清華大學
Tsinghua University

Tsinghua Newsletter

Issue 22
January 2013

TH-T-1016

Contents

Previous issues of the *Tsinghua Newsletter* can be found on the website at http://news.tsinghua.edu.cn/publish/newsen/7160.

News & Events

More Journals Included in SSCI and SCI

The Chinese Journal of International Politics (CJIP), edited by the Institute of Modern International Relations at Tsinghua University, was added to the list of journals covered by the Social Science Citation Index (SSCI) in July 2012. It has become the first publication from China's mainland covering Political Science and International Relations to be included in the SSCI.

The SSCI database covers 3,000 of the world's leading social sciences journals across 50 disciplines.

The editor-in-chief of the CJIP is Professor Yan Xuetong, Dean of the Institute of Modern International Relations. The editorial board includes nearly 20 scholars and experts in international relations from different countries. Articles and papers in the journal focus mainly on such issues as China's foreign policy, international relations in East Asia, international relations theory, international security and international political economy.

Tsinghua and its affiliated institutes edit and publish a wide range of academic journals covering various fields. Tsinghua University Press alone publishes eight kinds of academic journals. Two of them, *Nano Research* and *Building Simulation*, are covered by the Science Citation Index Expanded (SCI-E). The Journal Citation Reports (JCR) impact factor of *Nano Research*, in 2011, was 6.970, ranking third among all journals covered by the SCI from China's mainland.

Frontiers of Environmental Science & Engineering, another bi-monthly journal edited by Tsinghua's School of Environment, is also indexed in SCI-E and other major academic databases.

Tsinghua Tops China's MBA Ranking for the Fifth Time

Tsinghua University's MBA Program tops the list of "China MBA Rankings" for the fifth consecutive time according to a ranking published by *Manager*, China's largest circulating business management magazine. In 2012, Tsinghua ranked first in four of the 13 performance indicators, including faculty, brand, student satisfaction, and reputation among employers.

Tsinghua MBA students at the Business Ethics Debate Contest 2012

The Rankings are based on a survey of over 60 MBA programs selected from among over 200 available in China. It includes ratings from graduates of MBA programs and the presidents and CEOs of over 150,000 businesses. The MBA programs are rated by criteria ranging from faculties, courses, career progression to reputation. Since 2004, China's MBA Ranking by *Manager* has been published every other year.

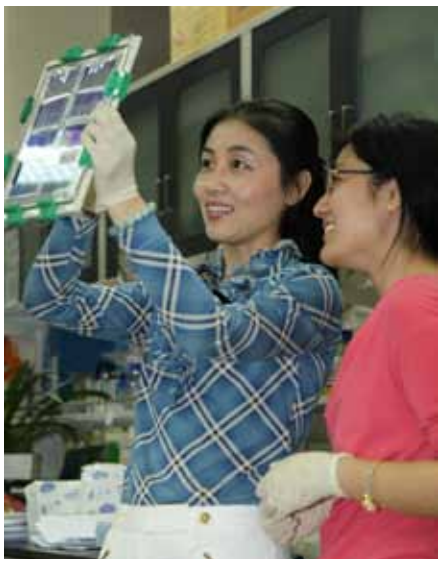
Tsinghua MBA Programs are comprised of International MBA Program (taught in English), full-time MBA Program and part-time MBA Program. Since its inception in 1991, more than 8,000 students have been conferred MBA degrees. Tsinghua MBA Programs boast innovative curriculum, rich learning resources, diverse international cooperation and an outstanding alumni network. There are more than 100 MBA courses (more than a third are taught in English) with over 100 seminars and forums held each year. Case studies are frequently adopted in MBA courses and the "China Business Case Center" was established for the programs. Having established student exchange programs with more than 90

overseas business schools, the program provides students with great opportunities to broaden their global horizons and to expand networks. In addition, the Alumni Mentorship Program of Tsinghua MBA bridges alumni with current MBA students, providing advice and support.

The excellence of its MBA programs has been noted in rankings by influential business magazines worldwide. In 2003 and 2004, *Fortune* (China Edition) ranked Tsinghua's School of Economics and Management (SEM) as having the best MBA program in China. In 2005, Tsinghua SEM was crowned top of the list of *World Executive* magazine's Most Influential MBA Programs in China. Tsinghua SEM is the first business school on the Chinese mainland to attain both AACSB and EQUIS accreditation.

Professor Yan Ning Wins China Young Female Scientists Award

Dr. Yan Ning, a professor of Tsinghua's School of Medicine, won the 2012 "China Young Female Scientists Award", announced by the All-China Women's Federation. She is dedicated to the structural and functional investigation of membrane transport proteins related to major diseases as well as the molecular basis underlying abscisic acid perception in plants.



