MISSION STATEMENT

Since its foundation, Tohoku University has been committed to a “Research First” and “Open-Door” policy, and conducted researches and education at the world’s highest level.

The university contributes to realizing a peaceful and fair society by using research results to solve social problems and by developing leadership qualities in students.

HISTORY

Tohoku University was founded in 1907 as the third Imperial University of Japan, following Tokyo Imperial University and Kyoto Imperial University. From the start, Tohoku University has displayed to the world an unswerving commitment to an “Open-Door” admission policy. In contrast to the other Imperial Universities, it accepted graduates from technical schools and higher normal schools. The University became Japan’s first National University to admit three female students in 1913 despite opposition from the government at that time.

Tohoku University was able to attract a group of talented young researchers who had trained in international academic circles to serve on its faculties. Partly because of this fact, a “Research First” principle came to develop, which calls upon the scholars to pursue highly productive researches, and to use their findings in classes.

In addition, Tohoku University has nurtured a traditional policy of “Practical Sciences First.” We have used the most advanced research results to make a society and our daily lives productive. The university has established venture businesses to develop local industries before the World War II, and played a central role in researches on Family Law that is closely associated with daily lives.

Since World War II and the rapid economic growth of the postwar period, the above spirit has been continued to be alive in the modern era of advanced globalization.
Aiming to Be a World’s Leading University

Ever since its foundation in 1907, Tohoku University has continued to promote “Research First,” “Open-Door,” and “Practical Sciences First” policies. We have conducted researches and education at the world’s highest level. Tohoku University’s Annual Review 2009 describes our remarkable achievements and highlights of the previous year. Human society today faces with a variety of difficult and complex challenges to globally overcome. With our accumulated knowledge and achievements in research and education over the past century, Tohoku University has determined to take a leadership to tackle challenges ahead, and to be a World’s Leading University to contribute to the development of human society.

Tohoku University has formulated “Inoue Plan 2007” in March 2007, an action plan which consists of five pillars such as education, research, social contribution, campus environment, and organization/management. We have been steadily progressed for two years since the plan started. In education, we have worked on a new liberal arts curriculum including overseas internship system. In research, our university has established the International Advanced Research and Education Organization to provide researchers with creative and comprehensive knowledge to take an academic leadership in the 21st century. These efforts were approved for World Premier International Research Center Initiative (WPI) by Japan Society for the Promotion of Science (JSPS) and Tohoku University established Advanced Institute for Materials Research (WPI-AIMR).

We also take various actions such as improving our global presence by participation in the Association of Pacific Rim Universities (APRU) and Top Industrial Managers for Europe (T.I.M.E.), promoting new businesses by projects including industry-academia collaboration, developing our campus to meet international standards, introducing the personnel system to improve global competitiveness, and establishment of Tohoku University Foundation.

In 2009 when the speed of changing environment for the university has been accelerated, our aim to be a World’s Leading University is not easy to achieve in a short period of time. However, we will contribute to developing human society as the university trusted, respected, and loved by the local community. We hope to share with the general public our missions and actions, and to challenge together.

Akihisa INOUE
President of Tohoku University

Tohoku University News and Events (April 2008-July 2009)

2008
- Apr 1: Graduate School of Biomedical Engineering Established
- Apr 1: 25 Distinguished Professors Appointed
- Apr 2: 2008 Tohoku University Entrance Ceremony
- Jun 14: Website for the Iwate-Miyagi Inland Earthquake (M7.2) Hazards Opened by the Researchers on the Earthquake
- Jul 30, 31: Tohoku University Open Campus
- Aug 1: 5 Distinguished Professors Appointed
- Sep 25: Tohoku University Commencement Ceremony
- Oct 6: The 2nd Cafeteria “Bee ARENA Cafe” on Kawauchi Campus Opened
- Oct 10: Tohoku University Homecoming Day
- Oct 12: Tohoku University Homecoming Day
- Dec 3: The 3rd Tohoku University Sendai Seminar “A Gift from the Universe”
- Dec 31: Tohoku University Silverstein Concert 2008-2009

2009
- Feb 25, 26: 2009 Tohoku University Entrance Examination: First Examination for General Admission
- Mar 12: 2009 Tohoku University Entrance Examination: Second Examination for General Admission
- Mar 25: Tohoku University Commencement Ceremony
- Apr 7: 2009 Tohoku University Entrance Ceremony
- Jul 30, 31: Tohoku University Open Campus

Inoue Plan 2007, Revised 2009

This is the latest edition of the Tohoku University Action Plan that the Office of the President led by President Inoue has put together in the academic year 2007. The plan consists of 5 pillars. The university reviews the plan according to the rapid changes in domestic and global situations, and updates the contents to make further progress.


1. Education
As a “Transmitter of Knowledge,” Tohoku University has been rebuilding its education system to provide students with advanced expertise that the university has accumulated through its history. We also foster international leaders as a “Creator of Knowledge.”

2. Research
As a “Creator of Knowledge,” Tohoku University has been restructuring its most advanced research system to produce the world’s highest achievements by promoting long-term fundamental and strategic researches.

3. Social Contribution
As a university open to the world and the local community, Tohoku University has been contributing to the development of human society by extensively returning its human and intellectual resources to society.

4. Campus Environment
As a “Creator of Knowledge,” Tohoku University has been improving its global-standard campus environment to support various education and research activities.

5. Organization and Management
Tohoku University has been changing into an “Enterprise of Knowledge,” and aims to establish a management base including a financial base to deal with changes in the university environment and to meet demands of the times.
Possibilities for Arachidonic Acid and Future Brain Sciences

Professor Noriko Osumi

Division of Developmental Neuroscience, Department of Functional Genomics, Tohoku University Graduate School of Medicine, Center for Translation and Advanced Animal Research on Human Diseases

Born in 1948. Graduated from Toyo Medical and Dental University, Graduate School of Medical and Dental Sciences, PhD in dentistry. In her current position since 1998 as Director of Tohoku Neuroscience Global COE, and her position for Core Research for Evolution Science and Technology (CREST) of Japan Science and Technology Agency (JST). Titled as Distinguished Professor.

Prof. Osumi’s group discovered that arachidonic acid, a polyunsaturated fatty acid (PUFA), promotes neurogenesis in the brain, which might prevent the mental illness such as depression. The development of the brain is not complete in the embryonic period, but new nerve cells (neurons) are produced in the brain. In the hippocampus, among others, which is the entrance gate to learning or memory, many neural stem cells, i.e., “seed cells,” divide, proliferate, and are differentiated into neurons and glial cells. In this neogenesis process, glia cells support the functions of neurons, and develop, interacting with blood vessels to take in oxygen and nutrients. In the process, proteins produced by genes play important roles and PUFAs that bind to such proteins are also greatly involved.

They found that arachidonic acid, one of the major PUFAs, like docosahexaenoic acid (DHA), switches on the activation of the brain, promoting the neurogenesis in the brain. In addition, they discovered that, because mental problems such as depression have a relationship with a decrease in the neurogenesis, arachidonic acid may prevent/improve such problems.

Prof. Osumi is also Director of Tohoku Neuroscience Global COE (GCOE), which aims at encouraging opening new scientific areas in neuroscience and communicating with the public. This GCOE includes the “Young Forum” planned and operated by postgraduate students and postdoctoral researchers, where they exchange knowledge by discussing their own research with researchers in different fields. It also holds “Open Lab” to allow people to experience some part of the neuroscience, and “Brain Café” for interaction with citizens.

Thus it explores the great possibilities of neuroscience together with young researchers.


