

PROFILE

NAGOYA
UNIVERSITY
2009

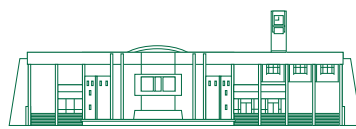


PROFILE NAGOYA UNIVERSITY 2009



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Nagoya University Celebrates
Its 70th Anniversary in 2009



Academic Charter of Nagoya University

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

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

1. Fundamental Objectives: Research and Education

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

2. Fundamental Objectives: Contribution to Society

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

3. Fundamental Policies: Research and Education System

- (1) Nagoya University shall study the various phenomena of the humanities, society and nature from an all-inclusive viewpoint, respond to contemporary issues, and adjust and enrich its education system to generate a new sense of values and body of knowledge founded on humanity.
- (2) Nagoya University shall provide for an education system that rightly inherits and develops intellectual resources cultivated in the world's intellectual

traditions, and promote educational activity that is both advanced and innovative.

- (3) Nagoya University, through the active dispatch of information and exchange of personnel, and interinstitutional co-operation in Japan and abroad, shall shape the international foundation of academic culture.

4. Fundamental Policies: University Administration


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

(This translation is provisionally prepared and subject to change without notice.)

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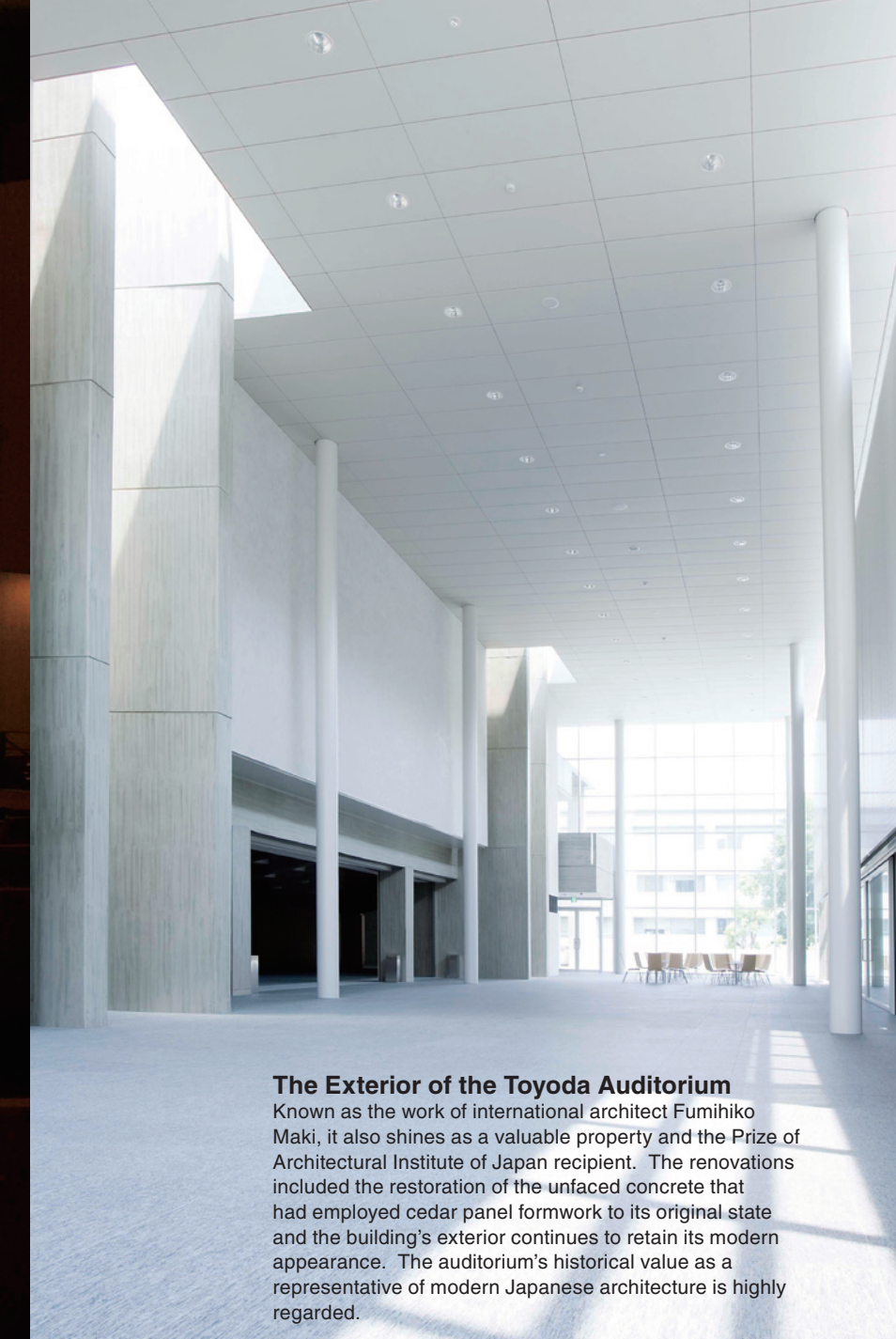


The Toyoda Auditorium was constructed in 1960 as the symbol of Nagoya University. Over the past half-century, many people have grown attached to the auditorium but, in order to expand on its functionality in preparation for the 70th Anniversary, renovations began in 2006. While it continues to retain its appearance from its original construction, the latest equipment has been introduced and it was completely reborn in December 2007. It is a facility that exudes an air of culture appropriate to a center for the international dispersion of research and education and its potential is ever-increasing.

Renovation of the Symbol of Nagoya University, the Toyoda Auditorium, as the Cornerstone of Nagoya University's 70th Anniversary Project

Toyoda Auditorium Hall

Acoustics, lighting, and air-conditioning were improved for greater functionality and comfort. The functions of the stage were extended and improved and it has evolved into a center for academic and cultural dispersion, such as the hosting of musical and theatrical performances. In addition, seats have been placed a greater distance apart and preparations for computer use, such as electrical outlets and LAN systems, have been installed. A simultaneous interpretation booth has been set up and the hall has been fully equipped in order to properly perform as a hosting place for international symposiums.