Professor Yan Ning (left)

Professor Yan and her team made significant progress in the understanding of membrane transport proteins in 2012, publishing the structures of a bacterial voltage-gated sodium channel as well as a bacterial homologue of glucose transporters, two transport proteins that play a fundamental role in life processes. Their work was published in *Nature* Magazine in May and October of 2012, respectively. In particular, *Nature* composed a News & Views section for the latter, which was published as a full Research Article. Over the past four years, Yan's laboratory at Tsinghua has published 20 articles in high-profile international research journals. As the corresponding or co-corresponding author, Yan has published five research papers in *Nature*, one in *Science*, and one in *Cell*. Their work was cited in "Breakthrough of the Year" selected by *Science* in 2009 and 2012.

There are 21.6 million female scientists in China accounting for 40% of all Chinese scientists. The China Young Female Scientists Awards, started in 2004, are the first in China to honor young female scientists under the age of 45, who have made significant and innovative achievements in all fields of science. Until now, the award has been given to 76 young Chinese female scientists. Ten female scientists won the 2012 award. Professor Wu Jiawei from Tsinghua's School of Life Sciences won the same award in 2011.

The China Young Female Scientists Awards were set up jointly by the All-China Women's Federation, the China Association for Science and Technology, the Chinese National Commission for UNESCO and L'Oreal (China) Ltd.

Tsinghua Graduates Win Eureka Prizes

Two Tsinghua graduates, Dr. Zhu Yonggang and Dr. Shen Wei, have both been awarded the prestigious Australian Museum Eureka Prizes for 2012. The winners were announced in August at the Eureka Prizes Award Dinner, regarded as the largest national celebration of Australian science.

Dr. Zhu, who enrolled in Tsinghua's Department of Hydraulic Engineering in 1980, now works for Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO). He has led a research group at CSIRO Materials Science and Engineering and developed two prototype devices able to detect the most dangerous warfare agents, including sarin, soman, tabun and VX, as well as their degradation products. The devices can identify chemical agents from swabs and water or soil samples in about 30 seconds.

Dr. Zhu won the 2012 Eureka Prize for Outstanding Science in Support of Defence or National Security.

Dr. Shen Wei graduated from Tsinghua's Department of Chemical Engineering in 1983. His research team at the Department of Chemical Engineering at Monash University in Melbourne won the 2012 Eureka Prize for Innovative Use of Technology. The prize recognized their invention of the first equipment-free, bioactive paper-based diagnostic device to test blood types. Using their method, it takes less than a minute to 'write out' the blood type.

Their innovative paper-based indicator is coated with a hydrophobic reagent except for the areas marked with blood type letters. Antibodies are introduced into each letter

indicating blood type. When a blood sample is added to the paper, red blood cells react with the corresponding antibody. After rinsing with a saline solution, the letter indicating the blood type shows clearly on the paper.

Presented annually by the Australian Museum, the Eureka Prizes are part of Australia's national science awards, rewarding excellence in the fields of scientific research and innovation, science leadership, school science and science journalism & communication.

Dr. Zhu receives the prize from Dr. Alexander Zelinsky, Australia's Chief Defense Scientist

Dr. Shen Wei

Art Works Win Wu Guanzhong Art & Science Innovation Awards

The 3rd Art and Science International Exhibition and Symposium, launched by the Academy of Arts and Design at Tsinghua University, opened to public at the China Science and Technology Museum from November 1st to 30th, 2012.

With the theme "Information, Ecology and Wisdom", the exhibition had on display 112 pieces of work from 22 countries and regions. The art works were selected from 462 entries submitted by art academies and research institutes in the US, Germany, the Netherlands, Austria, France, Spain, the UK, Australia, Italy, Canada, Ecuador, Denmark, Mexico and China.

The exhibition displayed a wide range of works, including new media art, product design, architectural and environmental design, and visual communication design. An important highlight of the exhibition was a focus on the combination of creative art with advanced scientific achievement, which has attracted thousands of people.

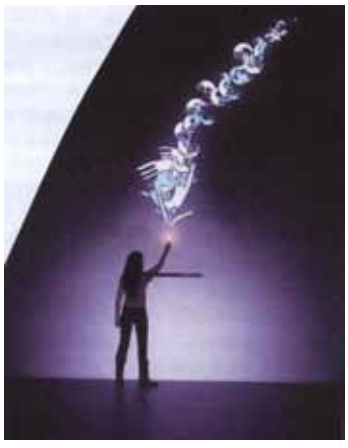
Examples include the work "Light My Fire" by Florian Pittet Eric Morzier, where people needed only a lighter or a match to light an impressive computer generated firework display projected on a wall. In the exhibition hall, a long queue formed in front of the "Avatar Morphing Station" designed by Shi Danqing to see the look of their own faces morphed into an avatar image. "Montage of Light" by Huang Siwen applied unique composite laser cutting technology to create new facing materials which could change the texture and patterns of the material.