Extremely Exact “Freshness Checker”

Freshness of Food Seen Simply and Fast

Professor Minoru Sato

Marine Biochemistry, Department of Applied Aquatic Bio-Science, Division of Biological Resource Sciences, Graduate School of Agriculture, Tohoku University.

Born in 1948. Graduated from the Department of Fisheries, Faculty of Agriculture, Tohoku University. Worked for Marine Food Products, Central Research Institute, School of Fisheries Sciences, Kinki University as associate professor, and Faculty of Agriculture, Tohoku University as associate professor in his current position since 1998. PhD in agricultural science. Appointed as advisory professor at Shanghai Fisheries University in 2001.

While consumers’ interest in food safety and security has been increasing, this “freshness checker” enables measuring the freshness of food in approximate real-time. Freshness is extremely important for the quality and safety of food. However, measurement has problems of accuracy, required time, and cost.

The freshness checker developed by Prof. Minoru Sato can check the freshness in approximately eight minutes. The checker is available for anything that contains cells including fresh fish, meat, and frozen or processed products. The checker measures substances, i.e., mosine and hypoxanthine, which are produced when a fish or an animal dies and loses freshness. When the ratio of the total of the two substances to the whole nucleotide related compounds (K value) is low, freshness is high. The flow of measurement of the K value is as follows: (1) A drop of extract from fish or meat is spotted on filter paper and DC electricity is applied there for five minutes. In this stage, the substances associated with nucleotide related compounds, contained in the spot, are divided into a group of acidic substances and a group of neutral substances. (2) Ultraviolet rays are applied to the spot, and separated spot appears in blue (Fig. 1), and (3) The spots are photographed by a digital camera, and the picture is processed by dedicated calculation software, and the K value is automatically indicated. A half century has passed since the idea of K value was proposed (i.e., Prof. Buneyuki Sato, Faculty of Fisheries, Hokkaido University, proposed K value measurement), however, nobody has conceived this method until now.

Prof. Sato had an opportunity to measure the freshness of tuna meat on a commission from the Fisheries Research Agency. The captain of a fishing boat asked him “Is there any way of measuring the K value on board?” It was a trigger for the development of this checker.

The freshness checker that measures freshness simply and fast, is used in domestic and overseas fish markets, supermarkets, food processing industries, research institutes, universities.

http://www.agri.tohoku.ac.jp/suika/index-j.htm

Many students belong to this laboratory. A student from Peru is researching agar.

Fig. 1 Determination of freshness by means of electrophoresis (K value measurement)

“I like to do home carpentry using a soldering iron. If anything in mind might help me create a new idea,” said Prof. Sato. The first generation of freshness checker was made by himself by painting black a piece of foam duct in the laboratory, and writing it under an ultraviolet lamp.

Items carrying Prof. Osumi, who travels around the world, including a PC memory and a transformer connector. The fountain pen is a source of black bar to the上赛季 of an analog world. The green notebook returned from Greece across the seas, a source of ideas for her, who values a sense of direction. The freshness checker that measures freshness simply and fast, is used in domestic and overseas fish markets, supermarkets, food processing industries, research institutes, universities.

Shedding Light on Historical Japanese through the Genes of Dialects

Professor Takashi Kobayashi
Department of Japanese Linguistics, Division of Linguistic Studies, Graduate School of Arts and Letters

As the common Japanese speech prevails more and more, dialects are destined to disappear rapidly. However, if we observe dialects very carefully, we can find words in dialects that persistently survive. Iai in the Sendai dialect is symbolic of one of these words. Iai describes a feeling as if a foreign substance were to come into the eye, or an indefinable feeling of unpleasantness sensed by the surface of the body. This subtle meaning, which cannot be represented in common Japanese, is hidden in this word.

When we study ancient Japanese, we read classical literature such as The Tale of Genji or The Pillow Book. We use the literary language of the nobility, centered in Kyoto, from the Heian Period (794-1192) as materials. However, we must ask whether or not such materials reflect the entire scope of ancient Japanese.

Prof. Kobayashi aims to shed light on the history of Japanese through the study of dialects. His research covers a wide perspective, such as geography and social status. By exploring dialects, Prof. Kobayashi is digging into the history of the Japanese vernacular, hidden from literature. Many ancient Japanese words have spread from the central region to the periphery and live on in local dialects. The mechanism by which words used in central Japan in the past have changed into local dialects is quite interesting. Menkoi (lovely) of the Sendai dialect, for example, originated from the word megushi, which appears in the Manyoshu (the oldest Japanese poetry anthology). The word has changed uniquely in the region.

Soft X-ray multi-layer coater for an imaging mirror.

A Multidisciplinary Optical Microscope of Ultra-High Definition Imaging

Professor Masaki Yamamoto
Center for Advanced Microscopy and Spectroscopy, Institute of Multidisciplinary Research for Advanced Materials

One shot imaging of a polymer made of light elements can be imaged in one picture at a resolution of 100 nanometers. A polymer made of light elements is transparent to electrons, and is used as a support mesh for a sample of an electron microscope.

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Dialect postcards presented to the participants of dialect surveys. The surveys, conducted at 2,000 locations across the country, have already collected more than 400 items of data. From these items, postcards such as kanekotakane (body), okage (shadow), and nanashimochi (innermost) were created.

http://www.saitohoku.ac.jp/hougen/
From a Laboratory to Sites of Disaster: Save Lives with Rescue Robots

In 1995, Prof. Satoshi Tadokoro experienced the Great Hanshin-Awaji Earthquake in Kobe. Standing on a devastated urban area, he resolved that "as a researcher, I should create a robot that can support rescue work in a disaster and save human lives." Since then, he has done research to use robot technologies for search and rescue.

He, however, was then in a blank state, e.g., about what is needed at a disaster site, and so on. Prof. Tadokoro has continued trials and errors. He has had detailed interviews with rescuers, collected knowledge of researchers in various related fields, and developed various necessary functions in cooperation with such researchers. They have gradually approached using a "robot that can be used as a tool." When an earthquake, a flood, or a terrorist attack occurs, there may be devastated sites where rescuers cannot go into because of a high risk of secondary disasters. In that case, rescue robots named Kenaf have a role to play in substitution for humans in searching for victims or collecting disaster information. Kenaf can go over the rubble by looking at the surrounding state through compact cameras and measuring the shapes of obstacles. When equipped with a 3D scanner using a laser range finder, this robot is capable of creating a 3D map. When equipped with a FLIR, this robot is capable of sensing temperatures to find the locations of victims.

Active Scope Camera. Operated through a controller, this camera crawls along on the ground, vibrating short hair covering its surface, and can go into a gap size of 3 cm. It was awarded the 2008 Robot Award, Prize for Excellence.

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The professor cannot go anywhere without a waist bag: "Comfortable because my hands are free," said Prof. Hayashiyama. He does field work with his laboratory students and researchers to experience the environment, going to Disaster Mountains and fields.

Economic Growth Compatible with Environment: What We Can Do Not TO Leave Negative Legacy

It is known that oxygen is indispensable in order for us to breathe naturally. Have you, however, ever thought that oxygen has some value? Have you ever thought that the natural environment such as beautiful seas and forests has some value?

Industrial development since the 19th century has brought great material influence and convenience to humans. Meanwhile, the global environment has drastically changed. Various environmental problems such as climate changes and ecological changes because of global warming have occurred. In the face of this critical situation, approaches on a global scale such as reduction of greenhouse effect gases have been taken.

