logo of ITbM

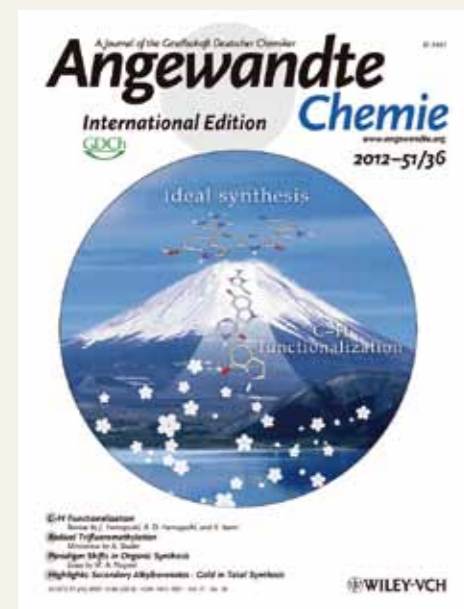
Introduction to ITbM research

Professor Kenichiro Itami, Director

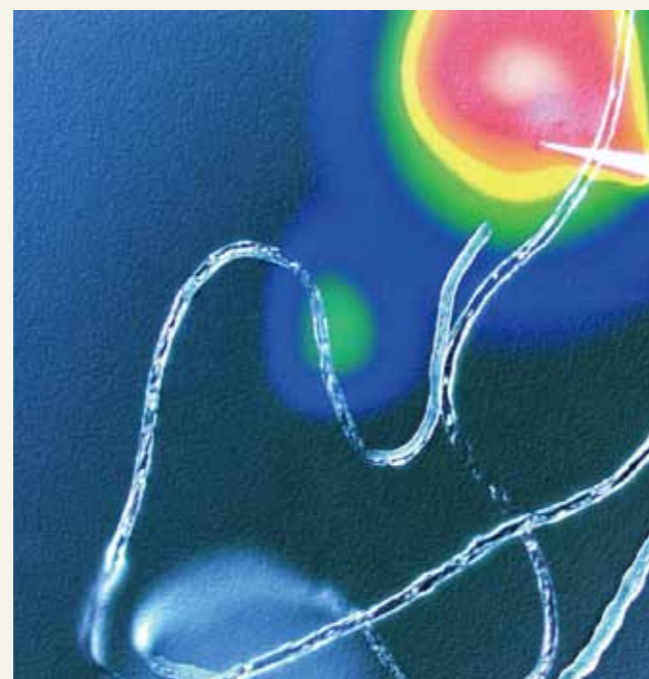
The work of Professor Kenichiro Itami, Director of ITbM, has centered on catalyst-enabling synthetic chemistry with broad directions. The main emphasis of current research activity is on the development of new molecular catalysts to solve challenging synthetic problems for realizing super-efficient chemical synthesis and molecule activation in high demand and for producing as-yet unexplored molecules of significant interest in various fields.

A series of contributions from his group not only streamlined the state-of-the-art synthesis of useful molecular entities, but also changed the way chemists plan and execute syntheses and design functional molecules. For example, the rapid synthesis of a number of biologically active compounds and pharmaceutically relevant molecules is now possible by using his catalysts. In particular, some of the most recent results from his lab on the discovery of novel potent inhibitors of important enzymes make it clear that a truly efficient catalyst can have a huge impact in biology. Currently, a number of pharmaceutical and agricultural companies as well as chemical industries have already started to use his catalysts on a daily basis.

In ITbM, Professor Itami will apply his catalysts and reactions to synthesize/develop key molecules that precisely control biological systems. Representative target molecules include molecules that dramatically enhance plant growth and those that improve animal reproduction innovatively.



Angewandte Chemie features Prof. Itami's article

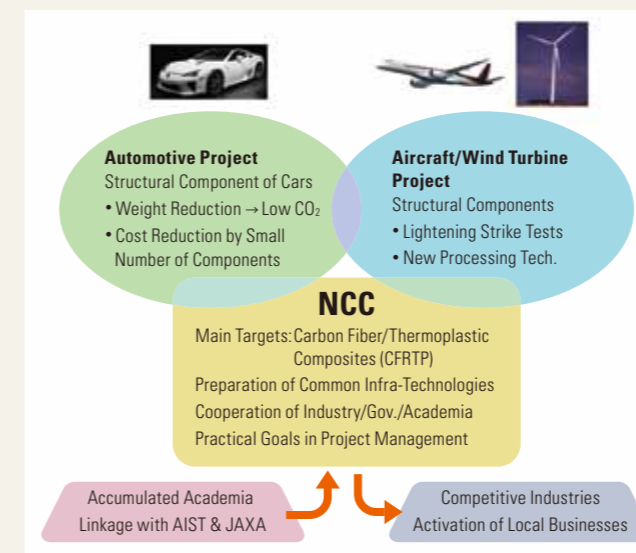


Pollen tube attraction by the LURE peptide

Professor Tetsuya Higashiyama, Vice-Director

Professor Tetsuya Higashiyama has been working on plant reproduction with special focus on key molecules for pollen tube guidance, double fertilization, and early embryogenesis, which are directly involved in crop production and plant breeding. Pollen tube guidance is the mechanism whereby a tubular cell emerging from the pollen grain of own species is guided to the target ovule tissue in the flower. By unique approach of live-cell biology, Professor Higashiyama succeeded in identifying pollen tube attractant peptides, or LUREs, which are key molecules for species recognition and had been sought for more than 140 years (Fig. 2). His unique strategies and techniques are to use interesting non-model plants, live cell imaging, and manipulation of targeted cells in order to identify physiological mechanisms and biologically active molecules. In ITbM, Professor will develop molecules that overcome genome barriers for designed hybrid breeding. Molecules that permit innovative bio-imaging will be also developed for visualization of behaviour of all signalling molecules in plant fertilization and embryogenesis.

National Composite Center (NCC)



Aims of establishing National Composite Center in Japan

On April 1, 2012, the National Composite Center (NCC) was founded at Nagoya University. Although carbon fiber (CF) manufacturing industries in Japan are considered as one of the strongest fields of Japan by the fact that Japanese CF industries have 70% share of the world market in this field, carbon/polymer composite processing industries in Japan are not necessarily strong enough if we compare with European counterparts situations. In order to activate those composite processing industries to innovate the related technologies, a budget from Ministry of Economics, Trades and Industries (METI) was approved to be given to Nagoya University in 2011 and installation operation for NCC was started. The first figure symbolizes the activity of NCC, focusing on automotive industries and aerospace/wind turbine industries, which are based in Greater Nagoya Area and dominating over the south-eastern Asian region in those fields.



Image of the building under construction

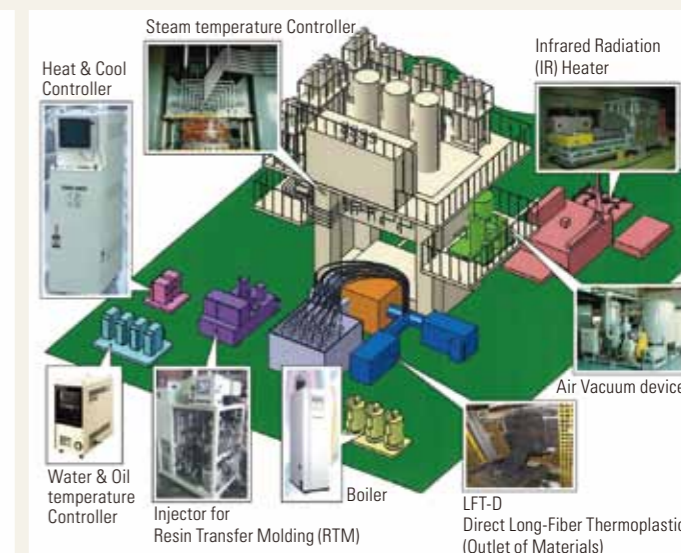


Image of heavy Duty Press Machine and Biaxial Extruder (LFT-D)

Two major facilities are being built in Higashiyama Campus now, i.e., the heavy duty hydraulic press machine (3500 deadweight ton) with the biaxial extruder (LFT-D device) and, the lightning strike test facility as shown in next figures. They will be completed some time in the spring, 2013. The press machine will be mainly used for the development of low cost CF/thermoplastic composites technologies for future automobile bodies. The lightning facility will be used for the development of composite structures evaluation technologies of aircraft or wind turbines. For housing these two major facilities and some other small equipments, a building is under construction as shown in the final figure. With a support of METI research funding from the fiscal year of 2013, NCC will make a challenge to achieve the world-leading highest level results in advanced composite technologies and to contribute local industries and communities by transferring those achievements.