The establishment of the Wu Guanzhong Art & Science Innovation Awards distinguished the exhibition from previous ones. The awards ceremony was held at Tsinghua University on November 2nd. Nine pieces of work won the awards this year: "Escape" by French artist Laurent Mignonneau and Austrian Christa Sommerer, "Empty Window" by Huang Shi and Li Jingfeng from China, "Light My Fire" by Swiss artist Florian Pittet Eric Morzier, "Breathing Lamp" by Qiu Song from Tsinghua's Academy of Art & Design, "Strandbeests" by Theo Jansen from the Netherlands, "Smart Bird" by German company Festo, "Mother & Child" by Ackroyd & Harvey of the UK, "The Sea Chair Project" by Studio Swine of the UK, and "Collective Works" by Studio Mischer'Traxler of Austria. In addition to an award certificate and a medal, each winning work received RMB 100,000 from the Wu Guanzhong Art & Science Innovation Fund.

The Art and Science International Exhibition and Symposium has been held every five years since 2001. It aims to display avant-garde explorations in arts and science and to provide a platform for academic discussion about arts and science.

Dancing Robots

Strait Power Turbine



Light My Fire

Montage of Light

Student Education & Development

Tsinghua Undergraduate Programs Strengthened with Internationalization

Tsinghua University has continued to strengthen international education elements of its undergraduate educational programs. In 2012, over 1,400 undergraduates from Tsinghua University participated in a variety of overseas programs such as joint degree programs, exchange programs, summer school programs, internships as well as international conferences and competitions.

Students at Yale University

Tsinghua University actively promoted two main initiatives in 2012, the implementation of overseas exchanges and summer research programs. By the end of 2012, the university had signed 115 student exchange agreements with cooperative partners from 28 countries and regions. Under the agreements, which include credit acknowledgement and tuition exemptions, approximately 380 undergraduate students had the opportunity to participate in the program. Another initiative to send undergraduates in science and engineering to advanced overseas laboratories attracted 119 participants in 2012. The students spent six to ten weeks in laboratories at partner universities such as Stanford University, the University of Michigan and the University of Tokyo. Over 470 undergraduates attended short-term courses, internships, and summer camps at more than 20 universities, including Yale University, the University of California at San Diego, and the University of Exeter.

Currently, there are 1,390 international students from 42 countries studying in 71 undergraduate programs with 29 schools and departments at Tsinghua University, marking a historical high. Tsinghua University has become a welcome destination for international students, receiveing thousands of applications from abroad every year.

Student Team Wins Awards at Eighth Challenge Cup

A student team from Tsinghua University was crowned champion at the "Eighth Challenge Cup - College Students Business Plan Competition" held at Tongji University from November 24th to 28th, 2012. The team also won the influential "Most Popular Award" in the Entrepreneurship Talent Challenge Event, which is set up for individual awards.

The team was primarily comprised of four members, Tang Qijing, a Ph.D. student from Tsinghua's School of Public Policy and Management, Zhu Junlin, an undergraduate student from the School of Mechanical Engineering, Lin Xi and Liu Gang, both postgraduate students from the School of Software. Their winning design was called "Notemate Cloud Class". The team ranked first in the project presentation and defense category in Information Technology Group, and became one of the top 15 teams selected from a total of 127 teams in the competition.

Their project, Notemate Cloud Class started at the beginning of 2012, was developed completely by the students themselves. It applies cloud computing technology and mobile smart devices to the arena of educational information, making the whole study process recorded in real-time. Students can use tablet

Main members of the student team who won the awards, from left, Lin Xi, Liu Gang, Tang Qijing, and Zhu Junlin

devices, mobile phones, and computers to study at anytime and anywhere. By using multi-interfacing technology, the project greatly improves the teaching process and increases the chances for interaction between teachers and students. In the background system, all the data from a student's efforts and input, from any location, including the classroom, can be collected and analyzed. In this way, the system offers real-time dynamic teaching evaluation, and signals a growing potential for "cloud era" education in the future.

The "Challenge Cup - College Students Business Plan Competition" was first held at Tsinghua University in 1998. It is held every two years at universities around China and is considered the top competition event in creative research for all university students in China.

Student Art Troupe Presents Performance Series

Tsinghua's Student Arts Troupe staged a series of performances from November 16th to December 16th, 2012. Seven teams, with over 400 students, held eleven shows during the month of performances.