The Exterior of the Toyoda Auditorium

Known as the work of international architect Fumihiko Maki, it also shines as a valuable property and the Prize of Architectural Institute of Japan recipient. The renovations included the restoration of the unfaced concrete that had employed cedar panel formwork to its original state and the building's exterior continues to retain its modern appearance. The auditorium's historical value as a representative of modern Japanese architecture is highly regarded.

Three Nagoya University Alumni Receive 2008 Nobel Prizes



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



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



The Royal Swedish Academy of Sciences announced on Tuesday, October 7, 2008 that it would award the Nobel Prize for Physics to three esteemed scientists among whom are Nagoya University graduates Toshihide Maskawa, a Nagoya University Distinguished Invited University Professor and professor of physics at Kyoto Sangyo University, and Makoto Kobayashi, Professor Emeritus at the High Energy Accelerator Research Organization. These two scientists received the Nobel Prize for “forecasting, over three decades ago, the discovery of the origin of symmetry violation despite the rarity of quarks in nature.” In 1972, they presented the Kobayashi-Maskawa Theory which states that the violation of CP symmetry can be explained if there are six types of quarks, the subatomic particles which make up physical matter. This theory was proved in 1995 with the discovery of the sixth type of quark: the “top quark.” Among the numerous theories that attempt to explain CP symmetry violation, the Kobayashi-Maskawa Theory is considered the most concise and well-formed theory and is today’s basic standard theory.

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

Professor Kobayashi graduated from Nagoya University in 1967 and, after completing a doctoral course in science in 1972, he became a research associate at Kyoto University (Faculty of Science). He later became a professor at the National Laboratory of High Energy Physics and then the Director of the Institute of Particle and Nuclear Studies at the High Energy Accelerator Research Organization before becoming a Professor Emeritus at that same institute.

The Academy also announced on Wednesday, October 8, 2008 that Professor Osamu Shimomura will be among the three distinguished scientists at America’s Boston University to receive the 2008 Nobel Prize for Chemistry. They were awarded with this for “the discovery and development of green fluorescent proteins (GFP).” Professor Shimomura was the first to discover GFP in luminous jellyfish and to succeed in refining it. Using this GFP as a marker, it is possible to directly observe the behavior of proteins in living cells. This significant contribution to the development of molecular biology and biosciences is considered to be of great value.

Professor Shimomura spent two and a half years at Nagoya University’s School of Science as a research student and received his Ph.D. in Science in 1960. In that same year, he went to Princeton University as a Fulbright scholar and, for two years beginning in 1963, he belonged to Nagoya University’s School of Science as an associate professor.



Prof. Maskawa and Prof. 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”

Global COE Programs in Nagoya University

Based on assessments of the “21st Century COE Program” and verifications of its results to date carried out by Japan’s Ministry of Education, Culture, Sports, Science and Technology (MEXT) from FY2002, a decision was made to establish the “Global COE (Centers of Excellence) Program.” The program will provide funding support for establishing education and research centers that perform at the apex of global excellence to elevate the international competitiveness of the Japanese universities. The program will strengthen and enhance the education and research functions of graduate schools, to foster highly creative young researchers who will go on to become world leaders in their respective fields through experiencing and practicing research of the highest world standard.

Highlights of Research Projects at Nagoya University Global COE Programs

2007

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

2008

Field	Program Title	Program Leader
Medical Sciences	Integrated Functional Molecular Medicine for Neuronal and Neoplastic Disorders	Graduate School of Medicine Prof. SOBUE, Gen
Mathematics, Physics, Earth Sciences	Quest for Fundamental Principles in the Universe	Graduate School of Science Prof. SUGIYAMA, Naoshi
Mechanical, Civil Engineering, Architectural & Other Fields of Engineering	COE for Education and Research of Micro-Nano Mechatronics	Graduate School of Engineering Prof. FUKUDA, Toshio

Aiming for the Development of World-leading Researchers

As one of the world’s top centers for research and education, what kind of researchers are being developed at Nagoya University? A look at the three centers selected for the Global COE Program in 2007 reveals the educational strategies in place.

Each of these centers is representative of Japan and has globally-recognized research activities and the challenge that they are undertaking is the creation of a plan for the development of researchers who can compete at a global level. Their various challenges and the prospects for the coming generation are being intently observed.

Young researchers from countries all over the world gather at Professor Watanabe’s center. They work in cooperation to take on the challenges of research while deepening their understanding of their respective cultures and customs. In an atmosphere in which thought and conversation in English is the norm, an international mindset is being cultivated on a daily basis.



Aiming for the Development of World-leading Researchers

Establishment of COE for Elucidation and Design of Materials and Molecular Functions

Development and growth is accelerated by a highly-advanced research environment that makes effective use of international networks

Responding to all Social Expectations for Science

In the midst of the quickening pace of the fight to secure national-level talent, the "Establishment of COE for Elucidation and Design of Materials and Molecular Functions" under the leadership of Professor Yoshihito Watanabe is promoting the globalization of education. This center has assembled talent individuals from Graduate Schools of Science and Engineering and is all-inclusive in its subjects of research, responding to the expectations that modern society has for all fields of science - from synthetic chemistry, exemplifying developments in medicine, to biological sciences which strive to elucidate various natural phenomena, molecular-scale nano-science research such as fullerene and nanotubes, and macro-molecular science that supports Japanese industry. Its members progress in their research while exchanging information and the results are attracting a great deal of attention as that which will one day in turn benefit the entire world.