Lightning Strike Test Facility

New Flagship Research Initiatives

Green Mobility Collaborative Research Center –Realizing a Low-Carbon Society–

Knowledge in the field of Green Mobility engineering at Nagoya University is concentrated in the Green Mobility research group.

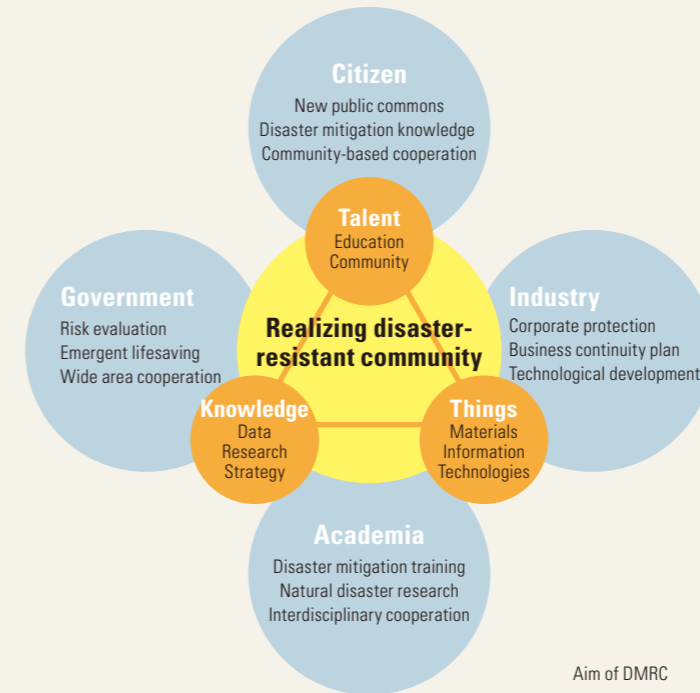
An international-level Green Mobility research hub has been established to sharpen and refine international research relating to the environment, energy, safety, security, robotics, and control systems, to collaborate with organizations outside the university, to develop human resource, and to make comprehensive contributions to society at large.

Benefits of Establishing the Center are as follows:

- (1) High-risk Basic Research for Green Mobility Innovation
- (2) Strengthened Collaboration in Research between Industry and Academia for Green Innovation
- (3) Formation of Research Core in Advanced Fusion Areas for Green Mobility Innovation
- (4) Globalization and Research Core Development to Take Advantage of Regional Characteristics and Uniqueness
- (5) Human resource Development for Green Mobility
- (6) Japan's Leading Role in International Standardization



Disaster Mitigation Research Center (DMRC)



Aim of DMRC



Laboratory

On January 1, 2012, the Disaster Mitigation Research Center (DMRC) was founded at Nagoya University. Nagoya City and the surrounding Chukyo area are vulnerable to natural hazard risks due to large earthquakes along the Nankai Trough plate boundary, which are repeated almost every century. The Japanese government estimates the probability of the occurrence of a large earthquake in this area during the next 30 years at 70%, and the worst case scenario predicts that economic loss will reach as much as 81 trillion yen. The area also has a history of damaging floods and storms associated with global warming. Since this area is the center of industrial production in Japan, the natural hazard risks may cause a serious crisis at a national level. Thus, the DMRC promotes cooperative multidisciplinary research for developing a state-of-the-art disaster mitigation model, and applying it to ensure the local community is safe and secure. The DMRC provides a cooperative framework for local government, companies, and citizens to improve the preparedness of the local community for future natural hazards. In addition, the DMRC offers disaster mitigation training courses for local public officers and volunteers.

For these purposes, academic staff from the Graduate School of Environmental Studies, Graduate School of Engineering, Graduate School of Medicine, and Graduate School of Education and Human Development joined the DMRC. In addition to 6 full-time staffs, approximately 30 additional staffs are working together at the DMRC.



Talk session with public audience

Nurturing Future Global Leaders



Significant International Programs



Program for Leading Graduate Schools at Nagoya University



Re-Inventing Japan Project at Nagoya University



The Global 30 Project – Bringing Nagoya University to the World



Global Environmental Leaders Program



Nagoya University Summer Intensive Program (NUSIP)



NUPACE: Nagoya University's Academic Student Exchange Program

世界に通用する真のリーダーを育成

Significant International Programs

Global Human Resource Development Program

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.

Program in Law and Political Science

The Graduate School of Law at Nagoya University has been committed to English-taught programs in Law and Politics since 1999. In that year, as a natural extension of ties with universities in Asia and Central Asia, the faculty undertook to establish a two-year Masters course in Law and Politics. Open at the outset to students from partner institutions in Vietnam, Laos, Cambodia and Mongolia, the first students under this initiative were admitted in 1999. In the following year the program was extended to universities in Uzbekistan, and admission to study toward an English-based doctoral degree was approved in 2004.

The program is complemented by social activities, student mentorship arrangements, private and public sector internships, language instruction through the Education Center for International Students, annual participation in the Japan Inter-Collegiate Negotiation Competition, and a set of student-driven cross-national seminars (the Peer Support Initiative). These features of our environment reinforce and supplement the opportunities of the traditional academic curriculum in law and politics. Classroom instruction is enriched through course offerings taught by legal staff of major local corporations, by practicing Japanese lawyers, and by reporters with front-line experience in covering both domestic and foreign news for Japanese media organizations.

We are proud to count among our graduates the staff of core ministries, counsel in major corporations, active lawyers and progressive academics of the jurisdictions that have enriched our environment through participation in our programs.

The Forefront Studies Program for Civil Engineering

The Graduate School of Engineering at Nagoya University is accepting applications from foreign students who wish to pursue a Doctor of Engineering degree in the field of Civil Engineering, with the financial aid of the Japanese Government Scholarship Program. The “Forefront Studies Program for Civil Engineering” began in 2007, replacing the former “Civil Engineering Special Program”, implemented from 1987 to 2006. This new scholarship program provides a course specially designed for foreign students, in which coursework and research supervision are carried out in English. Around seven students will be accepted for this program, and those who will pass the selection process will be allowed to enter the doctoral program in October every year. Accepted applicants are granted financial support from the Japanese Government, which is sufficient to maintain a decent lifestyle in Japan.

The research fields of the professors in this program cover Structural Engineering; Hydraulics, Hydrology, Coastal and Ocean Engineering; Geotechnical Engineering; Transportation, Infrastructure and Environmental Planning; and Environmental Engineering.

