



清华大学  
Tsinghua University

# Tsinghua Newsletter

Issue **21**  
October 2012



# Contents

## News & Events

School of Humanities and Social Sciences Restructured into Two Schools	1
Consortium of Applied Mathematicians Established at Tsinghua	1
Degrees Conferred on Hundreds of International Graduates in 2012	2
Guest Professor Brian K. Kobilka Wins 2012 Nobel Prize in Chemistry	2
SEM Student Yi Siling Wins First Gold Medal at London Olympics	3

## Student Education & Development

Health Oriented Smartphone Game Developed by Students	3
Student Team Wins at IARC 2012	4
English Summer Camp on Tsinghua Campus	5

## Research & Achievements

Tsinghua Technology Powers Cleaner Production	6
Postdoctoral Research Stations in New Areas	6
Two New Research Institutes Established	7

## Social Links

Volunteers from Abroad Join Tsinghua's Summer Service in Rural Areas	7
Distance Education Station Set Up in Tibet	8
Tsinghua Students Volunteer at China Open 2012	8

## International Cooperation & Exchange

Tsinghua and Carnegie Mellon Sign Double Degree Program	9
Tsinghua and KTH Launch New Cooperative C-Campus	10
Joint Research Lab Established with BT	10
26th IAHR Symposium on Hydraulic Machinery and Systems Hosted by Tsinghua	11

## Education Outlook

Patent Rankings of Beijing's Higher Education Institutes Released	11
More Students from Impoverished Areas Enroll in Top Universities	12
Entrepreneurship Education Promoted within Chinese Universities	12
College Open Day to Popularize Scientific Knowledge	13

# News & Events

## School of Humanities and Social Sciences Restructured into Two Schools

Tsinghua University's School of Humanities and Social Sciences has been restructured into two independent schools from this semester. They are to be known as the School of Humanities and the School of Social Sciences. Professor Wan Junren has been appointed as Dean of the School of Humanities and Professor Li Qiang as Dean of the School of Social Sciences.

The School of Humanities consists of the Department of Chinese Language and Literature, Department of History, Department of Philosophy, Department of Foreign Languages and Literatures. About 20 research institutes will also form part of the school, including the International Chinese Language & Culture Center, Institute for Advanced Studies in Humanities and Social Sciences, Academy of Chinese Learning, Research and Conservation Center for Excavated Texts, Center for Ethics and Religious Studies, Joint Institute for China-Russia Strategic



School of Humanities

Cooperation, Research Center for Linguistics, Center for Marx-Engels Literatures Research, Beijing Branch of the Confucius Institute for Business as well as the Center for Liberal Education.

The School of Social Sciences consists of the Department of Sociology, Department of Political Science, Department of International Relations, Department of Psychology, Institute of Economics, Institute of Science, Technology and Society, and nearly 20 research institutes, such as the Research Center for Contemporary China.



School of Social Sciences

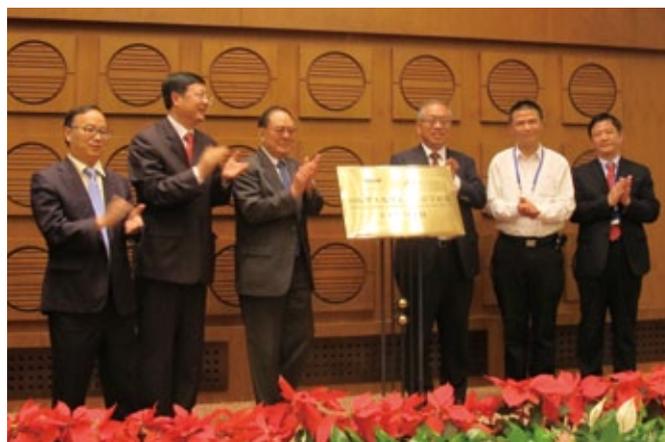
## Consortium of Applied Mathematicians Established at Tsinghua

The inauguration ceremony of the Consortium of Applied Mathematicians, International Congress of Chinese Mathematicians (CAM-ICCM) was held at Tsinghua University on June 29th, 2012.

Initiated by fifteen famous mathematicians from domestic and international world-renowned universities and research institutes, the CAM-ICCM aims to facilitate the rapid development of applied mathematics in China.