These shows were staged by members of various groups within the troupe, including the Key Instrument Ensemble, Chinese Folk Vocal Art Team, Drama Society, Chorus, Dance Group, Symphony Orchestra and Military Band. Both classical and modern world-renowned artistic pieces were covered in the programs, a number of which were created by the students themselves.

The Key Instrument Ensemble presented a salon concert named "Fall in Love with Keyboard Chocolates", in which they greatly impressed audiences by playing their brand-new adapted accordion octet titled "Canon". All the comedies performed by the Chinese Folk Vocal Art Team are related to students' life on campus. A dance performance with the theme "Love Dance in Tsinghua" showed a series of classical and folk dances, and included a process of communication with student audiences. The Symphony Orchestra performed an award-winning work which won them the First Prize at the National College Student Art Exhibition in February, 2012. They also played in full, Tchaikovsky's symphony No.5 in E minor in the second half of the concert, which particularly amazed audiences. The shows were performed to a total audience of more than 4,000. Every year performances presented by the Student Arts Troupe are welcomed all around by students.

Tsinghua's Student Arts Troupe was founded in 1958. It consists of nearly 1,000 students from more than 20 different schools and departments. They all share a common dedication and love for the arts and play active roles both on campus and across the country. The troupe has become well-known for its exceptional performance skills and practice of aesthetic education and has performed in Hong Kong, Macau, Singapore, Japan, and the United States.

A Mongolian folk dance

Symphony Orchestra performs in the New Year's Concert

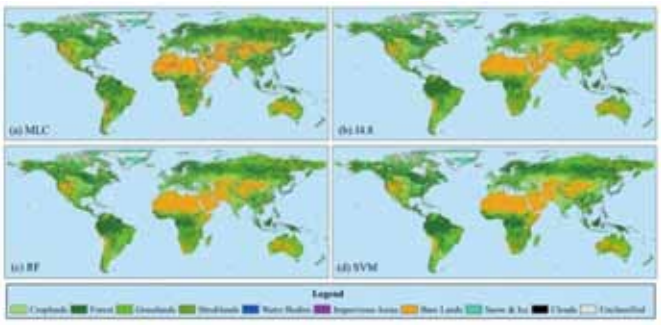
Research & Achievements

First 30-Meter Resolution Global Land Cover Maps

The first 30 meter spatial resolution global land cover maps have been published by faculty members from Tsinghua University's Center for Earth System Science. The maps are able to provide fundamental information for land process modeling at both regional and global scales, conservation of wildlife and biodiversity, global biological carbon storage distribution and carbon sequestration planning, farmland development strategies, and management of water resources.

Although there are several free global land cover maps available at scales of 1,000 to 300 meters derived from remotely sensed data with different classification schemes, previous research found that the accuracy of different land cover categorizations varies greatly. Existing global land cover maps derived from remote sensing were all based on time series of coarser resolution satellite data. Globally consistent land cover data from medium resolution satellite sensors that are an order finer than weather satellite sensors has never previously been produced.

The project team led by Professor Gong Peng used Landsat Thematic Mapper (TM) and Enhanced Thematic Matter Plus (ETM+) data. They selected and classified 8,929 Landsat TM/ETM+ green season scenes from the Global Land Cover Facility at the University of Maryland, the U.S. Geological Survey's Earth Resources Observation and Science Center and China's Satellite Ground Station. The images of those sources cover most of the world, with the exception of Antarctica and Greenland.



A synoptic view of the global land cover products derived with MLC (a), J4.8 (b), RF (c), and SVM (d)

A unique land cover classification system was developed with the capability to cross-walk to the existing United Nations Food and Agriculture Organization land cover classification system, as well as the International Geosphere-Biosphere Programme (IGBP) system.

A total of 91,433 training samples were collected by traversing each scene and finding the most representative and homogeneous samples. By employing four freely available classifiers, including the maximum likelihood classifier (MLC), J4.8 decision tree classifier, random forest and support vector machine (SVM), the team obtained four initial sets of global land cover maps. Assessed with 36,630 test samples, the SVM produced the highest overall classification accuracy of 64.9%, while random forest scored an accuracy level of 59.8%, J4.8 decision tree classifier 57.9% and MLC 53.9%.

All image classification computation was done on the 1000TB super-computer at Tsinghua. The computer has 740 nodes each of which is equipped with two Intel Xeon X 5670 CPUs and 32-48 GB's of memory. The results are now available at http://data.ess.tsinghua.edu.cn.