International Development and Cooperation Course

The Department of International Development and the Department of International Cooperation Studies of the Graduate School of International Development (GSID) at Nagoya University jointly offer a graduate program in international development and cooperation. The program aims to equip graduate students with knowledge of a wide range of development issues pertaining to developing countries and the practices of international development cooperation, and capabilities and skills to contribute to solving such development issues. The program has the following key features:

1. The goal of the program is to train future development professionals by imparting knowledge and understanding of the realities of the development world, and by providing them with skills and competence so as to work not only in the international development and cooperation field, but also in a variety of related professional fields.
2. Drawing on Japanese development experience, it provides alternative perspectives which differ from conventional development theories which draw largely on the Western model of development.
3. The program places strong emphasis on 1) fieldwork in developing countries, 2) exchange with scholars, development professionals and students from developing countries, 3) reflective education directly linked with development practices, and 4) overseas training and internships.
4. With respect to the course’s “professional minimum” component, 6 programs are offered after completion of the development literacy component. These six programs are: Economic Development Policy and Management, Rural and Regional Development Management, Education and Human Resource Development, Governance and Law, Peace building, and Social Development and Culture.

Special Doctoral Graduate Program of Sciences of Atmosphere and Hydrosphere for International Students

The “Special Doctoral Graduate Program of Sciences of Atmosphere and Hydrosphere for International Students”, set up in 2006, is a course supported by “The International Priority Graduate Programs (PGP)” at the Department of Earth and Environmental Sciences, Graduate School of Environmental Studies (DES). This course accepts five students a year and is specially designed for international students who are enthusiastic about researching environments in the Asian region from the aspect of Atmospheric and Hydrospheric Sciences.

This program provides two schemes: professional research training for the next generation of researchers, and cross-disciplinary education for acquiring knowledge of various environment fields. The professional research training is given by international-level professors in the fields of Atmospheric and Hydrospheric Sciences that encompass fundamental discrepancies in the fields of environmental variation, climate science, biogeochemistry, radiation and life sciences, and global water cycles. The professors in the field of Earth and Planetary Sciences in DES cooperate in the professional education, which is necessary for advancing Atmospheric and Hydrospheric Sciences. The professors in the Department of Environmental Engineering and Architecture and the Department of Social and Human Environment in DES also take part. This inter-disciplinary education aims to promote the ability to systematically understand the structure of environmental problems in the Asia region, in order to make the best use of specialist study for the solution of these problems.

Young Leaders’ Program (Healthcare Administration)

The Young Leaders’ Program (YLP) at Nagoya University is a one-year Master’s degree course in Healthcare Administration. The YLP, which aims to foster the development of future national leaders in Asian and other countries, is one of the Japanese Government Scholarship Student systems, intended to help form a network among national leaders, contributing to the establishment of friendly relationships and improved policy planning among Asian and other countries, including Japan. Four universities are designated as host universities for the YLP, including Nagoya University, which offers a healthcare administration course. Applicants for the YLP at Nagoya University must be a national of one of the aforementioned 13 participating countries and a college degree holder, or higher, in the field of medicine or science.

The curriculum is suitable for rearing future national leaders in the field of healthcare administration. It seeks to learn from Japan’s unique and important role in bridging the gap between Western and Asian countries and their willingness to maintain the lasting friendship with Japan and other participating countries through various activities. The curriculum is also designed to demonstrate the actual mechanism of Healthcare Administration, and how modern Japan improved national living standards at a comparatively low cost within half a century by introducing the concept of Western methodology and adjusting it to Japanese culture and social system. Using this knowledge, the courses pursue the question of “what is the most desirable method of resolving the respective problems concerning Healthcare Administration for the country concerned?”.

Program for Leading Graduate Schools at Nagoya University

This enterprise, which has been implemented since 2011 by MEXT, aims to cultivate globally active leaders; to this end, it gathers together first-class teaching staff and students from both inside and outside Japan and supports projects at universities which are forming and developing five-year unified doctoral programs that will be of use globally.

44 programs have been selected from across Japan for this enterprise, four of which are at Nagoya University. These four programs are outlined below:

Integrative Graduate Education and Research Program in Green Natural Sciences

This program is grounded in NU's achievements in the field of Green Natural Sciences; in cooperation with the representative Japanese industry-government-academia research bodies the Institute for Molecular Science, National Institute for Basic Biology, RIKEN, National Institute of Advanced Industrial Science and Technology, Toyota Central R&D Labs, and Toyota Physical and Chemical Research Institute, the program fosters "an extensive view of scientific capacity and social awareness", "the capacity for development in drawing practical outcomes from basic research", and "globally active internationality"; and cultivates "corporate researchers who will raise seeds and solutions in industry", "academic researchers who will raise new ways of thinking in scholarship", and "environmental

science coordinators and mentors who will work actively in international society".



An experiment

PhD Professional: Gateway to Success in Frontier Asia

The objective of this program is to cultivate next-generation leaders to support the globalization of the manufacturing industry, as a new growth strategy for Japan. While Japan needs its manufacturing business to prosper in the global market, "Frontier Asian" countries – newly emerging economies such as Vietnam and Mongolia – as production sites in the global economy can benefit from Japan's expertise in technology and investment for venture capital to assist their economic growth. This new academic program is intended to train young minds from the arts, sciences and engineering to become a leading workforce in strengthening ties between Japan and Frontier Asia.



Training in Mongolia

The Program for Cross-Border Legal Institution Design

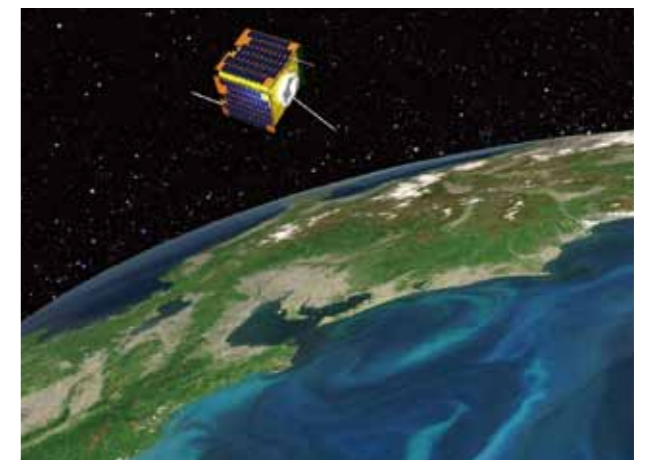
This program fosters networks of international leaders with a strong awareness of Asia, through joint research on comparative law and comparative politics by Japanese and international students. Within this, and with an understanding of Japan's originality, the program develops leaders who can organize and supervise international teams working on enterprises to plan and design legislative systems that will become the foundations of social operations in various Asian countries, taking into account the cultures of those countries while they transplant the legislative systems across borders.



Orientation

Leadership Development Program for Space Exploration and Research

This program, in order to open up the final frontier of humanity, space, pursues the truths and environment of the cosmos and cultivates international leaders who will be active in the development of high technology and materials for space development and use. In the core ChubuSat implementation program, students from various fields form a team to work on the development of equipment for the industry-academia ultra-small satellite project Chubusat, under the guidance of interdisciplinary science and technology teaching staff.



ChubuSat

Re-Inventing Japan Project at Nagoya University

Training human resources for the development of an epistemic community in law and political science to promote the formation of “*Jus Commune* (common law)” in East Asia

This project is aimed at developing, on the basis of an understanding of the Western “global standards of law,” human resources for an epistemic community in law and political science that can take an active role in discussions with a view toward forming a *jus commune* (common law) in East Asia. In this project, Nagoya University collaborates with partner universities in China and Korea through exchange programs for undergraduate students based on reciprocal conferment of academic credits, as well as other forms of exchange of quality-assured research and education. The participating universities thus exchange legal information in East Asia, together working toward forming theories on Asian law and assistance for legal infrastructural development, as well as establishing

common standards for jurist training and law school education.



