#### **JAPAN**



## Education in a New Era

By Minister Yoshiaki Takaki

irst, I would like to express my heartfelt thanks to everyone around the world who graciously sent us their sympathies and aid following the Tohoku-Pacific Ocean earthquake that struck Japan on March 11. The event devastated the Tohoku region.

Nevertheless, at the Ministry of Education, Culture, Sports, Science and Technology (MEXT), we intend to secure the safety of children, students and researchers, and dedicate our efforts to preventing secondary disasters while mobilizing all our resources to realize reconstruction, recovery, and the creation of new horizons.

We hope that foreign researchers and students give due consideration to accurate information on current circumstances and return



Yoshiaki Takaki, minister of education, culture, sports, science and technology

to their activities in Japan, as educational and research activities are now operating as normal at Tohoku University and other highereducation institutions in disasterstricken areas.

In this second decade of the 21st century, economic and societal globalization has continued its unfettered acceleration. Amid this milieu, Prime Minister Naoto Kan unveiled his government's new program, Heisei no Kaikoku (sometimes translated as "The Heisei-era's Second Opening"), which features several innovative solutions to various issues, unprecedented changes, and new values faced by the world community.

Aside from addressing globalization, the program prioritizes the development of a new generation of pioneers and a highly-connected network of information-based societies. I believe the Japanese people must develop a refined sense of cosmopolitanism, with powers of expression that they can utilize on the world stage confidently, articulating their principles and beliefs clearly.

MEXT intends to achieve this objective by enhancing foreign language education.

In April, it introduced foreign language education in elementary schools, to cultivate communication ability throughout the elementary, junior high and high school education process.

Also, MEXT supports the project to send young Japanese Englishlanguage teachers to the United States, as well as high-school students who aspire to study abroad.

Additionally, it is important for Japanese universities and graduate schools to attract overseas students if we are to cultivate globally minded people in an environment rich with internationally orientated human interaction. To this end, we will promote high-quality international student exchange programs, backed by quality assurances from each university.

Furthermore, MEXT shall promote, in conjunction with American universities, cooperative and collaborative education, joint degrees, two-way student exchanges, strategic dispatch of young researchers overseas, and the active recruitment of foreign researchers.

The ministry plans to institute new measures to further develop outstanding personnel, from the primary and secondary levels to the higher-education level.

We are currently reorganizing the education system to have as a social safety net, so that all students who show initiative and talent, regardless of financial ability, are guaranteed opportunities for

I believe that Japan possesses

tremendous potential as we head further into the 21st century. No other country of similar scale has achieved a ranking on par with Japan on the OECD's Program for International Student Assessment or PISA survey.

The high standard of research conducted in Japan has been evident in recent years given the numerous Japanese Nobel Prize awardees, making the country an attractive destination for foreign

The objective of education to cultivate "humanity and wisdom" endows Japan with the means to resolve the numerous problems that it currently faces, and will ultimately lead to meaningful contributions to the whole international community.

Japan is an attractive country that embodies friendship, faith, and trust. I hope that foreign students and researchers will enjoy these aspects to the full during their stay in the country.

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### Japanese schools raise their international premium

Over the past decade, the education sector has assumed a greater significance in the economic programs of governments. The imperative to build a knowledge-based society amid unbridled globalization and tough competition among countries has enlisted schools in the task of economic development.

So, governments set up road shows and educational fairs to recruit foreign applicants. Aside from becoming a vital part of a trade policy, education has also become an important manifestation of a country's soft power.

Lately, Japanese universities, some backed by government incentives, and others under their own initiative, have gone increasingly bilingual as part of an effort to make the country's educational sector less exclusionary and more globally competitive.

Among the schools that have intensified efforts to attract more overseas students is J.F. Oberlin University, a private institution in Tokyo. According to Toyoshi Satow, president and chairman of the board of trustees, J. F. Oberlin has had a long history of fostering collaborations.

"Our school's mission has always been to train internationally active people through the Christian ideals. We would like to create a bridge between China, Japan, and the United States," said Satow. Today, it has tie-ups with 90 different schools in 21 countries and regions.

As of last year, it had 430 students studying abroad and 600 overseas students, some of whom took part in its one-year Reconnaissance Japan (RJ) Program, which focuses on language instruction and training courses.

"The assumption is that people who want to come to Japan want to take courses on Japan. So we've set up a variety of courses that concentrate on Japanese studies. That's not to say that the university will only reach out to that specific student. We will continue to grow this program, and are looking at options outside of Japanese studies currently," said Dr. Bruce Batten, J. F. Oberlin's vice president for international affairs.

"We also want to get students who might not normally come to Japan. So we don't have a Japanese language requirement for exchange students. We can teach them at the beginning through advanced level," he added.