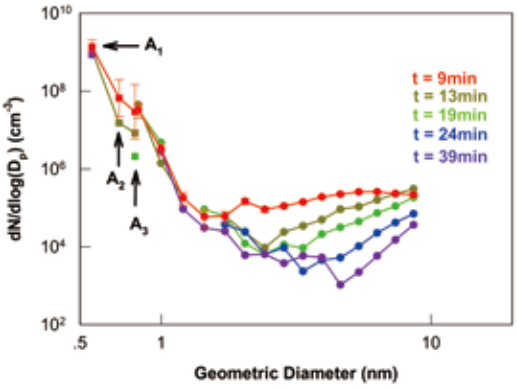
The project, titled Finer Resolution Observation and Monitoring of Global Land Cover Project, was funded by China's Ministry of Science and Technology. The project team also included researchers from other institutions including the University of California, Berkeley, the State Key Laboratory for Remote Sensing Science, the Institute of Remote Sensing Applications at the Chinese Academy of Sciences, the University of South Florida, Beijing Normal University, and the National Geomatics Center of China.

A Chemical Reaction Model for Predicting Nucleation Rates

Research work that could lead to more accurate estimate of the aerosol effect on climate has been carried out by Dr. Jiang Jingkun from the School of Environment at Tsinghua University and his co-workers in the US. They reported a new approach to model nucleation rates in the earth's atmospheric boundary layer.

Particulate matters in the atmosphere have an effect on human health as well as on climate and air quality. Particles formed by nucleation can affect cloud coverage and therefore, the earth's radiation levels. Measurements worldwide show that nucleation rates in the atmospheric boundary layer are positively correlated with concentrations of sulfuric acid vapor. However, current nucleation theories have not been able to correctly predict either the observed nucleation rates

Dr. Jiang Jingkun



Time-dependent particle size distributions formed by gas-phase nucleation in a chamber

or their functional dependence on sulfuric acid concentrations.

The new model outlined by Dr. Jiang and co-workers treats nucleation as a sequence of chemical reactions between clusters and acidic and basic gaseous compounds. The model uses evaporation rate constants determined from direct measurements of cluster concentrations to infer nucleation rates. It predicts that nucleation rates are equal to the sulfuric acid vapor collision rate times a pre-factor that is less than unity, and that depends on the concentrations of basic gaseous compounds and pre-existing aerosol.

Although uncertainties remain about the effects of relative humidity or specific basic gaseous compounds on cluster evaporation rates, this model predicts nucleation rates observed in Mexico City and Atlanta to within a factor of 10. This is a significant improvement over the classical theory, which differs from measurements by factors of 10^{10} or more.

The findings were made possible by the application of newly developed scientific instruments such as the DEG SMPS, a scanning mobility particle spectrometer (SMPS) equipped with a diethylene glycol (DEG) based condensation particle counter, capable of 1.1 nm mobility diameter particle detection. Dr. Jiang and co-workers published 4 articles in 2011 on the development of these new instruments and their applications. It includes the first complete measurements of neutral aerosol number distributions in the nucleating atmospheric system, from nucleating vapor molecules and molecular clusters to 1-3 nm particles and beyond.

Their recent findings were published online in October 2012 in the *Proceedings of the National Academy of Sciences*. Apart from Dr. Jiang, the research team includes scientists from University of Minnesota, National Center for Atmospheric Research, Augsburg College, and Brookhaven National Laboratory in the US.

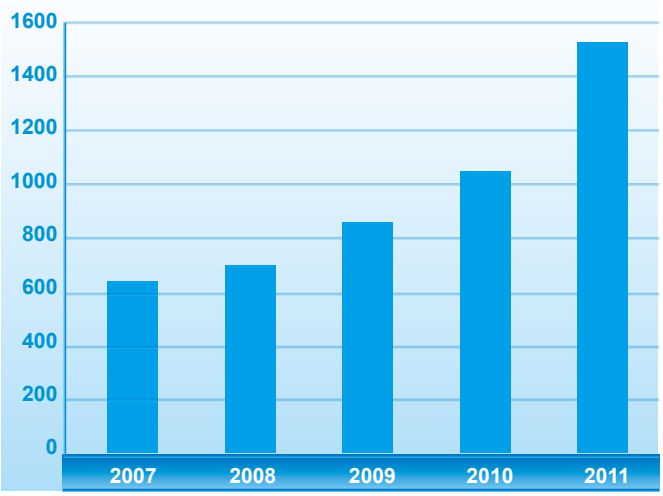
Tsinghua Ranks 15th in IEEE Spectrum Patent List

In November, 2012 the Institute of Electrical and Electronics Engineers (IEEE) published the 2012 Patent Power scorecard on the website of its flagship journal Spectrum. Tsinghua ranked 15th in the category for universities, education and training. It is the only university from outside the US to win a top 20 place.