English class

A Cooperative Asian Education Gateway for a Sustainable Society: Expanding the Frontiers in Science and Technology of Chemistry and Material

This program aims to form a core research and education hub in Asia, dedicated to the resolution of the environmental and energy problems faced by humankind today through the fields of chemistry and materials. The trilateral hub brings together universities with some of the highest standards in Japan, China and Korea. This trilateral structure is designed to allow each partner to exploit the high educational potential found within the chemistry departments of the other partners, forming a synergistic hub of outstanding research and education in chemistry in Asia. Each country has particular strengths in different areas of chemistry and materials fields, and exchange and partnerships have been structured to exploit these respective strengths, ensuring that the potential of the student exchange program is

maximized to result in the formation of a world-leading research and education hub.



Exchange students at educational excursion, Toyota Factory

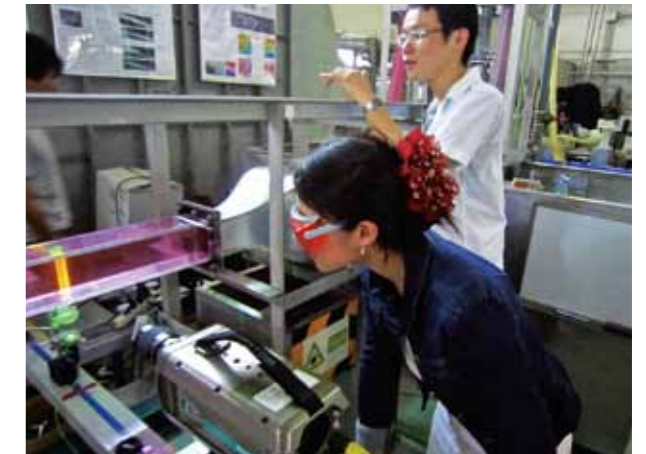
The Re-Inventing Japan Project is a funding project run by the government of Japan, and aims to foster human resources capable of being globally active, and to enhance quality assurance of higher education in international frameworks. By giving financial support to leading universities which launch brand-new collaborative projects for mutual student exchange

with partner institutions in Asian countries and the US, this project intends to enrich study-abroad programs for Japanese students and encourage strategic acceptance of foreign students in Japanese universities. The following pages offer an overview of the four programs at Nagoya University which have been selected for this scheme.

Japan-US Advanced Collaborative Education Program

The Japan-US Advanced Collaborative Education Program (JUACEP) focuses on research-based education through the co-study and co-work of Japanese and foreign students at the graduate level in the field of engineering. Its primary focus is to initiate a student exchange program between Nagoya and the US universities; Graduate School of Engineering, Nagoya University has formed partnership agreements with College of Engineering, the University of Michigan and Henry Samueli School of Engineering and Applied Science, the University of California, Los Angeles (UCLA). The exchange students stay at partner universities as visiting scholars and conduct independent research. The research will result in the students' earning partial credit, which is transferable to their base universities. As Nagoya is located in the Tokai area, which is considered a hub for Japanese industry, this program also collaborates

with variety of multinational industrial companies located in the area.



An experiment

Training a New Generation of Leaders in International Cooperation for the Development of the ASEAN Region

This program was newly adopted in 2012 following the above three programs. The program's aim is to foster global leaders in international cooperation who understand both aid and business, with knowledge of economy, law, politics, society and culture of the ASEAN region and Japan in accordance with the founding principles of the Graduate School of International Development. This program is characterized by the scheme called “Student Exchange - Nippon Discovery Program (SEND Program),” which offers Japanese students opportunities to study in ASEAN countries to learn different languages and cultures, and, in exchange, to teach Japanese language and introduce Japanese culture in local schools, thus promoting cross-cultural understanding while training them to become

experts who can build cultural bridges between the ASEAN region and Japan.



Fieldwork in Jogjakarta, Indonesia

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

The Global 30 Project – Student Columns



Rina Hisamatsu

Department of Biological Sciences, School of Science

I never expected to find myself at Nagoya University, but I can't deny that it's a choice I definitely do not regret making. I can't help but feel the tingle of excitement whenever I think about the fact that this year's batch for the G30 program is one of the very first to be launched in Japan. I am one of the lucky few who were given the chance to experience a life-changing opportunity to study a field of interest in English while being surrounded by the beautiful Japanese culture and lifestyle. I guess what really attracted me to the G30 program was that it looked like an inspirational, fresh new challenge to me. Having lived abroad my whole life, the idea of coming back to Japan to study had been pushed into the deepest corner of my mind until the discovery of G30. It was then that I made the decision to take the leap and obtain a top-notch

education in the country I was born in but knew very little of. From the very first day of our arrival, the entire G30 staff and organizers have been nothing but caring and considerate. The Biological Sciences department, the school with which I am affiliated, has been constantly attentive and trying their best to suit our needs and make our four years in Nagoya the smoothest and most enjoyable possible. Lastly, what really makes G30 special is the close bonds that we are fortunate enough to create with our professors and students. As it is a close-knit program, G30 is filled with knowledgeable teachers and kind-hearted people who will gladly share their own cultures from back home. It is definitely a challenging yet amazing start to college life!



Tan Zhi Liang

Department of Mechanical & Aerospace Engineering, School of Engineering

I was thrilled when I first found out that Nagoya University was offering the G30 Automotive Engineering course. Nagoya University is a leading research university renowned for its Engineering courses. Nagoya University, situated in Nagoya, is also strategically located, as the city is an automotive hub with Toyota headquartered here. Since I was young, I have always been interested in automobiles. Therefore, Nagoya University seems the best fit for me. Furthermore, the course offered in English is also very attractive, as I am not required to have any pre-existing knowledge of the Japanese language. By choosing to study at Nagoya University, I am well-placed to learn from experts in the automotive field.

When I first arrived in Japan I felt lost, as I was alone without knowing anyone in this foreign country I had never set foot in before. Besides, I do not speak Japanese well. However, the friendly Nagoya University staffs made me feel welcome, and they are willing to help me whenever I am faced with difficulties. The G30 lecturers are also very committed to providing us with a good education. As our classes are small, the lecturers are able to pay more attention to us. This makes our learning process more effective and enjoyable. The best part of studying in the G30 program is that I will be able to meet people from all over the world. I also get to interact with local Japanese people. Studying in Japan also allows me to experience the local Japanese culture and learn the Japanese language. This experience will surely enrich me and make my study in Japan much more meaningful!