Beginning with Nobel Prize Laureates, Researchers from Around the World Assemble

In regard to the globalization of education, anyone would agree that Nagoya University's strength lies in its research climate. The practicing faculty of professors has, from the



outset, consisted of world-renowned researchers such as Nobel Laureate University Professor Ryoji Noyori and inventor of the carbon nanotube, Distinguished Invited University Professor Sumio Iijima, who form this major center for research. In pursuing research collaboration, a steady flow of talented individuals from various countries is emerging. Our center makes full use of global networks that have these type of researchers and hosts international seminars by the world's foremost researchers. The educational impact that watching and listening to these individuals has on the next generation of young researchers is immeasurable.

Aiming for the Establishment of a True Center as a University Open to the World

Our strong point is not limited to our large body of faculty but also lies in our practical strategies for globalization. This, of course, includes practical English education but also the standardization of the center's website in English and the construction of a format in which details regarding research can be posted for the benefit of overseas students. For this purpose, an associate professor from Germany was invited and has become liaisons to support the matching-up of international students and faculty members. In addition, we also post application information for research workers on a website which is viewed by Ph.D. students all over the world. At present, 50% of the Ph.D. researchers on staff are from overseas and are already obtaining results. In the words of Professor Watanabe, "What we are aiming for is not merely to participate on a global level from within Japan but to create a center for research and education in which it is common for overseas students and researchers to be found in any laboratory."



Research Center for Materials Science
Professor

Yoshihito Watanabe
Center Leader



In a laboratory lined with breeding tanks for zebra fish, the primary group for molecular biology and mathematical analysis conducts experiments to confirm computer-simulated predictions. Various types of education is progressing the laboratory of Professor Shigeru Kondo, member of the Center for "Advanced Systems Biology: Designing the Biological Function."

Advanced Systems Biology: Designing the Biological Function

Raising researchers possessing a multitude of skills and working toward a leading center for the next generation of bioscience

Cultivating Additional Research Abilities Beyond Molecular Biology

This is an age in which researchers require, along with an international outlook, abilities and mindsets that are not

restricted to a single field of specialization. In bioscience research as well, it is becoming necessary for coming researchers, who will make new inroads in genome analysis, to possess numerous skills for the analysis of various natural phenomena in addition to the usual range of skills in molecular biology. In the program "Advanced Systems Biology: Designing the Biological Function" led by Center Leader Professor Takao Kondo, Graduate Schools of Science and Bioagricultural Sciences are working in cooperation in various areas of research such as the formation of striped patterns in fish and biological clocks as

Aiming for the Development of World-leading Researchers

well as rice-breeding technology. In order to develop the individuals in this program, a number of educational policies set forth for the purposes of cultivating additional abilities outside of molecular bioscience. This entails a close examination of the limits of molecular biology and following new directions in systems biology research defined by the body of professors.



Great Advantages for the Cutting Edge of Systems Biology

Until now, the limits of molecular biology lay in the fact that, although the movements of individual genes could be explained, that knowledge alone could not explain the various phenomena generated by the interaction of a great number of gene factors. "In automobiles, an optimal engine is designed through the combination of an understanding of the functions of the various parts with the engine's purpose within the car. Biologists cannot actually design life; however, unless we understand life to that level, we cannot be said to have a true understanding." As expressed in the words of Professor Kondo, we are seeking new advances in biological science. To that end, our center promotes the acquisition of diverse techniques in molecular structure analysis, information theory, and mathematical analysis in order to elucidate the inevitable and accidental occurrences of a number of natural phenomena through a variety of approaches. If young researchers gain multiple abilities, professors anticipate this to be a great advantage in participating at the global forefront of research in the future.

Developing Nagoya University's First Trial Education Program

What makes this program unique is that it was developed for the purposes of the acquisition of additional abilities. In the "Second-Discipline Acquisition System," students spend a fixed period of time in a different research laboratory in order to broaden their research style and perspective and the "Pre-fellow System," involves practical study in other laboratories for a six-month period prior to functioning

as postdoctoral fellows or researchers. These systems are both generating attention as Nagoya University's initial ventures in this program. Furthermore, we are also implementing support systems for participation in internships in overseas enterprises and seminars in which participants stay for multiple days in other facilities in order to promote collaboration between Graduate Schools of Science and Bioagricultural Science. These innovative approaches, that aim to cultivate researchers with these diverse abilities, also possess great potential as a new model for education at Nagoya University.



Graduate School of Science
Professor

Takao Kondo
Center Leader



Valuable old documents are also the object of study at Professor Sato's center which encourages textual research. The document appearing in this photograph is a text by a 7th century Merovingian King. Deciphering the text requires a knowledge of the background of the era in which it was written and the educational content can be transferred to a wide variety of subjects.

Hermeneutic Study and Education of Textual Configuration

Producing researchers benefiting from international understanding through textual research

Unprecedented World-Class Research in the Field of Cultural Studies

In comparison with the sciences, the barriers of language and culture are more difficult to breach and it can be difficult to progress in global-level research in the humanities. However, Nagoya University also possesses a global research and education center in the field of humanities: the "Hermeneutic Study and Education of Textual Configuration" Center led by Professor Shoichi

Sato. Based on the Graduate School of Letters, the present center publishes the research results internationally, hosts international symposiums at a rate of three times per year. Through collaborative relationships with overseas research facilities, countless opportunities for graduate students to experience state-of-the-art research are being arranged. We are also making endeavors to educate researchers with strong international communication capabilities through instruction on the preparation of dissertations and presentations in English and French.