The rankings are based on an objective and quantitative benchmarking of the patent portfolios of more than 5,000 leading commercial enterprises, academic institutions, nonprofit organizations, and government agencies.

Organizations are ranked based on their 'Pipeline Power', measured by the number of US patents they have been granted in 2011 and weighted on a number of other metrics that reflect the growth, impact, originality, and generality of the organization's patent portfolio.

Tsinghua was granted 118 US patents in 2011. Based solely on the number of patents, it ranks fifth among the top 20 universities within its category.



Patents granted to Tsinghua globally in recent years

Social Links

Public Benefit Project Wins Social Funding

A public benefit project developed by a Tsinghua student team, who are members of the Qinghai branch team of the Tsinghua 14th Annual Postgraduate Voluntary Teaching Program, was awarded a social funding from the "Chinese Young Volunteer Public Benefit Dream Fulfilling Action" program. The project focuses on research and teaching at a primary school for Hui ethnic group children located in a village in Qinghai Province. The announcement was made by China Youth Daily and the volunteer department of the Youth League on December 12th, 2012. Out of 616 applications from 31 provinces, only 27 projects won the RMB one million funding support in 2012.

The project developed by the team includes offering five courses at primary school level, with contents that include geography, basic English, general knowledge, reading of Confucian classics and special training and activities designed in relation to the local Hui ethnic group, as well as an Open Day for parents. The program started in November 2012 and will last for seven months, with a major goal of improving students' comprehensive abilities. To prepare for the project, the team has been developing several forms of multi-media research and educational tools, including a feature film, six two-minute short films, one research article and one article based on surveys of people associated with the project.

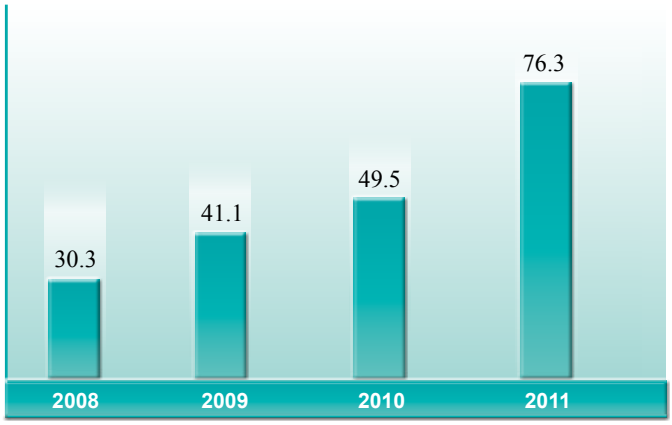
The Tsinghua Postgraduate Voluntary Teaching Program, initiated in 1998, has seen more than 200 volunteers helping to teach in the rural areas of Henan, Gansu, Shanxi, Hubei, and Qinghai Provinces, as well as the Tibet Autonomous Region. The program is currently running several one-year voluntary service projects in various locations, including the Tibet Vocational and Technical College, Qinghai Huangzhong County No.1 Middle School, the Huangzhong County Vocational and Technical College, and Gansu Wuwei No.6 Middle School.

Tsinghua volunteers with pupils and a local teacher at the primary school

More Donations Finance Students at Tsinghua

Tsinghua students are receiving more financial aid because of an increase in alumni donations as well as other supporters of the university. The endowment is being used to directly support outstanding students and those who in need through scholarships, stipends, and alumni grants.

In 2012, the Tsinghua University Education Foundation (TUEF) supported a third of the total scholarship and financial aid programs of Tsinghua University. TUEF allocated approximately RMB 19.68 million in scholarships and stipends that included about 150 scholarship programs and 50 financial aid programs. TUEF directly managed 47 scholarship programs and 41 financial aid programs, helping more than 2,300 students. Over 70% of the programs were funded by individual donors. TUEF also distributed alumni grants of RMB 8.96 million raised by the Tsinghua Alumni Association, benefitting about 1,500 students.



Donations for scholarships. stipends and grants
(RMB, million)

Tsinghua Graduates Favored by Top 100 Companies

Tsinghua University emerged in top place in a university ranking based on the desirability of their graduates as potential employees. The list was released by a commercial education website named "Go to College" on December 12th, 2012. Listed in second and third places respectively were Shanghai Jiaotong University and Wuhan University.