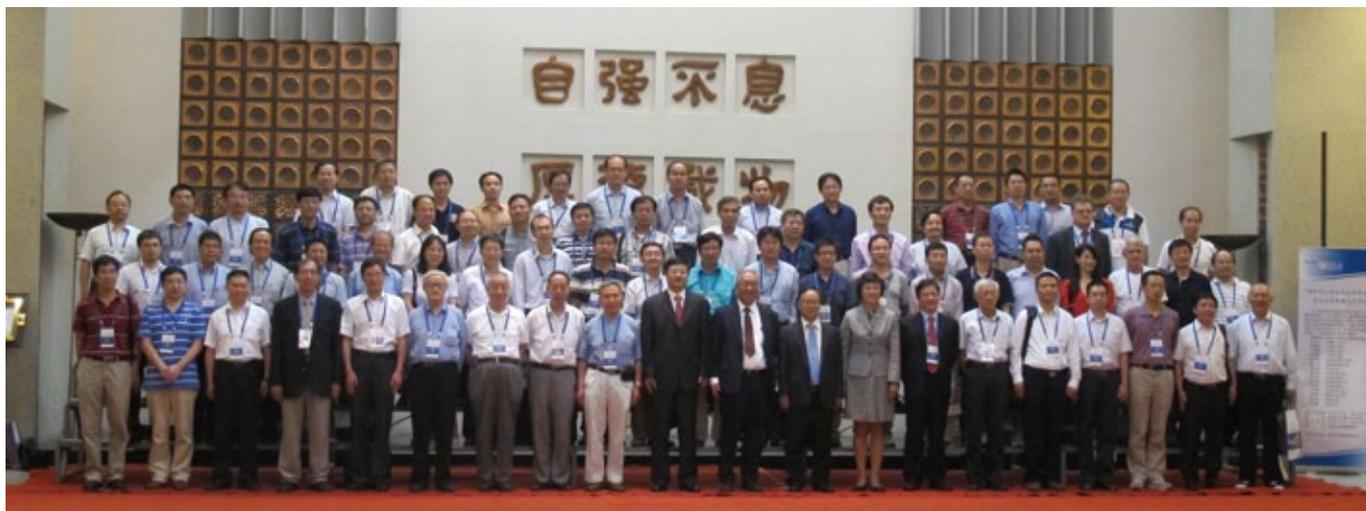
Chi-Wang Shu, Chairman of the Division of Applied Mathematics at Brown University, is first chairman of the consortium. In a speech delivered at the ceremony he expressed his wish to develop the consortium's role in promoting the research and development of applied mathematics in China and in contributing to further progress in other areas linked with applied mathematics.

Shing-Tung Yau (Chairman of the ICCM, winner of the Fields Medal and Wolf Prize in Mathematics) and the



Inauguration Ceremony of CAM-ICCM

founders of the CAM-ICCM attended the ceremony. Song Jian (former member of the State Council and former Vice



Attendees of the Ceremony

President of National Committee of the Chinese People's Political Consultative Conference), Wang Yanjue (Director-General of the Department of Science and Technology with

the Ministry of Education), and Tsinghua University President Chen Jining also attended the ceremony with more than 100 faculty members and students from Tsinghua.

## Degrees Conferred on Hundreds of International Graduates in 2012

Tsinghua University's undergraduate and postgraduate commencements were held respectively on July 3rd and July 4th with 3,322 bachelor's, 3,445 master's and 689 doctoral degrees conferred. Among them, 219 bachelor's, 269 master's and 11 doctoral degrees were conferred to international graduates. Tsinghua President Chen Jining extended his congratulations and best wishes to the graduates.

Among the international graduates, five were awarded Outstanding Graduate honors and 13 won Tsinghua University Excellent Thesis Awards.

As more international students study at Tsinghua, commencements have become more international year by year. This year, the ceremony programs were prepared in both Chinese and English.



A large screen in the background for the ceremony displayed the flags of the 68 countries, where this year's international graduates came from.

International students at the graduation ceremony



Winners of Outstanding Graduate Awards

## Guest Professor Brian K. Kobilka Wins 2012 Nobel Prize in Chemistry

Professor Brian K. Kobilka, Chair of Molecular and Cellular Physiology at Stanford University and Guest Professor at Tsinghua University, has won the 2012 Nobel Prize in Chemistry with Professor Robert J. Lefkowitz from Duke University for their studies of G-protein-coupled

receptors. The Nobel Prize was announced on October 10th in Stockholm.

The Royal Swedish Academy of Sciences credited their studies as "crucial for understanding how G-protein-coupled receptors function". The receptors, which snake in and out



Professor Kobilka delivers a lecture at Tsinghua

of the cell membrane, serve as one of the main methods of communication within the body, conveying chemical messages into the cell's interior from outside through the membrane.

Professor Kobilka became a guest professor at Tsinghua's School of Medicine in April 2012 at the invitation of the School's Deputy Dean, Professor Shi Yigong. A research laboratory under the supervision of Kobilka has been established at Tsinghua with postdoctoral and research fellows working there. Professor Kobilka interviewed a number of postgraduate and postdoctoral applicants interested in his research program before he returned to California at the end of September.