Prof. Hayashiyama has analyzed the interaction between socioeconomic activities and nature from an economic perspective. He has made economic assessments of the environment and analyzed the effects of environmental policies by using theoretical economic models. The environmental load should be reduced to form "sustainable society" without lowering of the future income level. The environment and the economy should be assessed by the same standards to help society get out of the industry-oriented market economy, and be sustainable. What we can do now for next 100 years is prevention. It is essential to act at the local level not to leave negative legacy to future generations. Industries competitive in international natural energy-related markets and those supplying natural energies in local areas should be developed. A price cap regulation efficiently ensures resources. Such environmental approaches will lead to a society where businesses can be profitable. To nurture leaders of the next generation to promote environmental education, dietary education, and local production for local consumption will lead to economic growth.


http://www.ml.is.tohoku.ac.jp/
Academic Results

**In Situ Observation of Crystal Growth under Zero-Gravity Conditions:**
from the Origin of the Solar System to Environment and Energy

Professor: **Katsuo Tsukamoto**
Department of Earth and Planetary Materials Science
Graduate School of Science, Tohoku University, Japan

Professor Tsukamoto was born in Osaka Prefecture, Japan in 1948. He got his Masters and Ph.D. in Earth Science from the Graduate School of Science, Tohoku University. After several years working in the University of Nijmegen, the Netherlands and IBM Zurich Research Laboratory, he returned to his alma mater and joined the Graduate School of Science, Tohoku University as a faculty member. Currently, he is also a professor at the Center for Interdisciplinary Research, Tohoku University, Japan.

Since the evolutions in crystal growth processes are crucial to elucidate the mechanism from a fundamental viewpoint, Professor Tsukamoto has been carrying out experiments in zero-gravity conditions and working on the mechanism of crystal growth in space. He started his experiments with the Zero-Gravity Flights on board the Zero-Gravity Microgravity Drop Systems (ZMD) in 1983. The zero-gravity conditions that he employed in the ZMD are created by dropping a capsule with crystal growth in a very short 20 seconds experimental run time. The results from these experiments show that instead of several months to tens of years in space for chondrule crystallization, this process was completed in several seconds (1s) time and hence indicates that the crystal growth velocity is much faster than on earth. As a result of this experiment, Professor Tsukamoto has developed new techniques to convert carbon dioxide in the atmosphere into calcium carbonate crystal and assessing the chronic safety of radioactive waste underground storage.

The microgravity condition lasts about 20 seconds created by airplane, highly sensitive “in-situ” observation instruments can provide enough data relevant to crystal growth. These instruments developed in his laboratory are also being employed in the Japanese Experiment Module (JEM) called Kibo that has recently started its functioning in the International Space Station (ISS).

**http://www.ganko.tohoku.ac.jp/aihigen/tsukamoto.html**

**Applied Accelerator Science for Preserving the Environment and the Human Health**

Professor: **Keizo Ishii**
Department of Quantum Science and Engineering, School of Engineering
Graduate School of Science, Tohoku University, Japan

Prof. Ishii was the 5th PET scanner installed in Japan. This apparatus is 10 times more sensitive than the conventional 2D PET, and can reduce the exposure dosage to one-tenth of the conventional dosage, and makes it possible to apply PET diagnosis to young patients. Recently, he developed a small animal semiconductor PET with a high spatial resolution of less than 1mm FWHM, which was achieved for the first time in the world, and succeeded in imaging cancers with the size of approximately 1 mm. In addition to research in medical applications of radiation, Prof. Ishii is doing research on environmental contamination by analyzing suspended dust in the air, river water, etc., by means of Particle-induced X-ray Emission (PIXE) Analysis using particle beams from an accelerator such as a cyclotron.

The Center for Interdisciplinary Research has been providing lectures every week. The Cyclotron and Radioisotope Center, headed by Prof. Ishii, is the first PET that Tohoku University introduced. PET has since evolved and developed over more than 30 years, and R&D in these technologies in the world still continues.

**http://pixe.qse.tohoku.ac.jp/ishilab/index.html**
Prize Winners 2008
(August 2008-July 2009)

The American Institute of Physics
The award ceremony was held in Pittsburgh, Pennsylvania, U.S., on March 16, 2009.

James C. McGroddy Prize for New Materials
Akihisa Inoue
President of Tohoku University

Development of a Manufacture Method of Bulk Metallic Glasses (BMG) by Gradual Cooling
James C. McGroddy Prize for New Materials was established in 1975, and is awarded to researchers for their outstanding achievements in material physics. Many Nobel Prize winners were awarded the authoritative prize. Among Japanese winners, Reona Ezaki, winning of the Nobel Prize in Physics, and Professor Samio Izumi at Meijo University who graduated from Tohoku University, and discovered carbon nanotube (CNT) were awarded James C. McGroddy Prize in 1985 and in 2002, respectively. President Inoue shared the prize with Professor William L. Johnson at California Institute of Technology (MIT). The reason to be awarded is development of a manufacture method of bulk metallic glasses (BMG) by gradual cooling. President Inoue discovered that the alloy designed by his original theory produces stronger and more elastic amorphous bulk metallic glasses than common metals. This result is expected to be applied in a wide range of fields such as precision machinery components, projection materials, sporting goods, and electromagnetic components.

Oliver E. Buckley Condensed Matter Prize
Terunobu Miyazaki
Professor, WPI Advanced Institute for Materials Research

Highly Praised as a Pioneer of Tunnel Magnetoresistance Effect
Oliver E. Buckley Condensed Matter Prize, established in 1992, commemorates Oliver E. Buckley, a former president of Bell Laboratories. The prize is awarded to researchers for their outstanding theoretical or experimental contributions to solid-state physics. Many Nobel Prize winners were awarded the prize such as William Bradford Shockley (semiconductor, 1956), John Bardeen (1954,) and Ivar Giaever (tunnel effect, 1973.) Professor Miyazaki ’s pioneering work on Tunnel Magnetoresistance Effect and application of his research results to spintronics are highly evaluated. He shared the prize with Professor R. Meservey, Professor J. Moodera, and Professor P. Tedrow at the Massachusetts Institute of Technology (MIT).

Lasker-DeBakey Clinical Medical Research Award
Akira Endo
Specially Appointed Professor, Graduate School of Agricultural Science

Discovered Statin, and contributed to Treatment of Heart Disease
Specially Appointed Professor Akira Endo was honored with 2008 Lasker-DeBakey Clinical Medical Research Award, the highest prize for medicine called the stepping stone to the Nobel Prize in the U.S. It is a significant outcome that he is the 5th Japanese winner following Professor Susumu Tonegawa at the Massachusetts Institute of Technology (MIT) who is a Nobel Prize laureate in Physiology or Medicine. Professor Endo discovered the substance that remarkably lowers LDL-cholesterol in blood from blue mold culture fluid. The finding has led to the production of statin drug, the cholesterol-lowering drug that is currently used all over the world. The newly produced drug is called a miracle drug just as penicillin is. The research results with domestic and global cooperation over many years have been highly recognized, and used for treatment including for heart diseases.

Imperial Prize and Japan Academy Prize
Tetsuzumi Murakami, Professor Emeritus, Graduate School of Arts and Letters
Produced Prominent Results in China-Japan Study
Professor Tetsuzumi Murakami has systematically and historically pursued Chinese poetry in Sung dynasty. To show the viewpoint of literary history through researches on China-Japan Study has produced his prominent results.

2009 Japan Academy Prize
Sadafumi Kawato, Professor, Graduate School of Law
Showing the Direction of Japanese Politics
Professor Sadafumi Kawato has combined the qualitative political history research and the quantitative empirical research through cutting-edge theoretic analyses on the themes of “Election System and Political Party System,” and “Japanese Parliament System and Party Politics.”

Medal with Purple Ribbon Spring 2009
Eimei Sato, Professor, Graduate School of Agricultural Science
Act as a Pioneer In Animal Reproduction
Professor Eimei Sato has produced pioneering achievements in a series of researches including development of in vitro maturation (IVM) using domestic animals, and cultivated the way for advanced use of the ovary and the ovum.