The ranking is based on a survey among the Top 100 companies in China issued by *Fortune* magazine on their opinions about the graduates of 493 universities and colleges in China. The question they were asked was "You're the boss: which graduate would you pay a salary to work for you?" The universities are ranked by the count and frequency of campus recruitment fairs held at the universities between 2008 and 2012. The survey results show that when it comes to hiring staff, Tsinghua graduates are the favorite of the Top 100 companies in China. Excellence in academic performance, cultural experience, and professional expertise among Tsinghua graduates helped to win respect of these companies. Around a quarter of the Top 100 companies come to Tsinghua University to recruit students every year. In 2012, approximately 60% of Tsinghua graduates went to work for state-owned enterprises.

Campus recruitment fair at Tsinghua

Tsinghua University has established extensive cooperation with global companies. Among the top 100 companies listed in the Fortune Global 500, thirty-seven have research collaboration projects with Tsinghua University. Twelve have made generous donations to Tsinghua and four provide funding for student scholarships.

International Cooperation & Exchange

2013-14 Degree Programs for International Students

In the 2013-14 academic year, Tsinghua University is offering to international students 38 bachelor's degree programs, 99 master's degree programs and 78 Ph.D. programs. The subjects cover a variety of academic areas, including sciences, engineering, humanities, history, philosophy, economics, management, law, education, arts, and medicine.

Some graduate programs taught in English are offered to students who are skilled in English but are not proficient in Chinese language, including 11 master's programs and one doctoral program. These are Master in Advanced Computing, Master of Architecture, Master of Engineering in International Construction and Project Management, Master in Environmental Engineering and Management, Master in Global Business Journalism, Master in International Relations, Master in Management Science and Engineering, Master in Mechanical Engineering, Master of Public Administration in International Development, the Master of Law Program in Chinese Law, Tsinghua-MIT International MBA Program (IMBA), and Doctor of Juridical Sciences.

Numbers of International Degree Students at Tsinghua

Graduates at a Commencement Ceremony

As one of the top comprehensive universities in the world, Tsinghua is attracting increasing numbers of outstanding students from around the world. Currently more than 3,530 international students from 108 countries study at Tsinghua, and more than 1,250 of them are postgraduates.

Sino-French 4+4 Program Educates Transcultural Engineers

The framework agreement for the Sino-French 4+4 Program was renewed for another five years on October 23rd, 2012. All nine participating universities signed the attached double-degree cooperative agreements.

The Sino-French 4+4 Program cooperative agreement was initiated in 1996 to promote faculty and student exchange and collaboration. The '4+4' represents the four Chinese and four French universities who were originators of the program. Along

Presidents and vice presidents from the nine partner universities shake hands

with Tsinghua University, the other Chinese partners are Shanghai Jiaotong University, Xi'an Jiaotong University, and Southwest Jiaotong University. The original four French participants are Ecole Centrale De Paris, Ecole Centrale De Lyon, Ecole Centrale De Nantes, and Ecole Centrale De Lille. A fifth French partner, Ecole Centrale De Marseille, joined the program in 2004.

In a ceremony to mark the fifteenth anniversary of the program held in Chengdu, presidents and vice presidents met together to review the outcomes of the program. Tsinghua Vice President Yuan Si said, "The program takes the strength of engineering education in both China and France and added to a bi-cultural background, enhances career opportunities for graduates. It is a successful model for Sino-French educational cooperation."

As part of the program, second-year students from the four Chinese universities may apply to study at a participating French university during their third and fourth years. They then return to their home university to continue with their postgraduate studies. They can earn a Master's degree from their home university as well as a Diplôme d'Ingénieur, MSc in Engineering, from the French university. French students can apply to participate in the program during their fourth year. They study in China for two years to finish their internships and thesis, and can also gain two master's degrees.

Chinese students at the Ecole Centrale De Lyon

Julien de Troullioud de Lanversin, a French student who studies at Tsinghua, shared his experiences in China. He said, "We are not just passers-by, we live here in China. The new culture has enlightened me to a new way of thinking, which also enables me to have a better understanding of Chinese culture."

During the past 15 years, more than 530 students have joined the program. Over 240 Chinese students and 70 French students have graduated from the program. Benefiting from their multi-cultural educational background, most of them find jobs in multi-national corporations or research institutes.

University Science Park Sets Up Incubator Abroad

Tsinghua University Science Park (TusPark) is setting up incubators abroad to facilitate innovative entrepreneurship.

Founded in 1994, TusPark became the first Class A university science park in China. It now accommodates over 1,000 scientific and technology corporations and research and development institutes with networks extending to more than 30 cities and regions in China, according to TusPark Co., Ltd. Chairman Mei Meng. The science park encompasses an integrated and complete industrial chain which includes clusters of high-tech entrepreneurships, research and development institutes of trans-national corporations, financial investment companies, and third-party service providers.