## SEM Student Yi Siling Wins First Gold Medal at London Olympics

Yi Siling, a student from Tsinghua's School of Economics and Management (SEM), won the first gold medal at the London 2012 Olympics for China in the women's 10m air rifle event on July 28th.

Since beginning her athlete training in 2002, Yi has won gold medals in women's 10m air rifle events at the National Games, World Championships, Asian Games and Asian Championships.



In 2011, she was enrolled in SEM at Tsinghua and was allowed to start her course study one year later to prepare for the London Olympics. She attended the opening ceremony for new undergraduates on August 16th, 2012. As an undergraduate majoring in business administration, Yi said she's no different from any other students and she would focus on her studies.

[Photo by Sheng Jiapeng /Chinanews.com]

# Student Education & Development

## Health Oriented Smartphone Game Developed by Students

The network game *Crows Coming* developed by Tsinghua students has been downloaded more than 407,000 times from Apple's iTunes Store since March, 2012. The App was developed by a team of Tsinghua students, including Tang Wenbin and Yang Mu from the Department of Computer Science and Technology, Wang Shuaiguo from the School of Software, Sun Mengqing from the School of Life Sciences, Gong Liwen, Ma Xiaoyi and Li Xiaojun from the Academy of Arts & Design. For the research and development of the App, they bought an iMac at their own expense. Professor Tang Jie from the Department of Computer Science and Technology

offered advice and help for their project.

With growing numbers of people suffering from cervical spondylosis in recent years, the App for iOS devices like iPad and iPhone is designed to improve the health of cervical vertebra. It won the top award in the 30th Tsinghua University Challenge Cup in April, 2012.

The game contains computer vision augmented reality technology, face detection and face tracking. Instead of using fingers as with traditional games, the game is played by moving one's head. Players move their heads to control a scarecrow fending off crows from stealing the pumpkins it is

guarding. When the player moves head to one side, the iPad or iPhone's screen camera tracks the face and uses the information to control the movement of the scarecrow to the same side.

Ms. Li, a young engineer from an IT company, commented, "Unlike other games, it's healthy, not just amusing. After working for long hours in front of a computer, the game not only helps me to have a little fun, but more importantly, helps relax my neck."



## Tsinghua Student Team Wins at IARC 2012

Tsinghua student team THRONE won the 'Best System Control Award' in the 2012 International Aerial Robotics Competition (IARC) (Asia-Pacific Division) held from August 7th to 9th, at Beihang University, Beijing.

IARC is a worldwide university-based robotics competition. With one mission at a time, it shows the research capacity of universities around the world in unmanned aerial vehicle control and autonomous navigation. Up to now a total of six missions have been proposed by IARC. Each of them involved fully autonomous robotic behavior that had been undemonstrated at the time and was considered impossible for any robotic system in the world.

In the ongoing 6th mission titled "Covert Mission" for this year's competition, the robots are assigned to enter a building, search and map all corridors and rooms, replace a target flash drive, then exit and land exactly at their starting point. The greatest technological challenge is that the flying robots are requested to complete the mission fully autonomously, without any human intervention or navigational aids, such as GPS. They must achieve self-

navigation, obstacle avoidance and autonomously search for a target item within the mission environment. Currently, there are no aerial robots in existence that can complete the mission goals as stated in the official rules.

In the limited five attempts, the THRONE quadrotor successfully entered the building through the window four times, achieving the highest success rate among all the teams. The quadrotor also partially explored the corridors. It impressed all the judges with the stability of its control system. The system demonstrated excellent flexible performance and a five-minute stable hovering in the air without any navigational aids.

Instructed by Professor Dai Qionghai from the Department of Automation, the THRONE Team was established in May, 2012 and consists of 16 students from the Department of Automation, the Department of Precision Instruments and Mechatronics and the Department of Materials Science and Engineering. The team is led by Li Yipeng, a post-doctor from the Department of Automation.

IARC was launched by the Association for Unmanned Vehicle Systems International in 1990. It aims to promote the completely autonomous flight of small unmanned vehicles. The competition is divided into the Asia-Pacific Division and the



THRONE's quadrotor enters the window successfully



The quadrotor designed by THRONE team



Tsinghua THRONA team members

American Division and is held simultaneously at two venues following the same procedures. The team ranking of the competition is decided according to a common set of rules.

Among the 21 teams competing in both Asia-Pacific Division and American Division, the THRONA Team from Tsinghua University achieved the 4th highest level of autonomous intelligence. The IARC Chairman Robert C. Michelson said the automation and flight stability of the quadrotor designed by THRONA Team showed the best results even among competitors from the American venue.