Global Environmental Leaders Program

Promoting Active Leaders in Solving Global Environmental Problems

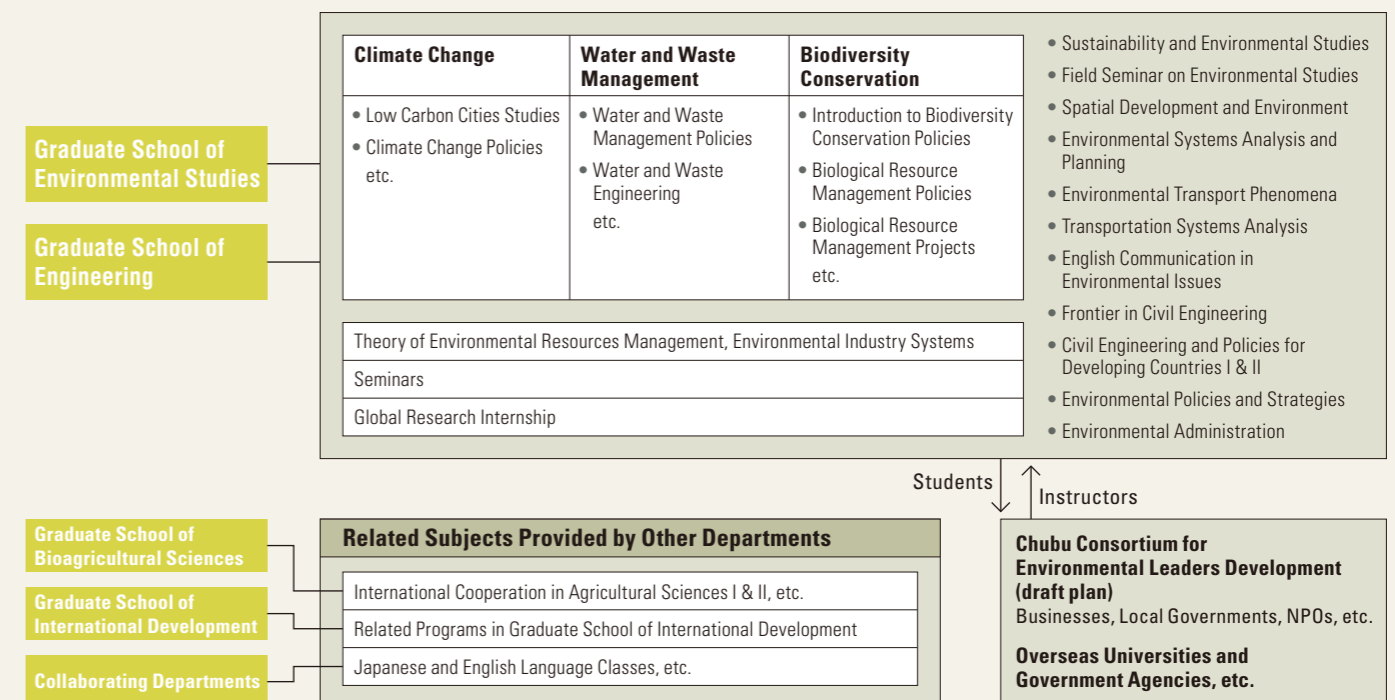
Due to rapid economic growth and social changes, developing countries worldwide, including in Asia and Africa, face serious environmental problems such as air and water pollution, waste management, biodiversity conservation, and global warming and climate change. Finding solutions to these problems is 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



Nagoya University Summer Intensive Program (NUSIP)



With support and cooperation from the Japanese automotive industry and related enterprises, the Graduate School of Engineering offered a 5-week summer program entitled "Latest Advanced Technology & Tasks in Automobile Engineering," from June 13 – July 19, 2012. Conducted entirely in English, the program was aimed at overseas students and Nagoya University students in engineering-related fields. The program's greatest feature was 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 were

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 enabled 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 enabled Nagoya University students to improve their English and communication skills and broaden their international horizons in conjunction with studies in their specialty fields.



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, including those available through the G30 international programs. 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, whilst a fully-developed, comprehensive English language program is provided, those students proficient in Japanese are eligible to register and earn credits for any course offered to degree-seeking students at Nagoya University.

NUPACE has hosted 1,143 international students from 114 institutions in twenty-eight countries. It is renowned, in both domestic and international arenas, for its quality and leadership in exchange student education.





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



Project for the Promotion and Enhancement of the Afghan Capacity for Effective Development (PEACE project)

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 five 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 (Ulaanbaatar, Mongolia)



Research and Education Center for Japanese Law (Tashkent, Uzbekistan)



Research and Education Center for Japanese Law (Ho Chi Minh, Vietnam)



Research and Education Center for Japanese Law (Hanoi, Vietnam)



Research and Education Center for Japanese Law (Phnom Penh, 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.



Project for the Promotion and Enhancement of the Afghan Capacity for Effective Development (PEACE project)



PEACE Project Opening Ceremony at Embassy of Afghanistan in Tokyo

In association with the Japan International Cooperation Agency (JICA), Nagoya University has been involved with international cooperation projects for years: dispatching university experts in fields of development, infrastructure, and education to developing countries, and accepting trainees from developing countries to give them lectures and practical training.

At Kabul International Conference, held on July 20, 2010 in Kabul, Afghanistan, the Minister for Foreign Affairs of Japan outlined the support plan for Afghanistan's reconstruction, which entails the training of up to 500 Afghan government officials in the engineering and agricultural sectors. Based on this concept, the "Project for the Promotion and Enhancement of the Afghan Capacity for Effective Development" (PEACE project) began in 2011. In the PEACE project, candidates are recommended by Afghan government ministries; they also

need to pass several examinations and interviews. After these selection processes, Afghan trainees visit Japan in five batches, from 2011 to 2015, and gain training in the fields of infrastructure development, agriculture, and rural development at master's level, at graduate schools in Japan. Japanese universities accepted 47 Afghan government officials in 2011 and 53 in 2012 as the PEACE project trainees. The Graduate School of Bioagricultural Sciences and the Graduate School of International Development at Nagoya University also accepted 2 trainees in 2011 and 4 trainees in 2012 as part of the University's international cooperation projects.

After returning to their own country, it is expected that PEACE project trainees will have the ability to solve development challenges, and contribute to enhancing bilateral relationships between Japan and Afghanistan in the future.



PEACE Project Opening Ceremony at Embassy of Afghanistan in Tokyo



Nagoya University around the Globe: International Liaison Offices and Bases



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.



■ 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.



■ 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.

■ 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, five 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)
- Vietnam: Ho Chi Minh City University of Law (Center founded Jan. 2012)
- 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.

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 February 2013

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

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 & Workshops

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 (SPF), launched in 2009, endeavors to promote research and educational exchanges between member institutions.

✓ 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.

—Programs for Graduate Students

While Student World Forums target mainly undergraduate students, in order to inspire graduate students of member institutions, a new program has been launched in 2013. Lectures in these programs are offered by leading scholars with outstanding credentials in their respective fields.

✓ Industry-Academia-Government Collaboration

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

6th AC21 International Forum, 10th Steering Committee Meeting and 5th General Assembly held in Australia

The 6th Academic Consortium 21 (AC21) International Forum was held at The University of Adelaide (Australia) from June 12th to June 14th, 2012. This biennial international forum is one of the core activities of AC21. The forum enjoyed the participation of approximately 130 delegates from 15 of the AC21 member universities: senior executives, academic staff and administrators.

The theme was Maximizing the Benefits of Internationalization. Keynote speeches were given by Australia's Minister of Tertiary Education, Senator Chris Evans; Director-General of China's Ministry of Education, Madame Zhang Xiuqin; former Director General of DAAD, Dr Christian Bode; international rankings expert Prof Simon Marginson; and former Australian Minister for Defense and Chancellor of University of Adelaide, Robert Hill.

The conference proved a great success, with a consistently high standard of thought-provoking keynote speeches, several panels, a range of presentations, and a number of proposals for collaboration among AC21 members. Plenary panels covered collaboration with China, and the future of university rankings. As this is the 10th anniversary year for AC21, there was also a plenary session reviewing AC21's past and looking at its future role and activities. The 20 parallel sessions had individual and group presentations covered four sub-themes: global research priorities/capacity building; industry partnerships; intercultural competence; encouraging student mobility. A new element for the conference was a President's Club special session, for the most senior person attending from each member institution.

On the day after the Forum, there was the meeting of the 10th AC21 Steering Committee (STC). This annual meeting consisted of the following five topics: 1) the AC21 General Secretariat's report on the year's activities; 2) the STC membership rotation system; 3) the frequency of the GA; 4) the contents of the AC21 Position Paper; and 5) progress report and opinion exchange on the new project "AC21 International Graduate Summer School".

Following the STC meeting, the 5th AC21 General Assembly (GA) was held. Continuing from the AC21 General Secretariat's activity report, the STC membership rotation system was proposed and approved, and the seven universities to be STC members during the next term were



decided upon. In addition, reports were given by host universities on the preparation status of the 2013 Student World Forum, to be held at Tongji University, China, and the 2014 International Forum, to be held at Stellenbosch University, South Africa. In addition, the project proposal for the "AC21 International Graduate Summer School" and, in principle, the hosting of the STC Meeting by the host universities of the International Forum and Student World Forum were approved by the GA attendees.