Elected to IEEE Fellow
Satoshi Tadokoro, Professor, Graduate School of Information Sciences
Leading to the Development of Rescue Robotics
Professor Satoshi Tadokoro has been elected to Fellow of Institute of Electrical and Electronics Engineers, Inc. (IEEE) that has internationally led the Electrical and Electronic field on January 1, 2009. The reason to be elected is his taking leadership in the development of rescue robotics.

Topics

Selected as No. 1 University by Japanese High School Teachers for 4 consecutive
In the “University Ranking” published by the Asahi Shimbun Company, Tohoku University has successively ranked top since 2006. The newspaper conducted a questionnaire survey of high school teachers in charge of the counseling to enter higher educational institutions across Japan. This result may indicate that our research and education have been fairly evaluated in recent years. In the same survey, Tohoku University has been the top for 4 consecutive years among universities where the students show improvements in performance after entering.

 Ranked World’s No.3 of ESI’s Most Cited
Papers in Materials Science
As of July 2009, Essential Science Indicators (ESI) shows that Tohoku University ranked world’s No.3 of paper citation in Materials Science. The university ranked 1st in the same field and 2nd in Physics in Japan. Thomson Reuters has published ESI that provides paper citation ranking.
Sessions among Different Fields

A new course, opened in academic year 2009 for postgraduate students, takes advantage of the effectiveness of sessions among different fields based on previous Interdisciplinary Research Joint Lecture. In this course, students can share expertise and researchers in various fields that students do not study as their majors.

The purpose of the cross-departmental lectures is to develop cross-sectional and interdisciplinary perspectives in students. They are expected to be committed to each class while studying their majoring fields. The new course draws attention for presenting a new curriculum as a part of graduate school reform.

Examples

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Title (including provisional one)</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate School of Science</td>
<td>Introduction of Discrete Geometric Analysis</td>
<td>A macroscopic phenomenon that we observe is determined by a microscopic</td>
</tr>
<tr>
<td>Professor Motoio Kobayashi</td>
<td></td>
<td>structure. This lecture will explain how symmetry and periodicity of a</td>
</tr>
<tr>
<td>Graduate School of Education</td>
<td>Structures and Characteristics of Curricula in</td>
<td>There are heated arguments about the relationship between public</td>
</tr>
<tr>
<td>Professor Katsuhiko Mitsukuri</td>
<td>Modern Japan</td>
<td>education (relaxed education) and decline in the students' holistic</td>
</tr>
<tr>
<td>Institute of Development,</td>
<td>Mod-Advanced Brain Sciences and Creation of New</td>
<td>performance. This lecture will elucidate principles of school curricula</td>
</tr>
<tr>
<td>Aging and Cancer Research</td>
<td>Industries</td>
<td>including its structure and characteristics.</td>
</tr>
<tr>
<td>Professor Ryuta Kawashima</td>
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</tbody>
</table>

The completion of Tohoku University Integration Laboratory

Tohoku University Integration Laboratory was completed in March 2009 for joint research by Institute for Materials Research and WPI Advanced Institute for Materials Research (WPI-AIMR). The new laboratory aims to contribute to the significant development of interdisciplinary research mainly on material sciences. In commemoration of the completion of the new building, an opening ceremony was held with the attendance of many guests from the Ministry of Education, Culture, Sports and Technology, the Japan Society for the Promotion of Science (JSPS), and domestic and overseas WP-related organizations on May 22, 2009. Following the unveiling ceremony by President Inoue, guests participated in the laboratory tour to understand the outline of research in WPI-AIMR.

Global COE Program

The Global COE Program aims to support establishment of the world’s highest education and research center to develop creative human resources with global leadership. The program is supported by the Ministry of Education, Culture, Sports, Science and Technology. For the designation of Global COE Programs, candidates are evaluated for their possibilities to be the above center on the condition that they have the world’s highest research base for particular academic fields. In Tohoku University, 12 programs in eight fields have been designated in academic year 2007 and 2008.

The Fourth-Generation Campus Network

StarTAINS, the fourth-generation Tohoku University Academic/Around/Advanced Information Network System (TAINS) has started. The new star shaped network including a core router has been installed at the Cyberscience Center on Aobayama Kita Campus. StarTAINS is expected to play a role as a “star” of the next-generation powerful information platform that Inoue Plan aims for.

The Cyberscience Center has been Designated as a Joint Research Center for shared use.

The Cyberscience Center of Tohoku University has been designated as a joint research center to share the large-scale interdisciplinary information platform by the Ministry of Education, Culture, Sports, Science and Technology. Members to use the new center consist of the Hokkaido University Information Initiative Center, the Information Technology Center of the University of Tokyo (a core organization), the Global Scientific Information and Computing Center of Tokyo Institute of Technology, the Information Technology Center of Nagoya University, Academic Center for Computing and Media Services of Kyoto University, the Cybermedia Center of Osaka University, the Research Institute for Information Technology of Kyushu University, and the Cyberscience Center of Tohoku University. The period of designation is for six years from April 1, 2010 through March 31, 2016. The networked research center aims to contribute to the further development of academic and research bases in Japan by using information platforms including ultra-large scale computers, large capacity memory, and a network. The research center will conduct joint researches in interdisciplinary fields that have been difficult to explain such as global environment, energy, materials, genome, academic information, program analysis, and information processing. The achievements produced at the above center are important for challenging researches, and are expected to draw international attention.

Department of Technical Support

As of April 1, 2009, the technical staff consists of 427 members, and engages in supporting education and research in various fields. Many technical staff members work at Graduate School of Science and laboratories, and continue to keep advanced techniques for the development of our researches. The Department of Technical Support was established in April 2009 in order to contribute to the development of the support system. Since then, the technical staff members have belonged to the new department, which allows us to study and carry out cross-departmental measures. The university has tried to further improve skills of the technical staff, to ensure talented human resources, and to appropriately arrange personnel.
Various Education and Student Support Programs to Vitalize the University

President’s Education Award to Excellent Faculty Members
Tohoku University highly evaluates faculty members for their outstanding teaching method and study support including for extra-curricular activities and international exchange.

Associate Professor
Akira Sato
Graduate School of Medicine
Prof. Sato has introduced cutting-edge classes based on science and culture into his physical education.

Contribution Award in Education
Tohoku University praises faculty members for their outstanding teaching method, study support, and creative approaches. This award aims to promote skills to provide advanced education.

Professor
Akira Sato
Graduate School of Medicine
Prof. Sato has presented technical guidance based on scientific-logic, and introduced the traditional culture of Japanese archery into his classes for many years. He also has given physical education to nurture the healthy minds and bodies.

Professor
Shinobu Uno
Graduate School of Education
Prof. Uno has long contributed to improving a class evaluation system and to raising the consciousness of teaching staff about students’ performance. He has laid the base for the current class evaluation questionnaire survey to improve education.

Support for International Exchange
The Division of International Education and Exchange, Graduate School of Economics and Management has systematically developed the following ideas to meet needs of students, graduate schools, and the university: Support for foreign students, Support for sending students abroad, International education, and International exchange.

A project for promoting the globalization of Tohoku University has continued until March 2008 with financial assistance on and off campus. The Halal food project was for Muslim students to enjoy their meals on campus. The university has provided support for international students including for job hunting.

University Counseling Center
Clinical psychotherapists and university counselors provide students with counseling sessions about problems including academic work, career options, human relations, personality, and mental health. The Counseling Center may refer students to more appropriate institutions, windows, or faculty members depending on problems. Counseling services for harassment are also available, and full-time counselors provide training for office staff at each department twice a year.