To get more international students, J. F. Oberlin also set up a new American affiliate in San Mateo, California.

Traditionally known for its core liberal arts education, International Christian University (ICU) has been popular among foreign students and Japanese students who grew up abroad. For university president Norihiko Suzuki, ICU's appeal to applicants lies in its uniqueness.

"ICU is one of few universities in Japan that allows students to come to college without declaring their major. We give the opportunity to individual students to decide their own major, to decide the direction of their future career, and to essentially live their own lives," he said.

As a testament to ICU's commitment to the individual student, nationwide student satisfaction surveys have ranked the university at the top continuously since 1997.

The openness has attracted not only international students and globally minded Japanese students, but also American universities looking for partners for their studyabroad programs and professor exchanges.

"We have a long history of a strong relationship with the University of California system and have started cooperating closely with Middlebury College," said Suzuki.

Another trend is the growth of more overseas partnerships.

For Tokyo's Chuo University, founded in 1885, the push to strengthen foreign partnerships includes participation in the United Nations Academic Impact Initiative and a unique new program focusing on ecosystems in East Asia.

"We are currently developing a



Over the past few years, several Japanese universities have stepped up their efforts to attract more overseas students.

Water Environment Program that deals with water management related issues It is endorsed by the Japanese government and involves partners in China and Korea. This 'triangle' of universities and research institutes will train and license professionals capable of managing water-related environmental challenges," said President and Chancellor Kazuyuki Nagai.

Known for its long relationship with London's Middle Temple Court and as tne alma mater to three Japanese Supreme Court justices, Chuo University has used the strong reputation of its Law Faculty and Law School to promote more international exchange.

"Last year, we launched an international summer program in English offering an introduction to Japanese law," said Nagai. In cooperation with Boston University Law School, it also offers a summer program that introduces the U.S. legal system to Japanese students.

From its two campuses, in Tokyo and in Yokohama, Meiji Gakuin University, currently led by President Dr. Haruki Onishi, has reaffirmed its global outlook through its academic programs.

While Meiji Gakuin offers undergraduate programs in letters, economics, sociology and social work, law, international studies, and psychology, earlier this year, the university launched its program in global and transcultural studies.

"English is going to be used in every class throughout the whole curriculum. We hope about a third of the students in this program could use English fluently as native speakers. In this new program, students will be taking courses in international studies, sociology, and economics. Its emphasis will be on internships." Onishi said.

With that goal in mind, Onishi emphasized that the university is actively seeking corporate partners all over the world that will accept Meiji Gakuin's students from the Global and Transcultural Studies department. "One of the main aims of this new department is to seek overseas internship opportunities," he explained.

Complementing that outlook, the school also runs student exchange programs and study abroad programs with around 20 institutions around the world, including the

University of California in the United States and Maastricht University in the Netherlands.

"We are also adding a double degree program with San Francisco State University. I think it is important to deepen mutual understanding by whatever language and it seems to be a global trend to communicate in English. With this program and our new department, we can gladly accept new U.S. students by our polished English," he said.

Meanwhile, the government is making the country's educational system more accommodating to foreign students through the "Global 30 Project," which will expand degree courses that can be obtained through English-only courses.

Yoshiaki Takaki, minister of education, culture, sports, science and technology, said "the government has established a goal of accepting 300,000 foreign students of quality and is aiming to realize a goal of 300,000 Japanese students studying abroad by 2020."

In 2009, the ministry named 13 universities that will spearhead the program and among them are Nagoya University, Tohoku University, and Kyushu University.

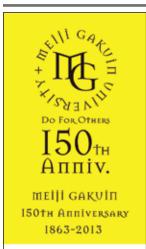
Deep in the heart of Sendai, recently hit by the Great East Japan Earthquake, Tohoku University shows no intent of slowing down (See related article). The university opened its doors for classes only a month after the earthquake and tsunami. The university, traditionally strong in material science, physics, and chemistry, still hopes to attract more international students.

"We are further strengthening the structure so we can increase the number of English courses," said Dr. Akihisa Inoue, Tohoku's president. "We currently have 1,700 foreign students, and within 10 years we hope to double this to 3,000."

For Nagoya University, the Global 30 Project will start by focusing on the strengths of the Greater Nagoya Area, regarded as the heart of Japanese industry and the base of automotive giants like Toyota. "The key word here is sustainability," explained Dr. Michinari Hamaguchi, Nagoya University president.

Automotive engineering is one of five new undergraduate programs offered by Nagoya University as part of the Global 30 Project.