In 2012, AC21 marked its 10th anniversary of the establishment, a landmark stage. At this year's forum and meetings, great enthusiasm was shown towards aiming for information exchange and networking between member universities in order to realize the specific proposed activities, strengthening partnerships, and making use of the international academic network offered by AC21 to the maximum; there was a strong feeling that AC21 have been taken a new step forward.

Our Partner Institutions

As of Oct. 1, 2012

Academic Exchange Agreements

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

Asia

BANGLADESH

- Bangladesh Agricultural University
- Bangladesh University of Engineering and Technology
- University of Dhaka
- SAARC Meteorological Research Centre

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
- 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
- Sun Yat-sen University, Lingnan College
- Ministry of Health, P.R.China, China-Japan Friendship Hospital
- Beijing Normal University
- Xiamen University
- Chinese Academy of Sciences, Institute of Theoretical Physics

INDIA

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

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
- Pohang University of Science and Technology

LAOS

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

MALAYSIA

- MARA University of Technology

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
- Institute of Meteorology, Hydrology and Environment, Mongolia

NEPAL

- Kathmandu University

PHILIPPINES

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

THAILAND

- Kasetsart University
- Chulalongkorn University
- Chulabhorn Research Institute/ Chulabhorn Graduate Institute
- King Mongkut's University of Technology North Bangkok

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
- Vietnam National University, Hanoi

TAIWAN

- National Chengchi University
- National Taiwan Normal University
- Soochow University

- National Chung Cheng University
- National Taiwan University
- National Tsing Hua University
- Taiwan Ocean Research Institute
- National Chiao Tung 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
- Commonwealth Scientific and Industrial Research Organisation

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

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
- 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
- École Nationale Supérieure d'Architecture Paris Val-de-Seine
- Université de Technologie de Belfort-Montbéliard

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 University
- Universität Regensburg
- WWU Münster
- Ruhr-Universität Bochum
- Technische Universität Kaiserslautern
- Freie Universität Berlin
- Wissenschaftszentrum Ost- und Südosteuropa Regensburg
- Technische Universität Darmstadt
- University of Duisburg-Essen

HUNGARY

- Hungarian Academy of Sciences, Institute for Legal Studies

ITALY

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

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
- Polish Academy of Sciences, Institute of Geological Sciences, Krakow Research Centre

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-MEPHI)
- 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
- Royal Institute of Technology
- SAFER - Vehicle and Traffic Safety Centre at Chalmers

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
- University of Ottawa
- Université de Montréal

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
- University of Pittsburgh
- University of California, Davis

Latin America and the Caribbean

ARGENTINA

- National University of Rosario

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

BOLIVIA

- Universidad Mayor de San Andres, La Paz

BRAZIL

- Ministry of Science and Technology, National Institute for Space Research
- Fundacao Joaquim Nabuco
- Universidade de Brasilia - UnB
- Universidade de São Paulo

GUATEMALA

- Del Valle de Guatemala University

MEXICO

- Universidad de Sonora

Middle East

TURKEY

- Bilkent University
- Istanbul Technical University

Africa

EGYPT

- Tanta University
- Cairo University

GHANA

- University of Ghana

KENYA

- 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

Organizational Structure

Staff/Student Enrollment

Campus Map

Access

The City of Nagoya

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.

Nagoya University

Headquarters	Administration Bureau
Technical Center	Administrative Support Organizations
Office of Research Administration	
Audit Office	

Schools	School of Letters	
	School of Education	Lower Secondary School
	School of Law	Upper Secondary School
	School of Economics	
	School of Informatics and Sciences	
	School of Science	
	School of Medicine	University Hospital
	School of Engineering	Daiko Medical Center
	School of Agricultural Sciences	

Graduate Schools	Graduate School of Letters	Research Center for Modern and Contemporary Japanese Culture
	Graduate School of Education and Human Development	
	Graduate School of Law	Japan Legal Information Institute
	Graduate School of Economics	Economic Research Center
	Graduate School of Science	Sugashima Marine Biological Laboratory
		Nagoya University Southern Observatories
		Structural Biology Research Center
		Tau-Lepton Physics Research Center
		Center for Research of Laboratory Animals and Medical Research Engineering
		Center for Neural Disease and Cancer
	Graduate School of Medicine	Plasma Nanotechnology Research Center (PLANT)
		Research Center for Materials Backcasting Technology
		Center for Computational Science
		Composite Engineering Research Center
		Center for Micro-Nano Mechatronics
	Graduate School of Engineering	Field Science Center
		Avian Bioscience Research Center
	Graduate School of Bioagricultural Sciences	
	Graduate School of International Development	
	Graduate School of Mathematics	
Graduate School of Languages and Cultures		
Graduate School of Environmental Studies	Research Center for Seismology, Volcanology and Disaster Mitigation	
Graduate School of Information Science	International Research Center for Sustainable Transport and Cities	
	Center for Embedded Computing Systems	
Graduate School of Pharmaceutical Sciences		

Institute of Liberal Arts & Sciences

Institute for Advanced Research

Research Institutes	Research Institute of Environmental Medicine	Futuristic Environmental Simulation Center
	Solar-Terrestrial Environment Laboratory	Geospace Research Center
	EcoTopia Science Institute	Center for Interdisciplinary Studies on Resource Recovery and Refinery in Asia

University Library	Central Library
	Medical Library
	Nagoya University Library Studies

Inter-Departmental Education and Research Centers, etc.	Radioisotope Research Center
	Center for Gene Research
	Education Center for International Students
	Research Center for Materials Science
	Center for the Studies of Higher Education
	International Cooperation Center for Agricultural Education
	Center for Chronological Research
	Nagoya University Museum
	Center for Developmental Clinical Psychology and Psychiatry
	Center for Asian Legal Exchange
	Bioscience and Biotechnology Center
	Synchrotron Radiation Research Center
	Center for Theoretical Studies
	Center for Experimental Studies
	Nagoya University Archives
	Center for Student Counseling
	Green Mobility Collaborative Research Center
	Disaster Mitigation Research Center
	Cellular and Structural Physiology Institute

Inter-University Service Facilities	Hydrospheric Atmospheric Research Center
	Information Technology Center

Research Center of Health, Physical Fitness and Sports

Kobayashi-Maskawa Institute for the Origin of Particles and the Universe (KMI)	Center for Theoretical Studies
	Center for Experimental Studies

Organizational Structure



Staff

As of May 1, 2012

Members of the Board of Trustees		
President		1
Trustees		7
Auditors		2
Staff (Full-time)		
Faculty	Professors	646 (36)*1
	Associate Professors	512 (61)
	Associate Professors / Lecturers	109 (71)
	Assistant Professors	430 (245)
	Research Associates	8
	Researchers	0 (151)
	School Teachers at Affiliated Schools	37
Administrative / Technical Staff*2	1,462 (605)	
Total		3,214 (1,169)

*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, 2012

School / Graduate School	Number of Students
Letters	162
Education	77
Law	172
Economics	130
Informatics and Sciences	22
Science	73
Medicine	120
Engineering	402
Agricultural Sciences	60
International Development	180
Mathematics	11
Languages and Cultures	148
Environmental Studies	123
Information Science	61
Pharmaceutical Sciences	1
Education Center for International Students	52
Others	5
Total	1,799