The Counseling Center supports extra classes for science students in collaboration with Graduate School of Science and Graduate School of Engineering. These extra classes are given by graduates and senior students to help students who cannot follow classes or did not acquire enough knowledge in high schools. Most of students with the help of supplemental study have improved their performances.

The Division of International Education and Exchange, University Counseling Center has taken preventive measures and emphasized cross-departmental cooperation to create the healthier campus environment.

Selected as Support Programs for Distinctive University Education by the Ministry of Education, Culture, Sports, Science and Technology in academic year 2008

Program for Promoting High-Quality University Education
• Building a Medical Education System to bring up a Research Mind (Faculty of Medicine)
• http://www.gakubo-gp.med.tohoku.ac.jp/
• Measurement of education effect by using a record of learning achievements (Faculty of Engineering)
• http://www.eng.tohoku.ac.jp/edu/?menu=edu-gp
• Support Programs for Improving Graduate School Education
• Program for developing experts in information literacy education (Graduate School of Information Sciences)
• http://www.media.is.tohoku.ac.jp/literacy/index.html
• Program for developing experts at A Professional Graduate School
• Core Curriculum of Accounting Schools (Graduate School of Economics and Management)
• http://www.econ.tohoku.ac.jp/a.scc/
• Support Project for Strategic University Collaborations
• The mutual development among universities and colleges in the Sendai area by their stronger ties (Joint project with Tohoku Gakuin University)
• http://www.tohoku.ac.jp/ai/grad/edu/index.html

Lectures for Creating Junior Scientists for first and second-grade senior high school students have started in academic year 2009 scheduled over three years. This program aims to develop an interest and understanding of Science, to increase the ability to find and analyze Wonders of Daily Life, and to improve the presentation skill and understanding of scientific terms in English. The first class was held on June 13, 2009 with high reputation. Such classes and experiments are planned to be developed in stages to nurture future scientists.
• http://www.igc.tohoku.ac.jp/mirai/
Day by Day Efforts Lead to Good Results, and a Pleasant and Touched Scene
Happy and Lively Campus Life

Tohoku University Won the Championship at the 47th Seven University Athletic Competition

The Seven University Athletic Competition consists of Hokkaido University, Tohoku University, the University of Tokyo, Nagoya University, Kyoto University, Osaka University, and Kyushu University. Each university takes turns as a host university to plan and organize a competition based on five ideas: pursuit of true amateurism, autonomous management by students, improvement in performance, friendship among the universities, and operational costs reduction.

Sports clubs of the seven universities compete with one another in currently 41 games, and get points from the competition results. The winner is a university which gets the highest points. At the 47th competition in 2008 organized by Tohoku University, it won championships in men’s table tennis, men’s and women’s Japanese archery, men’s field and track events, women’s tennis, women’s basketball, men’s judo, equestrian event, ice hockey, and sumo (open event,) which led to the overall title. Tohoku University was the only university which won the overall championship at a competition organized by itself.

The 47th competition was exciting all the while. In the initial stage, Tohoku University was in a dead heat with the University of Tokyo, and in the middle stage, Kyoto University which has been winningest among the seven universities and Osaka University which merged with Osaka University of Foreign Studies to increase the power have gradually improved their ranking.

Tohoku University Rowing Club Won the Championship at Intercollegiate Boat Racing

At the final meeting of Intercollegiate Boat Racing on August 24, 2008, a pair of Tatsuro Nitta and Daisuke Suzuki won the Championship in Coxless Pair. They were in the lead in the 500-meter, 1000-meter, 1500-meter, and 2000-meter races among other universities.

Ski Club Won the Championship at Japan Intercollegiate Skiing Competition

The 82nd Japan Intercollegiate Skiing Competition was held in Hachimantai City, Iwate from January 12 through January 18, 2009. The Ski Club of Tohoku University won the championship in the women’s 3 x 5-kilometer relay race in the third division. The Women Ski Club will promote to the second division next season, and is expected to be more successful.

Japanese Archery Club KUROKAWA Cup, SUZUKI Prize, and OTANI Prize

The Japanese Archery Club that has achieved outstanding performances through the year was awarded the KUROKAWA Cup, SUZUKI Prize, and OTANI Prize. The presentation ceremony was held at Aoba Memorial Hall on February 17, 2009.

Two students were awarded Japan Student Services Organization’s Student of the Year

Yuki Yoshino in 6th year of Faculty of Medicine was awarded the Academic Grand Prize
Mr. Yoshino has developed a technology to suture amputation stump of DNA at a cost of 1/260 of a marketed product. The new technology is as fast as the fastest product in the market.

Toshimitsu Hori in 3rd year of Faculty of Law received Outstanding Performance Prize for Social Contribution
Mr. Hori was highly evaluated for his activities such as opening workshops and fairs on agricultural problems including a reform of rice policies.

Activities of Students

Open Campus Most Popular among the National Universities

Open Campus of Tohoku University, held for two days every summer, is popular among high school students because of its rich and selectable content. The number of visitors exceeded 45,000 in academic year 2009. During the Open Campus, each faculty provided events full of ideas. Shuttle buses connected four campuses: Kawauchi, Aobayama, Seiryo, and Amamiya.
Effective Uses of Our Intellectual Resources

Tohoku University International Industry-Academia Cooperation Symposium

Strategies for International Industry-Academia Cooperation: Message from Tohoku University

Tohoku University Industry-Academia Cooperation Symposium was held as a part of the Project for the Strategic Development of Industry-University-Government Cooperation sponsored by the Ministry of Education, Culture, Sports, Science, and Technology at Kessanen Kakan in Tokyo on March 12, 2009.

Tohoku University has presented its strategic approaches and the future direction of intellectual property to the audience from across the country. Following the speeches by President Akisato Inoue and Director-Fumi Iida at Research Promotion Bureau, Ministry of Education, Culture, Sports, Science, and Technology, Hironobu Abe, Advisor to Japan Science and Technology Agency, and Nobuyoshi Tanaka, Senior Managing Director, Canon, have presented their visions for future collaborations in keynote speeches.

Session 1 has presented Tohoku University’s International Strategic Model for the future. In Session 2, Professor Shigetoshi Sugawa and Professor Tadahiro Omi have presented their successful cases and the key points with representatives of joint research partners. Prof. Sugawa’s partner was Mr. Toshiyuki Yamazaki, Texas Instruments of Japan, and Mr. Naosumi Kogyo, Zhe Corporation, and Mr. Hiroaki Yamada, Ube Industries were of Prof. Omi’s.

A video message from Professor Reza Abbaspour, University of California, Riverside highlighted our international cooperation. Tohoku University and Sendai City has worked on a project in collaboration with UC Riverside.

At the round-table session, Mr. Abe, Mr. Tanaka, and Professor Omi have shown a plan for Japan’s international strategy of intellectual property and the university’s strategy for international collaboration on intellectual property. The symposium successfully ended.

Tohoku University will plan to hold symposia like the above regularly to contribute to the promotion of international cooperative projects both in the university and in Japan.

Systematic collaborations with private organizations by agreement

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<thead>
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<th>Date of agreement</th>
<th>Private organizations</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>February 19, 2009</td>
<td>High Energy Accelerator Research Organization (KEK)</td>
<td>to further promote joint research, its system, human resource development, and exchange in particle and nuclear physics, materials, and life science, and accelerator science</td>
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Highly Evaluated Achievements in Industry-University-Government Collaborations

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Highly Evaluated Achievements in Industry-University-Government Collaborations

Two faculty members of Tohoku University were commended as Persons of Merit in Industry-University-Government Collaborations for their outstanding achievements.