"For the past three years, we



#### Department of Global and Transcultural Studies

Liberal arts curriculum Small class sizes All courses in English Double degree option Study abroad program

www.meijigakuin.ac.jp/~kcareer/

MEIJI GAKUIT UTIVERSITY TOKYO/YOKOHAMA have been offering a unique sixweek intensive program for international students called the Latest Advanced Technology and Tasks in Automobile Engineering," said Hamaguchi.

The course, which offers an opportunity to meet Dr. Shoichiro Toyoda, honorary chairman of Toyota Motor Corporation, has grown so popular with international students that Nagoya University introduced a full-time program in English.

Because the university also set up the new "Green Mobility Research Center" with Toyota and other automobile industries, students will have many opportunities to study and work with the world's leading automotive engineers.

In the past decade, Nagoya University has produced four Nobel laureates - two each in physics and in chemistry.

According to Kyushu University president Setsuo Arikawa, the school will focus on its Global 30 activities this academic year.

"At the undergraduate level, we will be offering close to 180 courses in English. This is only in the engineering and agricultural science departments, which are strengths of Kyushu. This will evolve into an international school of arts and sciences with interdepartmental staffing, and joint Japanese/non-Japanese enrollments. At the grad-

uate level, all 17 schools will have English-based courses with 51 programs altogether," Arikawa said.

As part of the program, Kyushu University will also increase the number of international academic staff to teach English and develop curricula and learning materials, and it will send some of its Japanese faculty abroad for research and training in teaching methods.

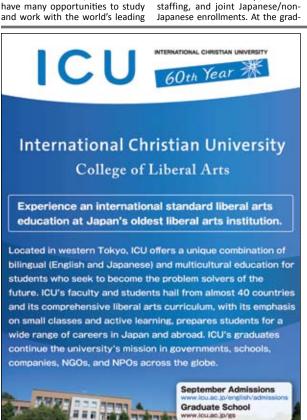
Among other initiatives, Kyushu University also founded the International Institute for Carbon-Neutral Energy Research (I<sup>2</sup>CNER), which will focus on developing hydrogen energy and carbon dioxide sequestration technologies.

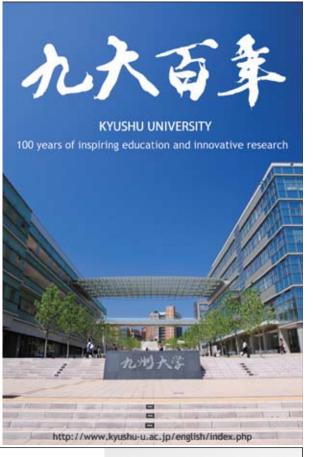
"The institute has a close col-

laboration with the University of Illinois at Urbana-Champaign, and through it with the U.S. government and other U.S. universities and research institutes. With this new institute established, we expect the level of faculty mobility from and to the U.S. to increase further," said Arikawa.

Such tie-ups are integral to Japan's push to become more appealing to students and researchers.

"The United States is one of the more important countries in terms of exchange for Japan. Therefore I hope exchanges with the U.S. will become even more enlivened through various measures," said the education minister.







## **CHUO UNIVERSITY**

#### Knowledge into Action —

As a member of the United Nations Academic Impact global initiative, Chuo University takes its global responsibilities very seriously.

Following the recent Tohoku-Kanto Earthquake, we would like to extend our warm appreciation to all of our friends and colleagues throughout the world and thank them for the concern they have shown the Chuo University community.

Chuo was not damaged by the earthquake and we are now in our 126th year of operation, ready to serve you.



# Tohoku University stays open and ahead



Since its establishment in 1907, Japan's Tohoku University has not wavered from its "Research First" principle and "Open Door" policy in line with its original mission to provide first-rate education and support groundbreaking studies that solve many of the problems facing the globe and help build a just and peaceful world.

Tohoku University acquired a sterling reputation because of the efforts and accomplishments of all those who have passed through the halls of its campuses and facilities for more than a century. It has distinguished itself from other universities because of its alumni, faculty, staff, and the local community.

Today, the world faces a variety of difficult challenges that need to be addressed on a global level. By applying the knowledge accumulated over the past century and overseeing more achievements in the fields of research and education, the school remains determined to play a leading role as a world-class university that helps humanity overcome those challenges.

#### Consistently at the top

From January 1999 to December 2009, in a ranking of universities around the world compiled by Thomson Scientific, Tohoku University placed third worldwide and first in Japan in terms of materials science, tenth worldwide and second in Japan in physics, and 18th worldwide and fifth in Japan in chemistry.

And according to a survey by the Asahi Shimbun newspaper, Japanese high schools named Tohoku University the country's best university in the "overall assessment" and "academic and personal development" categories.



Akihisa Inoue, president of Tohoku University

#### Opening its doors to foreigners and women

The great Chinese writer Lu Xun, also known as Zhou Shuren (1881–1936), is regarded by some to be a spiritual pillar of modern China. Through his works, Lu initiated the modernist movement in Chinese literature.