Student Enrollment

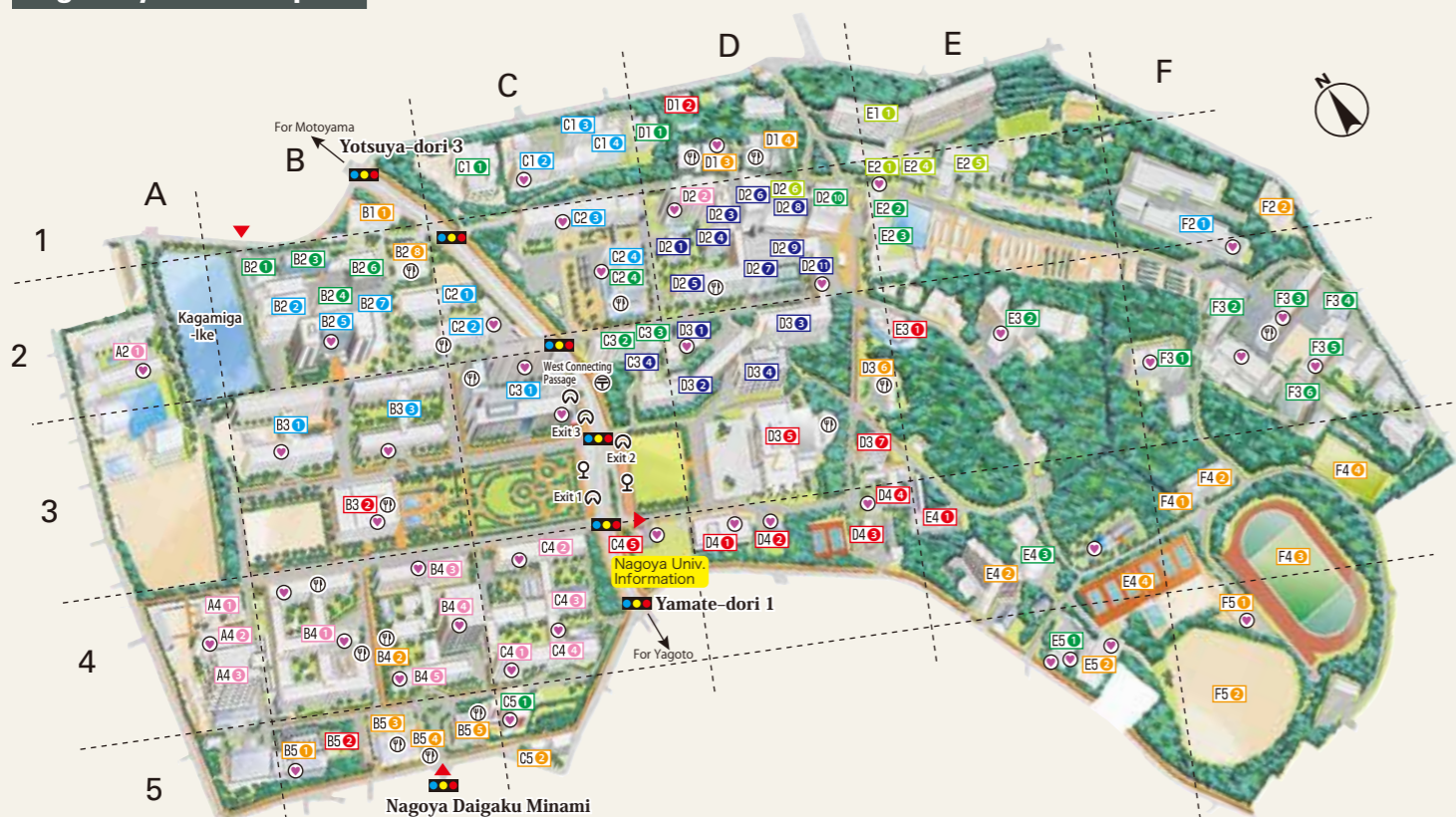
As of May 1, 2012

Name of Schools / Graduate Schools	Undergraduate Courses		Graduate Courses		Total
	Degree seeking	Non-degree seeking	Degree seeking	Non-degree seeking	
Letters	590	62	279	10	941
Education	323	34	245	20	622
Law	685	18	334	84	1,121
Economics	935	18	131	7	1,091
Informatics and Sciences	350	9	-	-	359
Science	1,210	15	577	8	1,810
Medicine	1,544	66	932	25	2,567
Engineering	3,405	37	1,615	23	5,080
Agricultural Sciences	741	9	419	11	1,180
International Development	-	-	285	23	308
Mathematics	-	-	183	6	189
Languages and Cultures	-	-	209	38	247
Environmental Studies	-	-	503	17	520
Information Science	-	-	369	31	400
Human Informatics	-	-	1	-	1
Pharmaceutical Sciences	-	-	30	2	32
Others	-	46	-	-	46
Total	9,783	314	6,112	305	16,514



Campus Map

Higashiyama Campus



Open Facilities

- B3 2 NU Library (Central Library)
- B5 2 NU Museum Botanical Garden
- C4 6 Information
- D4 1 NU Museum (Furukawa Hall)
- D4 2 Information Plaza
- C2 4 Nobel Laureates Gallery (E & S Building)
- B2 6 Akasaki Institute
- D2 10 Chemistry Gallery (Noyori Materials Science Laboratory)

International Conference Venues

- D3 6 Toyoda Auditorium / Symposion
- E3 1 Noyori Conference Hall
- B4 6 Integrated Research Bldg. for Humanities & Social Sciences
- C4 6 Conference Hall (Law & Economics Shared Facilities Bldg.)
- D2 7 Sakata & Hirata Hall (Science South Building)
- C2 4 E & S Hall (E & S Building)
- C3 1 Lecture Hall (IB Building)

University Headquarters: Administrative Services

- B3 7 University Headquarters Building 1
- D4 4 University Headquarters Building 2
- E4 1 University Headquarters Building 3
- D4 6 University Headquarters Building 4
- D1 2 University Headquarters Annex
- C4 1 Graduate School of International Development Building
- C5 1 Education Center for International Students (ECIS)

Schools / Graduate Schools: Administrative Services

- B4 6 Administrative Office, Humanities & Social Sciences
- B4 1 Administrative Office, Informatics & Sciences / Information Science
- D2 11 Administrative Office, Science / Mathematics
- C2 4 Administrative Office (General Affairs & Accounting), Engineering
- C3 1 Administrative Office (Educational Affairs), Engineering
- E2 1 Admin. Office, Agricultural Sciences / Bioagricultural Sciences
- D2 2 Admin. Office, Environmental Studies / Hydrospheric Atmospheric Research Ctr.
- F3 3 Administrative Office, Research Institutes
- B3 2 Administrative Office, NU Library

Institute of Liberal Arts & Sciences

- B4 1 Liberal Arts & Sciences Main Building
- A4 1 Liberal Arts & Sciences Building A

Institute for Advanced Research

- F3 2 Institute for Advanced Research Hall

School of Letters / Graduate School of Letters

- B4 6 School of Letters / Graduate School of Letters Building

School of Education / Graduate School of Education & Human Development

- B4 6 School of Education / Graduate School of Education & Human Development Bldg.
- A2 1 Affiliated Upper & Lower Secondary Schools

School of Law / Graduate School of Law

- C4 6 School of Law / Graduate School of Law (Law & Economics Shared Facilities Bldg.)
- B5 6 Law School

School of Economics / Graduate School of Economics

- C4 2 School of Economics / Graduate School of Economics (Law & Economics Shared Facilities Bldg.)