The commendation ceremony was held at Kyoto International Conference Center on June 20, 2009.

Prime Minister Award

Given to:
Professor Masataka Nakazawa, Research Institute of Electrical Communication, Tohoku University (second from the right in the picture.)
Mr. Kazuo Hagimoto, Nippon Telegraph and Telephone Corporation (NTT) and Mr. Hanki Okoshi, FURUKAWA ELECTRIC CO., LTD
The Development and Advancement of Erbium Doped Fiber Amplifier (EDFA)

Ministry of Education, Culture, Sports, Science and Technology Award

Given to:
Professor Kazuo Watanabe, Institute for Materials Research, Tohoku University (at the center in the picture.) and Mr. Junji Sakuraba, Sumitomo Heavy Industries, LTD
The Development of a Cryogen-free High-Magnetic-Field Superconducting Magnet Device

Innovation Fair in Sendai

2008 Tohoku University Innovation Fair in Sendai was held at Sendai International Center on September 30, 2008. The Innovation Fair has presented the most advanced researches and technologies in the following fields at exhibition booths: information and communications, nanotechnologies, materials, medical engineering, bio sciences, and robotics. The university created opportunities to meet new people throughout the fair.

Keita Inoue, Visiting Professor at Tohoku University, former Director of Toyota Motor Corporation, and former Representative Director and President of GENESIS RESEARCH INSTITUTE, Inc. gave a keynote speech titled “Global Warming and the Future of Automobile.” A large audience listened to his prospect and approaches.
Steps to a World-Class University through Global Network Construction
Promotion of International Exchange

Becoming a member of The Association of Pacific Rim Universities (APRU)
International University Consortium

Tohoku University has become a member of the Association of Pacific Rim Universities (APRU), an international consortium of advanced universities in September 2008. APRU was established in 1997, and its main office is at National University of Singapore (NUS). The membership of APRU helps construct a global network for research and education that is an important measure in Inoue Plan. Tohoku University has first participated in the Annual Presidents Meeting of APRU that was held at California Institute of Technology (Caltech) in the U.S. in June 2009. President Inoue has presented important measures to be a World-Class University in the Presidents Open Forum.

Signing Ceremony for France-Japan Joint Laboratory and Workshop

Tohoku University, École Centrale de Lyon (ECL) and INSA de Lyon, French famous universities in science, agreed on establishment of a joint laboratory in December 2007. The first workshop to present research results from the joint laboratory was held at Sakura Hall at Katahira Campus on December 1 and 2, 2008. On the second day, the signing ceremony for a cooperation agreement was held after that the laboratory was accredited as Associated International Laboratory (LIA) by Centre National de la Recherche Scientifique (CNRS).

Tohoku University-York University Joint Research Seminar

A joint research seminar with York University in the United Kingdom, one of the members of the Inter-university Academic Exchange Agreements was held at the 2nd Auditorium at the Institute of Materials Research on January 19 and 20, 2009. The seminar aimed to further develop research exchange and mutual cooperation. Both universities presented their current education and research activities, and held sectional meetings in chemistry, education, and electronic engineering/physics.

Meeting on International Student Exchanges among Pacific Rim Universities (PRUM)

A meeting on International Student Exchanges among Pacific Rim Universities (PRUM) was held on February 16 and 17, 2009 in Tohoku University with the attendance of staff for international exchange at UC Berkeley, UC Davis, UCLA, UC Riverside, UC Santa Barbara, and the University of Sydney. The PRUM meeting was on the promotion of Program to Promote Internationalization of University Education supported by the Ministry of Education, Culture, Sports, Science and Technology. Staff for international exchange at Tohoku University and other participant universities has discussed the future direction of international joint education in graduate schools and international student exchanges among undergraduates.

Tohoku University Forum In Beijing

Tohoku University Forum in Beijing and a general meeting of Tohoku University Alumni in China were held on December 13, 2008 in Beijing, China. The forum, with assistance of Peking University, Tsinghua University, and Japan Society for the Promotion of Science (JSPS) Beijing Office aimed to further develop mutual cooperation with the Chinese universities and also to publicize Tohoku University with professors, administrative staff, and students at the Chinese universities. Delegates of Tohoku University, Peking University, and Tsinghua University have given speeches, and Distinguished Professors of Tohoku University have presented their researches.

Tohoku University-Osaka University Joint Forum "Innovative Research and Philosophy of Science"

A Tohoku University-Osaka University Joint Forum titled "Innovative Research and Philosophy of Science" was held in San Francisco on September 18, 2008. The joint forum was planned to promote student exchange and joint research between West Coast areas of the United States and the two Japanese universities, and to present the most advanced researches. The forum was in collaboration with the Consulate-General of Japan in San Francisco, Japan Society for the Promotion of Science (JSPS), Japan External Trade Organization (JETRO), Japanese University Network in the Bay Area (JUNBA), Japanese Chamber of Commerce of Northern California (JCCNC), and Japan Society of Northern California.

11 more universities have signed agreements on Inter-university Academic Exchange

Agreements which makes a total of 136 universities (as of July 1, 2009)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of University</th>
<th>Date of Conclusion</th>
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<th>Date of Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Institut Teknologi Bandung</td>
<td>June 4, 2008</td>
<td>U.S.A.</td>
<td>Syracuse University</td>
<td>November 19, 2008</td>
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<tr>
<td>France</td>
<td>Institut d’Études Politiques de Lyon</td>
<td>June 6, 2008</td>
<td>India</td>
<td>Indian Institute of Science</td>
<td>December 18, 2008</td>
</tr>
<tr>
<td>China</td>
<td>Yangzhou University</td>
<td>June 20, 2008</td>
<td>U.S.A.</td>
<td>Institute of International Education</td>
<td>January 27, 2009</td>
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<tr>
<td>France</td>
<td>Ecole Normale Supérieure Lettres et Sciences Humaines A de Lyon</td>
<td>August 11, 2008</td>
<td>Taiwan</td>
<td>National Chung Hsing University</td>
<td>March 30, 2009</td>
</tr>
<tr>
<td>China</td>
<td>Chinese Academy of Social Sciences</td>
<td>October 15, 2008</td>
<td>Canada</td>
<td>University of Ottawa</td>
<td>June 26, 2009</td>
</tr>
<tr>
<td>China</td>
<td>Southeast University</td>
<td>June 29, 2009</td>
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</table>
An Open University Increases Opportunities for Exchanges and Expands Unlimited Possibilities

Deep Involvement in Social Contribution and Approaches to Gender Equality

Tohoku University’s Approaches to The Iwate-Miyagi Inland Earthquake

At 8:43 a.m. on June 14, 2008, the Iwate-Miyagi Inland Earthquake of Magnitude 7.2 (M7.2) occurred. The epicenter was in the southern inland of Iwate Prefecture. On June 15, the Japan Association for Earthquake Engineering put together a joint investigation group lead by Professor Motoki Kazama at Graduate School of Engineering with cooperation of the Japan Society of Civil Engineering and the Japanese Geotechnical Society. Research Center for Prediction of Earthquakes and Volcanic Eruptions, Graduate School of Science has installed the GPS-based observation network for close investigation of the inland earthquake mechanism and the crustal structure around the epicenter. The center played a role as a representative of a joint observation group consisting of universities and research institutions in Japan. A meeting of Japanese Society of Community Psychology in collaboration with the Center for the Advancement of Higher Education, Tohoku University was held on June 20, 2008, and has provided special lectures on earthquake early warning system.