The Study of Textual Configuration as a Social Benefit in Law and Economics

The purpose of the research being conducted at this center is the elucidation of the relationship of textual configuration and the various factors such as characters and language

that allow for the formation of text. For example, while an author's linguistic experiences and history is reflected in his/her literary works, the readers, too, have their own experiences and personal history with language and without a comprehension of this, a full interpretation of a work is not possible. Inconsistencies exist between these two perspectives and the interpretation of the work is not so straightforward nor simple. The importance of the interpretation of textual configuration is increasing in today's society. The interpretation of legal documents, in particular, is becoming an important theme in the operation of a judicial system in which common citizens participate. Additionally, in global economic activities, the depth of communication will differ based on the understanding, or lack thereof, of the context of another party's proposals. For these purposes, our center also has the participation of researchers from Graduate Schools of Law and Economics. Research and education in legal text and economic theory are also included in this field.



Communicative Capabilities that will Lead the Way to Resolving World Problems

Professor Sato expresses the following about their expectations of the graduate students who are undertaking the challenges in textual configuration research: "Regardless of whether you become a researcher or whether you enter into society, it is vital to have the awareness that communication is not merely the imparting of information to another party. If you have a deeper understanding of that person and a broader sense of their social context, would it not be possible to resolve many confrontations and conflicts?" Misunderstandings that arise from insufficient understanding complicate a great variety of problems in today's global society. Thus, talented people who are able to pursue all types of problems and resolve them are very much in demand. The figures of "Courageous Intellectuals," referred to in Nagoya University's academic charter, are coming into view at our center.



Graduate School of Letters
Professor
Shoichi Sato
Center Leader

Increasing Japan's Competitive Capabilities – People of Talent who will Carry the World Forward

What becomes apparent upon examination of the challenges that these centers have undertaken? This includes the establishment of an international mindset as a university open to the world and the provision of a wider variety of opportunities for researchers to expand their horizons, which could act as a solution to problems that encumber Japanese graduate education. For a country lacking in natural resources, human talent is the primary resource in global competition. Through its original educational program, Nagoya University is cultivating a wide range of abilities such as high-level research capabilities and international awareness in order to increase Japan's global competitive capabilities and to produce people who can contribute to resolving the problems that are facing the world.

Global COE Programs in Nagoya University Established in 2008

Integrated Functional Molecular Medicine for Neuronal and Neoplastic Disorders Professor, Graduate School of Medicine, Gen Sobue

Creation of interdisciplinary research in functional molecular medicine

Conquering neurodegenerative disorders and cancer is the key challenge for medicine in the 21st century, requiring an understanding of the pathogenesis of these disorders to establish new treatment modalities. Groundbreaking research has begun for both of these diseases worldwide, and the next decade will be crucial period for the task at hand. The urgent need is to fight these disorders from a global perspective, and train world-class young researchers. We in our previous 21st Century COE Program "Integrated Molecular Medicine for

Neuronal and Neoplastic Disorders" have demonstrated the deep involvement of functional molecule common to the pathogenesis of both neurodegenerative disorders and cancer, and targeting these molecules through interdisciplinary approach with researchers in other fields has produced many novel research findings. Integrated research into these two disorders has led to achievements on the highest international level and the cultivation of many outstanding young researchers.

Our Global COE program will further develop the educational and research concepts that we have established through this approach, and will further aim to form a new COE program,

"Integrated Functional Molecular Medicine for Neuronal and Neoplastic Disorders". This will be achieved through a high level of expertise among young researchers and cutting-edge studies that advance research for the world at large. The three missions of the program are to pursue the functional molecules common to both these disorders, and to promote the treatments that target these common functional molecules. The Nagoya University Graduate School of Medicine, together with the neighboring institutes, National Institute for Longevity Science and the Aichi Cancer Center, will bring together world-class researchers with the aim of creating major educational and research program.

Quest for Fundamental Principles in the Universe: From Particles to the Solar System and the Cosmos Professor, Graduate School of Science, Naoshi Sugiyama

For a thorough understanding of the Universe

How did the cosmos begin? How did the galaxies, stars, planets and life evolve? This is the ultimate question, not only for scientists, but for all human beings. "Quest for Fundamental Principles in the Universe" is a Global COE program, which brings together researchers in space-related physics at Nagoya University, recognizing the diversity of universe, and seeking a thorough understanding of it.

Division of Particle and Astrophysical

Science has long and glorious tradition. Late Professor Sakata led the elementary particle group. Among his students, Professor Makoto Kobayashi and Toshihide Maskawa won the Nobel Prize in physics, 2008. Late Professor Sachio Hayakawa was one of the founders of space astrophysics in Japan. His group comes down to space X-ray and Infrared groups of this GCOE program. In addition to the researchers in the Division of Particle and Astrophysical Science who also have been driving the 21st century COE Program, "Origin of the Universe and Matter," over the past five years,

research groups in space science fields of the Solar-Terrestrial Environment Laboratory, mathematical physicists and planetary scientists have newly joined to establish a center of excellence where world-leading space research is conducted and related education is provided. In this Global COE Program, research in theory, observation and experimental work are to be conducted with strong collaboration. It is also implemented at own overseas observatories and in many international joint research programs.

COE for Education and Research of Micro-Nano Mechatronics Professor, Graduate School of Engineering, Toshio Fukuda

Outline of the Program

Our Center strives to foster "young researchers who dare to challenge unexploited fields" by building a novel interdisciplinary field based on micro-nano mechatronics. This field will promote "the world-highest-level of micro-nano mechatronics research with an emphasis on originality" from a viewpoint of not only the acquisition of advanced technology, but also social

issues. To promote our program, the Department of Micro-Nano Systems Engineering, Graduate School of Engineering, which has been a forerunner in the micro-machine field in this world, will play a central role, and top researchers in the fields of advanced materials, mechanical science, system measurement/control engineering, and advanced bio-medicine will work together. Our Center aims not only to create novel functional

materials and advanced mechatronics, but also to discover breakthroughs in next-generation medicine. Utilizing UCLA and our affiliate international education and research environments, our program will cultivate "interdisciplinary research leaders who are internationally competitive" and can promote applications of micro-nano mechatronics, and advanced biomedical field.