School of Informatics & Sciences

- A4 6 Graduate School of Information Science Building
- B4 1 Liberal Arts & Sciences Main Building

School of Science / Graduate School of Science

- D3 2 Building A
- D3 3 Building B
- D2 11 Building C
- D2 9 Building D
- D2 6 Building E
- D2 4 Building F
- D2 9 Building G
- C3 4 Shared Facilities Building
- D2 1 Ultra High Pressure Laboratory
- D2 6 Science & Agricultural Building
- D2 7 Science South Building
- D2 6 Science Hall
- D3 1 Facilities for Low Temperature Research

School of Engineering / Graduate School of Engineering

- C2 4 Central Bldg. of Graduate School of Engineering (E & S Bldg.)
- C3 1 IB Building (Integrated Building)
- B2 6 Building 1
- B3 3 Building 2
- B3 1 Building 3
- C2 6 Building 5
- F2 1 Building 6
- C2 1 Building 7, A Wing
- C2 2 Building 7, B Wing
- C1 3 Building 8, North Wing
- C1 4 Building 8, South Wing
- C1 2 Building 9
- B2 2 Mechanical & Aerospace Engineering Laboratory
- B2 7 Mechanical Engineering Laboratory
- C3 1 Creation Plaza (IB Building)

School of Agricultural Sciences / Graduate School of Bioagricultural Sciences

- E1 1 Building A
- E2 6 Building B
- E2 4 Lecture Building
- E2 1 Administration Building
- D2 6 Science & Agricultural Building

Graduate School of International Development

- C4 1 Graduate School of International Development Building

Graduate School of Mathematics

- D3 4 Graduate School of Mathematics Building

Graduate School of Languages & Cultures

- A4 2 Graduate School of Languages & Cultures Building
- B4 1 Liberal Arts & Sciences Main Building
- B4 6 Integrated Research Bldg. for Humanities & Social Sciences

Graduate School of Environmental Studies

- D2 2 Environmental Studies Hall
- B4 1 Liberal Arts & Sciences Main Building
- C2 4 Graduate School of Environmental Studies (E & S Bldg.)
- D2 6 School of Science / Graduate School of Science, Building E
- F3 1 Hydrospheric Atmospheric Research Center

Graduate School of Information Science

- A4 6 Graduate School of Information Science Building
- B4 1 Liberal Arts & Sciences Main Building
- C3 1 IB Building (Integrated Building)

Research Center of Health, Physical Fitness & Sports

- E5 1 Research Center of Health, Physical Fitness & Sports
- C3 6 Health Administration Office

Kobayashi-Maskawa Institute for the Origin of Particles & the Universe (KMI)

- C2 4 Center for Theoretical Studies (E & S Building)
- C2 4 Center for Experimental Studies (E & S Building)

Research Institutes / Inter-University Service Facilities

- E3 2 Research Institute of Environmental Medicine
- E4 3 Cosmic Ray Observatory (STEL)
- F3 3 Solar-Terrestrial Environment Laboratory (STEL)
- F3 3 EcoTopia Science Institute
- F3 1 Hydrospheric Atmospheric Research Center
- C3 2 Information Technology Center

Inter-Departmental Education & Research Centers / Other Facilities

- D1 2 NU Archives (University Headquarters Annex)
- D1 2 Office for Gender Equality
- D4 1 Center for Chronological Research
- B4 6 Center for Developmental Clinical Psychology & Psychiatry
- B4 4 Center for the Studies of Higher Education
- D2 2 Disaster Management Office
- D2 4 Center for Gene Research
- C1 1 Synchrotron Radiation Research Center
- C2 2 Center for Student Counseling
- C2 2 Information Media Center Laboratory
- C3 1 ECIS Advising & Counseling Services (IB Building)
- B2 1 Research Facility for Advanced Energy Conversion, West Building
- B2 6 Akasaki Research Center
- C1 1 Research Facility for Advanced Science & Technology
- C5 1 Education Center for International Students (ECIS)
- C5 1 Center for Asian Legal Exchange
- D1 1 High Voltage Electron Microscope Laboratory
- D2 10 Research Center for Materials Science
- E2 2 Bioscience & Biotechnology Center
- E2 6 Radioisotope Research Center
- F3 6 International Cooperation Center for Agricultural Education
- F3 6 Research Laboratory Building

Industry-Academia-Government Cooperation Facilities

- B2 3 Incubation Facility
- B2 4 Venture Business Laboratory
- B2 6 Headquarters for Industry, Academia & Government Cooperation (Akasaki Institute)
- F3 4 Materials Research Laboratory for Green Vehicle

Sports Facilities

- B5 1 Gymnasium / Indoor Swimming Pool
- E4 4 Tennis Courts
- E5 2 New Gymnasium
- F4 1 Extra Curricular Athletic Activity Shared Facilities
- F4 2 Training Camp Facility
- F4 3 Athletic Field
- F4 4 Softball Tennis Courts
- F5 1 Student Activities Complex Administration Building
- F5 2 Baseball Field

Cafeterias / Shops

- B3 2 STARBUCKS COFFEE
- D3 6 Restaurant UNIVERSAL CLUB
- B4 1 PRANZO
- B4 1 PHONON CAFE ROOM
- D2 5 Craig's Cafe SEATTLE ESPRESSO
- C2 2 Cafeteria NANAMI-TEI
- C2 4 Restaurant Chez Jiroud
- C3 1 IB Café
- F3 3 NU CO-OP Shop (Inter-Departmental Education & Research Facilities, Bldg. 1)
- B2 6 NU CO-OP North - Cafeterias & Shops
- B4 2 Family Mart
- B5 3 South Cafeteria
- B5 4 NU CO-OP South - Cafeterias & Shops
- B5 5 Amenity House
- D1 6 FOREST Books & Café
- D1 4 Green Salon Higashiyama
- D3 6 Staff Hall

Other

- B1 1 Student Hall
- C3 3 Health Administration Office
- C5 2 NU Yakumo Hall
- E4 2 International Residence Higashiyama
- F2 2 Researchers Village Higashiyama
- ☺ Cafeterias and Shops
- ☺ Post Office
- ☺ Subway
- ☺ Bus Stop
- ☺ Automated External Defibrillator
- ☺ Car Entrance



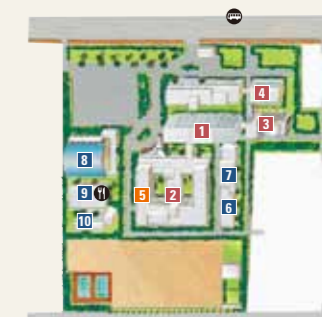
Tsurumai Campus



- 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

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 Gymnasium
- 8 Student Hall
- 9 Researchers Village Daiko
- ☺ Cafeteria
- ☺ Bus Stop

Access



To Higashiyama Campus

From Nagoya Station: Take the Subway Higashiyama Line to Motoyama Station (16 min.), then transfer to the Subway Meijo Line to Nagoya Daigaku Station (2 min.). Higashiyama Campus is just off the subway exit.

From Centrair (Central Japan International Airport): Take the Meitetsu Line to Kanayama Station (24 min.), then transfer to the Subway Meijo Line to Nagoya Daigaku Station (21 min.).

To Tsurumai Campus

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

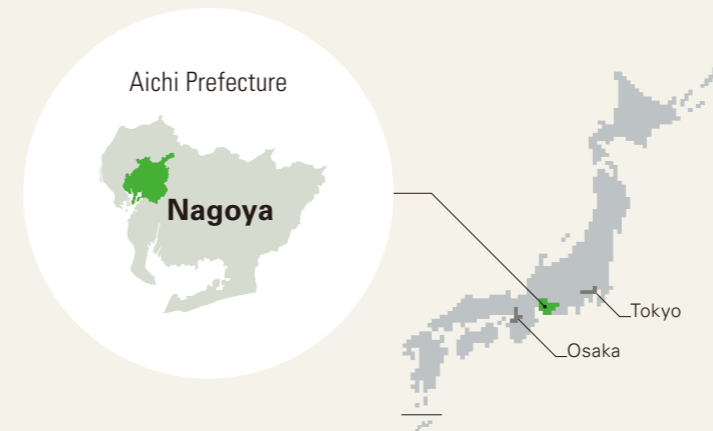
To Daiko Campus

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

To Nagoya Station

From Centrair (Central Japan International Airport): Take the Meitetsu Line (28 min.).
From Tokyo Station: Take the Shinkansen (101 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, downtown Nagoya