An Open Ceremony of Museum of Past and Future Automobiles

The Museum of Past and Future Automobiles was opened on November 1, 2008. The museum includes a 1926 Ford Model T, 1931 Ford Model A, and TOYOTA F1 racing car engine that was donated to cerebrate the Tohoku University 100th Anniversary. This facility is at the site of Graduate School of Engineering, and its graceful building draws attention. It is open to the public free of charge, and has become a popular spot in the university.

Sparkling Exciting Science

For students of elementary, junior and senior high schools

The science program is to provide fifth and sixth graders, junior and senior high school students with a chance to see, hear and be exposed to the most advanced research results in various fields. Students can understand a relation between academic studies and daily lives, and the meaning of science. Tohoku University carried out two programs in academic year 2008, and other universities has worked on similar programs on other years.

Environmental Studies received the special prize for the project category of the same award for her Social Anthropological Analysis on Expansion of Violence to Women in Mongola. Award lectures were presented by the Parents’ Association of Kawauchi Keyaki Nursery and Associate Professor Koichi Hashimoto at Graduate School of Education, University of Tokyo. His lecture was on Career Development of Women Researchers and the Institutional Environment. The Associate Professor won the 4th Sawayanagi Award for the project category when he was Assistant Professor at Graduate School of Education, Tohoku University. Prof. B. Gruhe, Ambassador of the Kingdom of Norway in Japan has made a keynote speech on the current state of Gender Equality in Norway. Professor Ichiro Yonenaga at Institute for Materials Research, Tohoku University presented a technology to precisely predict the occurrence of upcoming Miyagi Offshore Earthquake. A prediction is made by using data on seismic waves transmitted to Tohoku University by a seismometer that is installed at a facility on the Sendai coast and an earthquake early warning system.
Tohoku University Shuyukai (Alumni)

Forming of Tohoku University Community

Tohoku University Alumni Association was established on the 100th Anniversary in 2007 to lay the foundation for the next 100 years, and was renamed Tohoku University Shuyukai in June 2009. Shuyukai has a membership of more than 140,000 graduates, about 18,000 current students, and about 6,000 faculty members, and the current students’ families. The new alumni association aims to contribute to friendship, exchange, and development among members, and to encourage close communications between the university and members. Shuyukai held Tohoku University Home Coming Day and exchange meetings in the Kanto and Kansai areas to form the Tohoku University Community.

The 2nd Tohoku University Home Coming Day

- Friday, October 10, 2008
- Venue: Tohoku University Centennial Hall (Kawauchi Hagi Hall)
  - Concert to celebrate the completion of Tohoku University Centennial Hall
  - Saturday, October 11, 2008
  - Venue: Tohoku University Centennial Hall (Kawauchi Hagi Hall) and lecture buildings at Kawauchi Kita Campus
  - First general meeting of alumni
  - Opening Ceremony of Tohoku University Centennial Hall
  - Symposium titled “Local Area and the Automobile Industry”
  - Social gathering for current students of 2008 and alumni
    - listen to seniors on Kawauchi Kita Campus
  - Sunday, October 12, 2008
  - Venue: Tohoku University Centennial Hall (Kawauchi Hagi Hall)
  - Autumn cultural festival by Cultural Clubs

Tohoku University Silvester Concert

Tohoku University Silvester Concert counting down to New Year’s Eve in Sendai.

- Wednesday, December 31, 2008
- Venue: Tohoku University Centennial Hall (nicknamed Kawauchi Hagi Hall)
  - Program:
    - “Orphee aux Enfers” Overture by Jacques Offenbach (Sendai Philharmonic Orchestra)
    - “Ah,fors’e lui” and “Sempre libera” from the opera “La Traviata” by Giuseppe Fortunino Francesco Verdi (Soprano: Asako Tamura and Tenor: Satoshi Chubachi)
    - “Nessun dorma” from the opera “Turandot” by Giacomo Puccini (Soprano: Asako Tamura and Tenor: Satoshi Chubachi)
    - “Rhapsody in Blue” by George Gershwin (Piano: Yosuke Verdi (Soprano: Asako Tamura and Tenor: Satoshi Chubachi)
    - “Brindisi” from “La Traviata” by Giuseppe Fortunino Francesco Verdi (Soprano: Asako Tamura and Tenor: Satoshi Chubachi)
    - “Bohemian Rhapsody” by Queen (Guitar: Yosuke Verdi (Soprano: Asako Tamura and Tenor: Satoshi Chubachi)

Exchange Meeting in Kansai

- Saturday, February 21, 2009
- Venue: WelCity Osaka (Osaka Welfare Pension Fund Center)
  - Lecture meeting
  - Science Cafe
  - A general meeting and a social gathering of the Kansai Branch

Exchange Meeting In Kanto

- Sunday, August 2, 2009
- Venue: 5th floor of Sapia Tower (Tokyo Conference)
  - Lecture meeting
  - Social gathering

Project with the Power of Tohoku University

Completion of Tohoku University Centennial Hall, or Kawauchi Hagi Hall

Tohoku University Centennial Hall (nicknamed Kawauchi Hagi Hall) was completed in August 2008 as a part of 100th anniversary commemoration projects by remodeling Kawauchi Memorial Auditorium that was established to celebrate the 50th anniversary and Matsushita Memorial Hall. Many alumni and faculty members have contributed to the establishment of the new hall by using research results including on architecture and acoustics with donations from people involved in the university. The old halls have changed into a hall for academic use that has acoustics to meet international standards and 1,235 seats. The remodeling of the hall has tried to remain its original shape 50 years ago, and provided the inside with the university’s symbol color and unique atmosphere. The lobby includes an exhibition gallery to display research results and materials. A space for Faculty Club and meeting rooms are at the old part of Matsushita Memorial Hall to use for information and friendship exchange among alumni, current students, faculty members, and the general public. Kawauchi Hagi Hall contributes to making the basis of Sendai as an academic city. Tohoku University will use the new hall as a center for academic and cultural activities such as international meetings, concerts, and lecture meetings.

Outline of the Facility

- Site Area: 57,139 m²
- Building area: 2,637 m²
- Total Roof area: 5,910 m²
- Structure and Scale: Steel framed Reinforced Concrete structure, and partially Steel structure, one story underground, and five stories above ground
- Utilities: Academic Hall (1,235 seats), exhibition gallery, a space for Faculty Club, 3 meeting rooms

Tohoku University Centennial Hall

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After being loved for half century, Kawauchi Campus is changing into the Brighter and More Open Campus

Renovation of Kawauchi Campus

Kawauchi Kita Campus provides students with the first year education, which makes this campus recognized as the face of the university. In a framework for a new campus plan, Kawauchi Campus constitutes Aobayama-Kawauchi Green Campus, in which Kawauchi Campus lies in the frontage to the downtown Sendai. The Campus is surrounded by a rich natural and cultural environment including the Sendai Castle Site and Botanical Garden. The Tozai (East-West) Subway Line is now under construction by Sendai City scheduled to open in 2015. The university has been developing campus amenities in harmony with these surrounding resources.

Rich Greenery and Historical Atmosphere

Kawauchi Campus Plaza

The center of Kawauchi Campus, which was formerly in disorder, has been transformed to be an open space suitable for the face of the University. Visitors are welcome into a wide stretch of lawn. The bike parking lot that blocked the entrance to the campus was moved to make a wide pathway for safety. The north and south campuses divided by a city road now look one campus.

The university preserved old trees and added new Japanese zelkova trees as a new symbol. Flowering trees throughout the campus give pleasure to visitors from overseas in the four seasons. Soft Colors and materials of the open space are in harmony with a historical atmosphere of the Sendai Castle Site and Tohoku University.

A large wooden deck in front of the conversation room in a class building and an outdoor lunch space in front of the welfare hall are crowded with many students. Benches in various shapes under trees are also for their pleasure. A wide paved space and the lawn will serve as a setting for annual events including concerts and food stalls in a university festival.