Inviting the world's foremost researchers and making great strides in education and research



Distinguished Invited University Professor Sumio Iijima

Doctor of Science; born 1939. Completed his graduate studies in science and a doctoral course specializing in physics at Tohoku University. Entered the NEC Corporation after his time as a researcher at Arizona State University (US). Discovered carbon nanotubes in 1991 and was honored for this achievement with various awards including the Benjamin Franklin Medal in Physics. Presently a senior research fellow at NEC and professor of the Faculty of Science and Technology at Meijo University.

The "Distinguished Invited University Professorship" was established in April 2007. This was introduced for the purposes of the even greater promotion of education and research activities through the invitation of world-leading researchers with formidable achievements and the solicitation of their advice regarding research. Researchers who received the recommendation of the Honorary Directors of the Institute for Advanced Research, honorary doctorates, and education and research centers, such as the Global COE Program, were welcomed as Distinguished Invited University Professors.

The first to assume this position was Meijo University Faculty of Science and Technology professor Dr. Sumio Iijima, responsible for the discovery of carbon nanotubes and known as the world's foremost specialist in high-resolution transmission electron microscopy. He was followed by Kyoto Sangyo University Faculty of Science professor and Professor Emeritus at Kyoto University, Dr. Toshihide Maskawa, a Nagoya University alumni who formulated what has become the basic "standard theory" for particle physics and received the Nobel Prize for Physics in 2008. Tokyo Metropolitan University professor Dr. Masatsune Kainosho, who developed the next generation of analysis and description of the construction of proteins, and visiting researcher at Princeton University Professor

Syukuro Manabe, who is leading the world in global weather modeling and prediction, were also invited. In 2008, a further two professors were invited for a total of six Distinguished Invited University Professors to date: School of Science alumni Dr. Makoto Kobayashi, Professor Emeritus at the High Energy Accelerator Research Institute and, along with Dr. Maskawa, recipient of the 2008 Nobel Prize for Physics, and Professor Emeritus at Boston University Dr. Osamu Shimomura, who, after receiving his Ph.D. in science and working as an associate professor at our university, discovered the green fluorescent protein GFP and received the 2008 Nobel Prize for Chemistry. In addition to the international seminars conducted by the Distinguished Invited University Professors to date, progress has been made in collaborative research in each field. Listening to researchers who have produced world-altering innovations leaves a profound impression on students and young researchers, as does the effect of sharing the same workspace as illustrious senior researchers and being immersed daily in research attitudes that seek out truth, and this is reigniting their drive for research. The presence and counsel of the Distinguished Invited University Professors revitalizes the educational and research atmosphere of the campus and is expected to lead to even greater progress at Nagoya University.



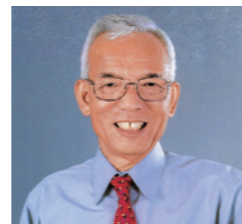
Distinguished Invited University Professor Toshihide Maskawa

Doctor of Science; born 1940. Completed his graduate and doctoral courses in science at Nagoya University. After his professorship in the Kyoto University Graduate School of Science, is presently a professor at Kyoto Sangyo University Faculty of Science and Professor Emeritus at Kyoto University. Presented the "Kobayashi-Maskawa Theory" in 1973 alongside Professor Emeritus of the High Energy Accelerator Research Institute Dr. Makoto Kobayashi, who, at that time, was a research associate at the Kyoto University Faculty of Science. Honored in 2001 as a Person of Cultural Merit and in 2008 with the Nobel Prize for Physics.



Distinguished Invited University Professor Masatsune Kainosho

Doctor of Science; born 1942. Graduate of Tokyo Metropolitan University. After time at Ajinomoto Inc.'s central research facility, then as a researcher at the California Institute of Technology, and as a professor of chemistry at Tokyo Metropolitan University Faculty of Science, is presently Designated Professor at Tokyo Metropolitan University.



Distinguished Invited University Professor Syukuro Manabe

Doctor of Science; born 1931. Completed his doctoral studies in science at the University of Tokyo. After time as a Senior Research Meteorologist at America's National Oceanic and Atmospheric Administration, as a Lecturer with Rank of Professor at Princeton University, and as a specialist at the Frontier Research Program for Global Change, is currently a Senior Meteorologist at Princeton University. World authority on global warming research and recipient of a number of awards, beginning with the Blue Planet Award.

The first national university to establish an overseas center for industry-academia-government cooperation – a gateway to connect local regions with the world

At Nagoya University, high priority has been placed on industry-academia-government cooperation, the creation and practical application of intellectual property, and the establishment of venture companies originating from the university to promote the development of the university's seeds of technology through cooperation with the industrial sector and to contribute to local society. Furthermore, in order to increase response to not only the national but also the global market in the future, we are promoting industry-academia-government cooperation on an international level. Efforts are intensifying toward the enrichment of our industrial foundation as a center for the execution of our role as a gateway for the Chubu region's international industry-academia-government cooperation as well as a base for world-class scholarship, international exchange promoted at the university level, and manufacturing and production that attracts investment from overseas.

As a beginning, in 2007, an agreement for industry-academia cooperation was concluded with North Carolina State University (US), the University of North



North Carolina State University

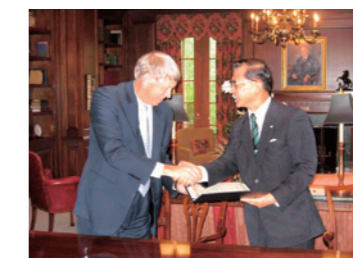
Carolina at Chapel Hill, and the University of Warwick (UK), which has achievements in university-originated venture companies. In January 2008, the nonprofit corporation "Nagoya University Technology Partnership" was established in the state of North Carolina, which has the third largest biotech cluster in the US. As a center for industry-academia-government cooperation, it provides a gateway for both the mutual exchange of information and matching by universities and industry overseas and in the Chubu region. This is expected to aid in the placement of personnel and to support the creation of joint research in new technology.