Lu Xun was the first foreign student to enter Sendai Medical College (the predecessor of Tohoku University), which he did in 1904. Although he originally wanted to become a physician, Lu Xun later devoted himself to writing, deeply inspired by the intelligence and compassion of his anatomy teacher, Professor Genkuro Fujino, who was later immortalized in fictionalized accounts of his life in school.

To commemorate the 100th anniversary of Lu Xun's enrollment, Tohoku University established in 2004 the Lu Xun Award (renamed the Professor Fujino Award) and the Lu Xun Incentive Award (renamed the Professor Fujino Incentive Award), which respectively recognize researchers who have made notable contributions to the university and to outstanding Chinese students.

In 1913, despite resistance from the government, Tohoku University (then an Imperial institution) became the first learning institution in Japan to accept women, with the enrollment of Chika Kuroda, Ume Tange and Raku Makita.

Under its "open door" policy, Tohoku University's first president, Masataro Sawayanagi, accepted graduates of higher normal schools and



Tohoku University consistently ranks among the best Japanese universities every year.

colleges, as well as licensed middle school teachers

Chika Kuroda would later become a teacher at her alma mater, Tokyo Women's Higher Normal School (later renamed Ochanomizu University) and study at the University of Oxford and other institutions abroad. Upon returning to Japan, she studied under Riko Majima at the Institute of Physics and Chemistry and was responsible for much pioneering research. In 1929, she became Japan's second female Doctor of Science.

#### Practice-oriented research and education

Among Tohoku University's prominent former faculty members is Shigeru Oda, who has served Japan as a delegate to the United Nations, UNES-CO, IAEA, and several other international organizations. While completing his doctorate in law at Yale University, Oda carried out pioneering research on the Law of the Sea and wrote his dissertation on the subject, which made him one of the world's leading experts in international law.

He returned to Japan in 1953 and became associate professor at Tohoku University, teaching international law.

Oda also served at the International Court of Justice at The Hague for an unprecedented three terms for a total of 27 years. He was also elected

as a member of the Japan Academy and is a member of Tohoku University's Management Committee.

In another field, Tohoku alumni Masayoshi Esashi is director of the Micro System Integration Center ( $\mu$ SIC).

Value-added devices, which are

key system components, are being developed through his research on "micro systems." These devices are fabricated using on-chip integration of heterogeneous components (for circuits, sen-

Shigeru

Justice

sors, and moving structures).

Micro systems have been commercialized by prototyping them in his laboratory or by training dispatched industrial researchers. The electrostatically levitated rotational gyroscope shown



emeritus and former judge

of the International Court of

professor

Electrostatically levitated rotational gyroscope

here is an example of a commercialized micro

system

The gyroscope is used to measure two axes of rotation and three axes of acceleration simultaneously with high precision for navigation.

According to an industry-by-industry evaluation in *Nikei-Sangyo* newspaper, Esashi's laboratory was ranked highest.

#### **Future Global Leadership Program**

In 2009, the Ministry of Education, Culture Sports, Science, and Technology (MEXT) chose Tohoku University as one of the 13 universities to take part in the government's "Global 30 (G30) Project," which aims to attract 300,000 overseas students by 2020 in line with efforts to internationalize the country's educational system.

As a participant in the program, Tohoku University launched its Future Global Leadership (FGL) Program, which will increase the number of courses taught in English and thus allow both international and Japanese students to earn their degrees via courses taught exclusively in English.

#### Rebuilding after a crisis

Following the natural disaster that hit northeastern Japan in March 2011, Tohoku University President Akihisa Inoue has affirmed the school's commitment to rise from the devastation:



Newly accepted students gather at Tohoku University's opening ceremony this year.

"I would like to offer my deepest thanks to all of you who have supported and encouraged us following the Great East Japan earthquake of March 11, 2011. Although we were hit by the historically unprecedented earthquake, Tohoku University will exert our collective efforts to contribute to the regional society by bringing together our wisdom for the restoration and revitalization of the region.

At the same time, we will strategically and systematically address research that will lead Japan into a new era and disseminate and apply our research findings.

While we are closely monitoring the Fukushima Daiichi Nuclear Power Station in regards to the radiation leak incident, radiation monitoring conducted by our university shows normal levels.

Due to the earthquake, some of our university's facilities and equipment were damaged. We are, however, committed to immediate and complete restoration of our research and educational infrastructure. We will move forward in order to realize even greater strides in our educational and research capabilities, and in our ability to contribute to society."

Tohoku University: http://www.tohoku.ac.jp/english/

Global 30 Project (G30): http://www.fgl.tohoku.ac.jp/



## J. F. Oberlin University

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