Expansion of Students’ Activity Space

Kawauchi Sub-Arena — Building

With the construction of the Tozai Subway Line, a cafeteria that has long been popular among students for its reasonable menu, a part of the gymnasium including sub-arena and martial-arts space, and the dressing room were remodeled into a complex facility at the northern edge of the campus. A cafeteria is on the 1st and 2nd floor, and the new gymnasium is above the cafeteria. Newly opened Bee ARENA Café has the counter and couches in the 2nd-story glass hall. An outdoor terraced garden on the 2nd floor provides a view of greenery. Students in the terrace that connects to the multi-purpose arena can see sport activities. The arena, the terrace, and the cafeteria can be used as a continuous space for school events.

Local residents share the lively atmosphere through the glasses of the new building from the city road in the north.

Transformed into a Fresh and Warm Space

Extension and Remodeling — of the Welfare Hall

The university has decided to extend and remodel the welfare hall that was built in 1969 because of its getting older and shortage of seats. The new welfare hall is now under construction scheduled for completion in January 2010. A shop has already opened, and a cafeteria will be completed in March 2010. The new cafeteria in a wooden structure with a gentle curvature will be added to the south side of the existing building. Colorful Kitchen Boxes will serve different types of dishes.

Smooth Construction of Aobayama New Campus

Tohoku University has been constructing a new environment-conscious campus taking advantage of rich nature in Aobayama that local residents have loved as a symbol of “Sendai, City of Trees.” The new campus will develop education and research environment to create new academic fields, technologies, and industries.
Divisional Major Achievements (Academic Year 2008)

**Graduate School / Faculty of Arts and Letters**
- Professor Akihito Hayakawa was awarded the 2008 Aka-No Cultural Prize.

**Graduate School / Faculty of Education**
- International Symposium on Schools-Communities Collaboration: Through the Challenges of Citizenship Education in England.

**Graduate School / School of Law**

**Graduate School of Economics and Management/ Faculty of Economics**
- Starting Service Innovation and Human Resources Development Program entitled by Japan Society for the Promotion of Science (JSPS).
- Starting Core Cursulum of Accounting Schools sponsored by the Ministry of Education, Culture, Sports, Science and Technology.
- A project led by Associate Prof. Seiko Kakegawa has presented a new hypothesis of Origin of Life: Amino acid formation by oceanic meteorite impact.

**Graduate School / School of Medicine**
- Open Health Sciences Program.
- Starting Global COE for Conquered of Signal Transduction Diseases with Network Medicine.
- Selected for Good Practice (GP), Program for the Promotion of High-Quality University Education. Building a Medical Education System to bring up a Research M.D.
- Discovery of Neural Relay Mediating Production of Insulin-Like Cells: Explaining synchronous activity of neurons in the prefrontal cortex at the moment of problem solving. Creativity emerges from synchronous interactions of neurons.

**Graduate School / School of Dentistry**
- The 3rd International Symposium for Interface Oral Health Science on the theme of tissue regeneration and biomaterials.
- The 3rd Hishou-Young Symposium that aimed to promote international exchange among young scientists and graduate students.
- Prof. Osamu Suzuki has developed a novel biomaterial (low cytofugeal CCO) to enhance normal bone remodeling.
- Selected for MEXT Research and Education Funding: Highly-functional Interface Science: Innovation of Biomaterials.

**Graduate School of Pharmaceutical Sciences / Faculty of Pharmacy and Pharmaceutical Sciences**
- Technical Contributions to the investigation of the 2008 Iwate-Miyagi Earthquake by Department of Civil Engineering.
- Opening a branch school at Hokiwa Village, Aomori for human resource development by Quantum Science and Energy Engineering Department.
- A group led by Prof. Junichi Koike has developed a new Cu alloy for low-resistance TET electrode in flat-panel display.
- A group led by Prof. Niko Inoue has developed magnetic particles with uniform sizes and responses to a magnetic field.
- A group led by Prof. Shigehiko Sugawara has developed and made a practical use of an imaging element with high sensitivity and wide dynamic range.
- Prof. Shigehiro Uchida has received the 2008 JSPS Prize for Development of Interface Science.
- Launch of micro-exchangeable “RSO2” by a group led by Prof. Kazuya Yokohira.

**Graduate School of Agricultural Science / Faculty of Agriculture**
- Prof. Yoko Toyama discovered retrograde signaling of fertility restoration in cytoplasmic male sterility in rice.
- Prof. Kazuo Morozumi has developed Recycling Basin Economic Area that makes the most use of regional rice.
- Prof. Kinya Toriyama discovered retrograde signaling of fertility restoration in cytoplasmic male sterility in rice.
- A group led by Prof. Shigehiro Uchida has received the 2008 JSPS Prize for Development of Interface Science.
- Development of targeted young researchers through primary studies by selecting Doctoral and Master’s course students and employing Research Fellows.

**Graduate School of International Cultural Studies**
- Prof. Jeanne-Yo Yu and Mr. Koosuke Ishibashi received Outstanding Paper Award from the Japan Macroeconomics Society.

**Graduate School of Information Sciences**
- Starting The Information Library Education Professional Program supported by MSIT Program for Improving Graduate School Education.
- The 2nd Seminar on Science with Integration with the cooperation of alumni and incumbent faculty members. "Development of talent, continuous creativity in science, and wisdom of the 21st century." By the 2nd Seminar on Science.

**Graduate School of Life Sciences**
- The International Prize for Biology Commemorative Symposium and Dr. David Tinker’s lecture, “Ecology for the Changing World” sponsored by JSPS Graduate School of Life Sciences.
- The global COE program, “Center for Ecosystem Management Adapting to Global Change.”
- Finding a male-specific neuronal marker in the brain that can initiate male-sexual behavior.

**Graduate School of Environmental Studies**
- The 18th Environmental Forum: Regional Role to Achieve Sustainable Societies: From Viewpoint of Socio-economic System.
- The 6th Environmental Technology Symposium: 30 Years, How much do you know?

**Graduate School of Biomedical Engineering**
- First Anniversary Symposium by Graduate School of Biomedical Engineering.
Overview of Tohoku University

Number of Students (as of May 1, 2009)

<table>
<thead>
<tr>
<th>School/Graduate School</th>
<th>Total Graduates</th>
<th>International Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/Graduate School</td>
<td>Doctoral Course</td>
<td>Master's Course, Professional Program</td>
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<tr>
<td>University</td>
<td>2,657</td>
<td>127</td>
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<tr>
<td>School/Graduate School</td>
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Number of Faculty and Staff Members (as of May 1, 2009)

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<td>University</td>
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Number of Overseas Office (as of May, 2009)

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<th>Overseas Office</th>
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Number of Exchange Students Based on Academic Agreements (FY 2008)

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<th>Country</th>
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<tr>
<td>From Overseas</td>
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<tr>
<td>To Overseas</td>
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Number of Endowed Chairs and Research Divisions (as of May, 2009)

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<tr>
<td>School/Graduate School</td>
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<tr>
<td>Total</td>
<td>36</td>
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</table>

Location of Tohoku University

JAPAN

Sendai City, Miyagi Pref.

Tohoku region

Sendai

.setLocation('Sendai, Miyagi Pref., Japan')

Overview of Tohoku University

CONTACTS

Graduate School of Life Sciences
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http://www.lifesc.tohoku.ac.jp/

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Faculty Members
Assistant Professors
Senior Assistant Professors
Associate Professors
Graduate students
Number of Students
Location of Tohoku University

Data and Overview of Tohoku University

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http://www.he.tohoku.ac.jp/