This is the first venture in the placement of a nonprofit corporation by a national university in an overseas locale. Preparations have been made in the legal aspects regarding international treaties and work has begun in earnest at last. In the future, we intend to enrich the exchange between cooperating centers through inter-university office-sharing and exchange of staff while expanding the network of overseas centers of industry-academia-government cooperation and contributing innovations that will overcome national borders.



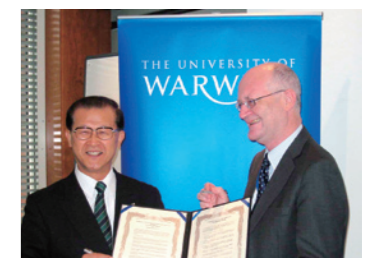
Cooperation with North Carolina State University

In September 2007, an industry-academia-government cooperation agreement was concluded upon the establishment of the center in North Carolina. North Carolina State University achieves excellent research results in the fields of agriculture, engineering, biosciences, and fibers, and, in 1985, a university-wide agreement was concluded regarding academic exchange. It is a leading member of the Academic Consortium (AC21) being organized at universities worldwide.



Cooperation with the North Carolina University at Chapel Hill

An industry-academia cooperation agreement was concluded in September 2007. The North Carolina University at Chapel Hill takes pride in its outstanding research achievements in biotechnology, medicine, and pharmaceuticals and, in 1989, Schools of Medicine were connected by an academic exchange agreement. Along with North Carolina State University, the university is strengthening its system of cooperation as a care of international industry-academia-government cooperation.



Cooperation with the University of Warwick

An industry-academia cooperation agreement was concluded in November 2007. The University of Warwick is a prominent facility for higher education in England that has secured an international reputation from its excellence in research and lectures. It also possesses Europe's foremost business school, technology research facilities, and venture corporations such as Science Park. It is a leading member of the Academic Consortium (AC21).

Forging a Community of the Highest Caliber Initiatives of the Institute for Advanced Research and its Special Rearing Plan for Researchers

Today's universities have two fundamental missions; on the one hand, a university must provide education of the highest caliber, while on the other, it must pursue basic, advanced, and applied research with results that benefit sustainable environments and societies. Universities commonly fulfill these responsibilities through the establishment of specific departments and programs that pursue specialized research. However, we believe it is also incumbent upon the university itself to directly support research at a level that surpasses the concerns of any one of its constitutive departments. In accordance with this belief, Nagoya University established the Institute for Advanced Research (IAR) in 2002 with a mandate to achieve an unsurpassed level of research that would conform not to the research agendas of unique departments but precisely to the university's broad mission as a whole. We also set as a goal the global circulation of research conducted at IAR, believing that it would also enable a wider dissemination of the high quality work already being undertaken at Nagoya University.

In order to realize these meaningful objectives, IAR follows a competitive evaluation of research projects to select its Institute Faculty from among the finest researchers working at Nagoya University. The selected Institute Faculty are then provided with the best possible environments for conducting their research. With such excellent conditions, Institute Faculty are able to accomplish innovative, pioneering research that meets international standards of excellence and that serves as a useful contribution to humanity's intellectual resources. Finally, through the domestic and international promotion of the research being done at the Institute and its contribution to society, it is hoped that Nagoya University can fulfill its social responsibilities.



Enabling superior research means not simply providing the conditions for complete dedication to one's work, but also providing an intellectual space where researchers stimulate each other through an exchange of interests, methodologies, and results, and where a culture of lively debate encourages intellectual growth. With its focus on pioneering research and on the nurturing of young scholars, IAR sets as its task the development of a "public intellectual arena."

When the Institute promotes the research results that have emerged from such an arena of advanced intellectual creativity, Nagoya University is able to not only communicate its importance, but also encourage the University's inclusion in the global circulation of knowledge. By functioning simultaneously as a contributor to and as a recipient of broadly disseminated intellectual resources, IAR enables the reciprocal circulation of knowledge that is an important ingredient for superior research.

Special Rearing Plan for Researchers by IAR

The "Special Rearing Plan for Researchers" is introduced as a new program in IAR supported by JST, Japan Science and Technology Agency. IAR manages international recruitment and selection of the candidates. Adopted researchers are provided with personnel expenses, research grants, employment costs of PD researchers and laboratory spaces in order to encourage independent research activities. The researchers are requested to experience some educational work at the corresponding department. At the end of the 5-year period, IAR evaluates the researchers' activity and ability, and recommend the tenure endowment to the corresponding department.

Blessed with fulfilling research and education systems, IAR selects prominent tenure candidates and foster young researchers with broad vision and research ethics through the support for individual research activity and activities at IAR.

Legal Assistance in Asia as a Leader in Judiciary Globalization

Beginning in 1998, the Graduate School of Law has been making great efforts in support for legal education to produce superior legal professionals as a part of legal assistance. To date, numerous international students from Asian countries, including professionals employed as lawyers and judges, have been accepted and through education about Japanese law in English, these talented people have been returned to their respective countries equipped with greater knowledge. In order to establish a true system of support based on these achievements, "Research and Education Centers for Japanese Law" to conduct education about Japanese law in Japanese have been opened at the Uzbekistan's Tashkent Institute of Law, the National University of Mongolia, and in the Vietnam's Hanoi Law University.

In 2008, a center was established in Cambodia and the opening ceremony was conducted at the Royal University of Law and Economics.

This center is intended for students in the Royal University of Law and Economics Faculty of Law and it develops legal professionals that possess a thorough knowledge of Japanese law through instruction on that subject in English as well as aiming to contribute to future legal assistance in Cambodia.

Nagoya University's endeavors in Asia are leading the way in the internationalization of Japan's judiciary as well as garnering expectations for further expansion of support action in the future.