To expand its service to other countries and provide a global platform for start-ups and entrepreneurs, TusPark set up its first overseas incubator, InnoSpring, in Silicon Valley in January 2012. It was a joint venture with Shui On Group, Northern Light Venture Capital and Silicon Valley Bank. Located in Santa Clara, California, InnoSpring became Silicon Valley's first US-China technology start-up incubator.

With 1,350 square meters of incubator space, InnoSpring

Opening ceremony of InnoSpring in Silicon Valley, from right, TusPark Senior Vice President Liu Wanfeng, Chairman Mei Meng, Member of Board Director Ma Zhigang, and President Assistant An Hongping

has already attracted and accommodated nearly 40 entrepreneurial teams. It provides finance channels, business consultancy and mentoring support, floorspace and facilities, and various other start-up services. InnoSpring also provides a convenient platform for entrepreneurs from both China and the US seeking cross-border development. It also facilitates marketing in China and cooperation between start-ups and other companies with Chinese institutes.

TusPark Co., Ltd. President Wang Jiwu said, "InnoSpring is but a beginning. We plan to set up more entrepreneurial bases in other places around the globe to promote technology transfer and to help Chinese enterprises wanting to expand overseas."

Education Outlook

National Scholarships Established for Graduate Students

China's Ministry of Finance has established the country's first National Scholarships for outstanding graduate students. From 2013, 45,000 students will benefit from the scholarship scheme annually, including 10,000 Ph.D. candidates and 35,000 master's students.

Under the new scheme, scholarships for each Ph.D. candidate will reach RMB 30,000 (approximately $4,760) and master's student RMB 20,000 (approximately $3,170). Priority for scholarship opportunities will be given to graduate students in the disciplines of basic sciences and other needed subjects. According to the ministry's statement, the selection of scholarship applications will be based on academic performance, research capacity and moral quality.

Currently Ph.D. candidates and master's students receive only RMB 1,000 and RMB 500 respectively from the government for stipends each month. Some Chinese universities with higher incomes from contributors already set their own scholarship schemes and financial aid for students from low-income families. With the implementation of the national scholarship system in future, more and more students will be able to concentrate on their academic efforts without worrying about living costs while studying at university.

2012 Tsinghua Scholarship Awards Ceremony

Government Sponsored Overseas Students to Reach 18,000

Eighteen thousand students intending to study aboard will be sponsored in 2013 by the Chinese government, 2,000 more than the number in 2012. The China Scholarship Council announced the plan recently.

Under the plan, about one third of the sponsorship will be allocated to graduate students, while others who will benefit include visiting scholars and undergraduates.

The total number of government sponsored overseas students is increasing yearly and there are currently around 24,000 students studying abroad. In 2006, only 7,500 were granted the government sponsorship. The figure is now more than twice that level. The range of students and scholars and their fields of study in the sponsorship program have

also expanded over the past few years. Five years ago, most of the sponsorships were awarded to visiting scholars, but now the program extends to senior research scholars, Ph.D. candidates, master's students, undergraduates and even short-term study graduates.

Sponsorship from the Government is an important source of support for students aiming to study aboard. With the funding, students not only receive financial assistance, but their sponsorship is also regarded as a national level honor. Statistics show over 98% of the students sponsored by the government returned on time after finishing their overseas education.

As a result of rapid economic growth and scientific development, studying aboard has flourished in China. According to the "Annual Report on the Development of Chinese Study Abroad (2012)", from 1978 to 2011, the total number of students who studied abroad rose to 2,245,100. This makes China the world's largest exporter of international students.

Ten Universities in Yangtze Delta Region to Recognize Credits Mutually

In order to take advantage of strengths in literature, history and philosophy education from different universities, ten universities in Shanghai, Jiangsu, Zhejiang and Anhui provinces plan to recognize students' academic credits mutually in the future. The decision was made at a Yangtze Delta Classic Disciplines conference recently.

The new plan includes Shanghai University, Suzhou University, Nanjing Normal University, Anhui University, Shanghai Normal University, Yangzhou University, Nantong University, Hangzhou Normal University, Ningbo University, and Anhui Normal University. These ten universities will work on specific areas as education partners to develop these classic disciplines. Their students can apply for exchange study at a partner university for half a year or one year.

The ten universities plan to begin joint training and exchange programs in the near future. According to the plan, upon completion of the students' studies at the partner university, they will receive a transcript of records that will be sent directly to them. The credits students earned at the host university will be transferred to their home university.

Yao Rong, a Professor at Shanghai University, said "We will also promote humanities education reform as part of the project, and create a digital platform for sharing teaching material and information resources."

This plan comes as a sign of new reforms in university education. Students will have the opportunity to learn more by taking courses in a different environment. They will also benefit from other universities' elite faculty members and unique resources.

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