Inauguration Ceremony of Research and Education Center for Japanese Law (Cambodia, 2008)

Summer Intensive Program at Nagoya University (NUSIP)

With the support and co-operation of the Japanese automobile industry and related enterprises, Nagoya University Graduate School of Engineering held a summer program entitled "Latest Advanced Technology & Tasks in Automobile Engineering" over the six-week period of June 2 – July 11, 2008. The program was conducted entirely in English and was directed at overseas students as well as Nagoya University students in engineering-related fields. The greatest feature of the program was the structure of 13 lectures from various viewpoints regarding state-of-the-art technology in areas such as hybrid automobiles, fuel cells, environmental strategies, accident prevention, and expressway traffic. These lectures were conducted with the support of the industry's cutting-edge technologists and researchers as well as the faculty of Nagoya University.



Although this program was short in duration, its objectives were to enable overseas students to study in Japan and, through the study in fields in which Japan specializes, to increase interest in Japan as well as to improve the English and communicative skills and broaden the international horizons of Nagoya University students in conjunction with study in their field of specialty.



Promoting active leaders in the field of environmental problem solution around the world

Air pollution, water pollution, waste management, biodiversity conservation, and global warming and climate change – developing countries including the Asian and African region have been facing serious environmental problems as a result of rapid economic growth and social changes. Finding solutions for environmental problems is not an easy task since there are various factors involved such as health education, development of infrastructure, energy resources security, integration of environmental and economic concerns and globalization. These

difficulties need to be overcome in order to achieve sustainable development both at national and global scales.

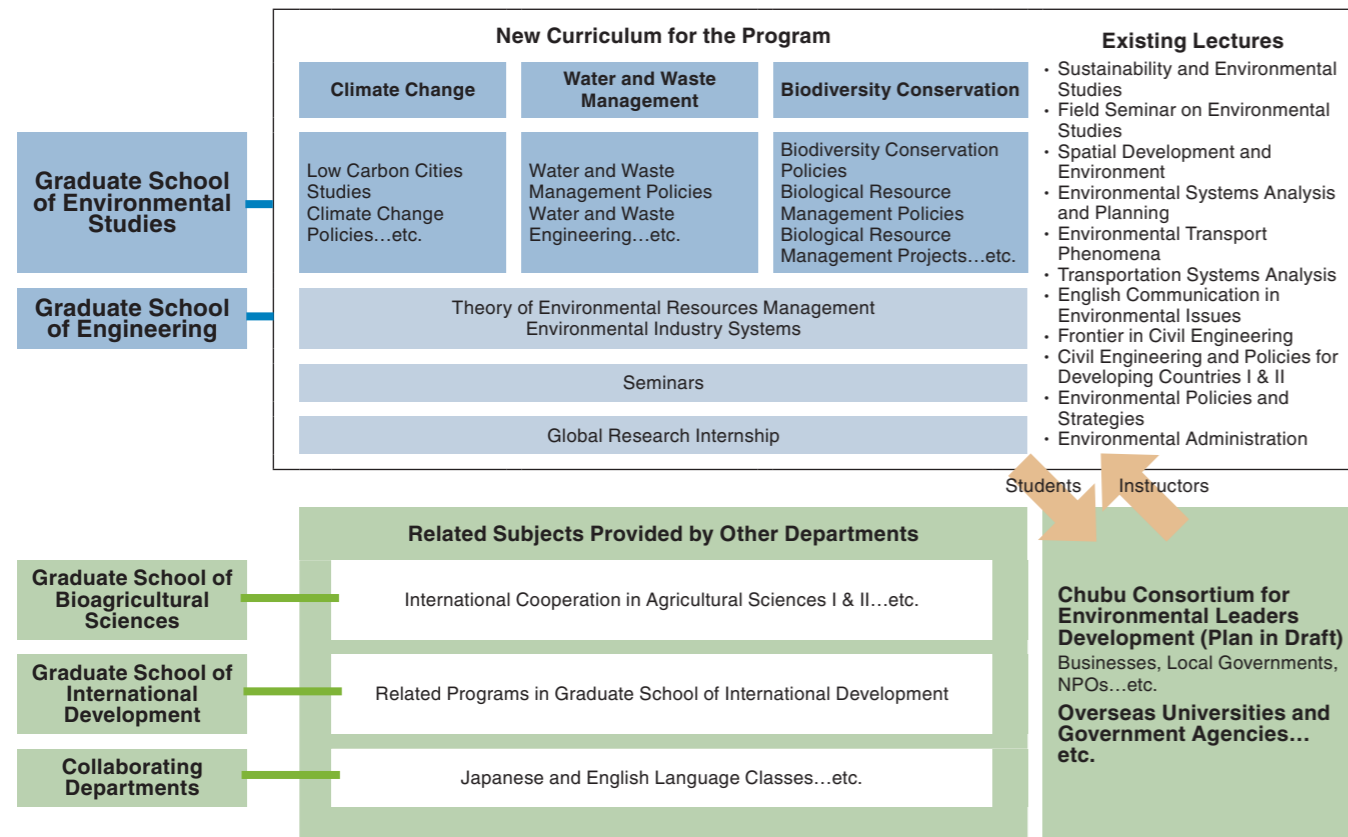
The key to solving these problems are environmental specialists who have the expertise and ability to implement relevant projects. There is therefore an urgent need to educate professionals possessing competitive skills and translating these skills into concrete action.

In 2008, Nagoya University established “Nagoya University Global Environmental

Leaders Program,” a master’s course, to foster people who are able to understand and analyze environmental problems in a global perspective, and able to propose concrete methods for solving problems. We commit ourselves to become a global center of learning where motivated students, from Asian and African countries etc., including Japan come to acquire their accomplishments by deploying various efforts such as providing distinctive curriculum design and student services for them.

Curriculum Model

A comprehensive set of lectures, seminars, and internships is provided so that students can acquire deep understanding of scientific mechanism of environmental problems, policy measures, management technologies, interdependence of environment and development, etc.



International Networks

Academic Consortium 21 (AC21)

The Academic Consortium for the 21st Century (AC21) is an international partnership of leading research universities committed to innovation in education, research and academic governance through collaborative action. AC21 was established on June 24, 2002 at the International Forum 2002 hosted by Nagoya University, Japan. 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 21.”



(Japan), Nanjing University (P.R. China), National University of Laos (Laos), North Carolina State University (U.S.A.), Northeastern University (P.R. China), Peking University (P.R. China), Shanghai Jiao Tong University (P.R. China), Tongji University (P.R. China), University of Adelaide (Australia), University of Freiburg (Germany), University of Sydney (Australia), University of Warwick (U.K.)

Other international networks Nagoya University belongs to:

International Forum of Public Universities (IFPU)



Limited to some twenty-five establishments, the Forum brings together public universities covering a vast array of contemporary knowledge, establishments that are recognized within their country for the importance they afford to research and their close ties to the development of society.

AC21 Member Institutions

Chemnitz University of Technology (Germany), Chulalongkorn University (Thailand), Fudan University (P.R. China), Gadjah Mada University (Indonesia), Huazhong University of Science & Technology (P.R. China), Jilin University (P.R. China), Kasetsart University (Thailand), Nagoya University

Nagoya University Program for Academic Exchange (NUPACE)

The Nagoya University Program for Academic Exchange (NUPACE), established in February 1996, is a short-term student exchange program, through which international students enrolled at Nagoya University’s partner institutions are given the opportunity to study in Japan for four to twelve months. The program aims to forge friendships that extend beyond borders, internationalize through education, and motivate overseas students to pursue more extensive studies with regard to Japan. The NUPACE academic

year runs from late September to August of the following year, and students are offered a choice of two admission periods: late September or early April. As to the program itself: NUPACE offers a unique and flexible curriculum consisting of Japanese language instruction, Japan area/intercultural studies and a wide range of courses in the student’s major field of study. In principle, the medium of instruction is English. Provided that students meet the minimum requirement of twelve credits per semester, they are free

University Mobility in Asia and the Pacific (UMAP)



UMAP was founded in 1993. It is a voluntary association of government and non-government representatives of the higher education (university) sector in the region. UMAP aims to achieve enhanced international understanding through increased mobility of university students and staff.

Collège Doctoral Franco-Japonais (CDFJ)

The CDFJ is a unique student exchange program for doctoral level between the Japanese and French university consortium. Successful candidates will be provided an opportunity to study one year at a member university of the consortium abroad with scholarship.

OpenCourseware Consortium

The OpenCourseWare Consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model.

International Branches of Nagoya University Alumni Association (NUAL)

In October 2002, the Nagoya University Alumni Association (NUAL) was founded with over 100,000 members, and since 2005, it has set up several overseas branches in Asia. These NUAL branches are expected to function as a communication and networking

base for alumni in these areas.

Korea Branch (May 2005)
Bangladesh Branch (October 2005)
Shanghai Alumni Association (November 2005)

Thailand Branch (December 2005)
Beijing Alumni Association (May 2007)
Vietnam Branch (September 2007)
Cambodia Branch (September 2008)

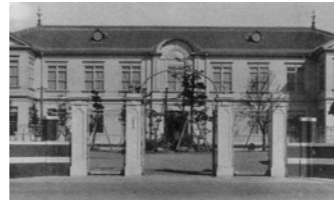
<http://www.nual.nagoya-u.ac.jp/>

General Outlines of Nagoya University

(As of April 1, 2008)

History

1871	Established as a temporary hospital and medical school Since then, several colleges were founded, including Economics and Education.
1939	Established as Nagoya Imperial University
1949	Changed to Nagoya University under a new education system with its Schools of Medicine, Engineering, Science, Law & Economics, Letters
2004	Launched as National University Corporation Nagoya University
Today	9 graduate schools and 13 graduate schools



Aichi Prefectural Medical College
(Predecessor of Nagoya University)

(As of May 1, 2008)

Staff

Members of the Board of Trustees		President	1
		Trustees	7
		Auditors	2
Staff (Full-time)		Professors	646 (11) ^{*1}
		Associate Professors	522 (29)
		Associate Professors/Lecturers	116 (31)
		Assistant Professors	459 (47)
		Research Associates	11 (32)
		Researchers	0 (139)
		School Teachers at Affiliated Schools	38
Administrative/Technical Staff ^{*2}		1,453 (413)	
Total		3,255 (702)	

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

(As of May 1, 2008)

Student Enrollment

Name of Schools /Graduate Schools	Undergraduate Courses		Graduate Courses		Total
	Degree seeking	Non-Degree seeking	Degree seeking	Non-Degree seeking	
Letters	609	57	312	14	992
Education	328	45	250	35	658
Law	701	12	382	105	1,200
Economics	927	17	138	5	1,087
Informatics and Sciences	368	5	0	0	373
Science	1,185	12	541	13	1,751
Medicine	1,489	54	929	62	2,534
Engineering	3,329	43	1,543	33	4,948
Agricultural Sciences	765	12	386	8	1,171
International Development	0	0	292	18	310
Mathematics	0	0	145	4	149
Languages and Cultures	0	0	224	40	264
Environmental Studies	0	0	465	14	479
Information Science	0	0	369	6	375
Human Informatics	0	0	5	0	5
Others	0	60	0	0	60
Total	9,701	317	5,981	357	16,356

Area

Land Area	3,247,605 m ²
Building Area	730,583 m ²

(As of May 1, 2008)

Library Collections

2,930,022 volumes in total (including 1,394,846 foreign books)

Organizational Structure

Nagoya University