## English Summer Camp on Tsinghua Campus

The 2012 Tsinghua English Summer Camp began on June 26th. About 2,600 freshmen participated in the three-week program. Over 160 teachers and student volunteers from the US, the UK, Canada, Ireland, Australia and New Zealand joined the camp.

The camp, now in its sixth year, employed various interactive activities to promote cultural exchange as well as to improve the English skills of the students. The program included lectures, group discussions, games, singing and dancing



Cheering on the singing competition

competitions, movie-dubbing and debates. Students also showed their acting skills with performances of Shakespearean theatre.

Each week of the camp had a unique theme: the first week's topic was "sports and arts", followed by "culture and communication" and the final week of "hot topics". Students attended lectures and engaged in small-group discussions with volunteers. During their spare time, students were able to prepare for the competitions, visit the game rooms, take classes in activities such as dance or yoga, or watch English movies.

Students also competed with each other in singing, speech, and debating competitions, all held in groups at "city", "provincial" and "national" levels. There was a fashion show at the end of the camp in which students showed their creativity by turning their camp T-shirts into high-fashion designs.

Teachers and volunteers from other countries were

able to experience the richness of Chinese culture through Summer Breeze, a series of fun and informative lectures given by Tsinghua students majoring in English. Topics of the Summer Breeze lectures included Chinese calligraphy, making Chinese knots and Chinese folk games. Assistant coordinator Bennet Adkinson from the University of Tennessee thought the program was a great example of cultural exchange. He said, "It gives the students a unique experience of immersion in oral English, and it works both ways. We learn a lot about Chinese culture at the same time as they are learning about the Anglophone world."

Professor Lu Zhongshe, Deputy Chair of the Department of Foreign Languages and Literatures, has spent her six winter holidays recruiting teachers and volunteers from abroad. Talking about the future of the English summer camp, she said, "Tsinghua English Summer Camp doesn't only provide a great opportunity for our students to practice their spoken English and learn about western cultures, but it also helps people from other countries to learn about Chinese culture. Many esteemed universities like Oxford, Cambridge, Washington University, Texas A&M, the University of Chicago, the University of Maryland and the University of Tennessee have built up long term relationships with us by sending people to our summer camp, because they see how much their students have benefited from participating in our camp. The camp has proven itself a win-win experience for those who have participated. We welcome students and people from more universities to join us in our next summer camp."



Warm-up program

# Research & Achievements

## Tsinghua Technology Powers Cleaner Production

Research achievements in cleaner production and resources recycling won applause from experts at a seminar held by China's Ministry of Science and Technology in Beijing on July 19th. The innovative achievements have been made possible in a project led by Tsinghua University and named Research and Development of Key Technology for Cleaner Production and Circular Economy.

Funded by the National Key Technology Research and Development Program, the project was led by Professor Chen Jining with the School of Environment, who was appointed President of Tsinghua early this year.

During the past five years the research team developed various new technologies and cutting-edge equipment. These include advances such as technology for the production of chromium compounds which can increase the resource conversion rate to over 99%; technology and procedures for the production of aluminum oxide and titanium dioxide which improve the overall utilization rate by 10%; technology for the processing of rare earth metal with a recovery rate of more than 90% of rare earth cerium and accompanied fluorine and thorium; new metallurgic technology for zinc sulfide which reduces the amount of discharged solid waste by 50%; new technology for the cleaner production of leather and the integration of related businesses in industry to form an environmental-friendly chain to increase the comprehensive economic benefits by 20~25%; integrated treatment technology for ramie with a utilization rate of ramie waste materials of over 85%; technology and procedures for the production of



Fine grinders for the recycling of used tires, a demonstration project in Suzhou city

recycled fibers with a 40% reduction in energy consumption; a thermal decomposition reactor capable of recycling 10,000 tons of used tires a year with a recycling rate of nearly 100%; and new recycling technologies able to recycle over 90% of paper-aluminum-plastic packaging materials.

Over 120 national and three international patents have been granted to the team members. They have published 788 academic papers and 24 books as well as drafted 35 national and 31 industry standards. Twelve key demonstration projects and 160 pilot lines have been completed under the project.

Professor Chen said, "The breakthroughs in cleaner production for major industry, as well as the key technologies for the recycling of typical waste, pave the way for structural adjustments and technology upgrades in industry."

## Postdoctoral Research Stations in New Areas

Ten new postdoctoral research stations were set up at Tsinghua University in September, 2012.

The ten stations cover two new research areas in politics and education and eight derived from previously existing research areas, namely World History, Ecology, Statistics, Urban & Rural Planning, Landscape Architecture, Software Engineering, Design, and Fine Art.

As one of the first universities to set up postdoctoral research stations, Tsinghua has recruited over 6,200 postdocs since 1986. Tsinghua now has 47 postdoctoral research stations with over 1,200 postdoctoral researchers working there. To attract more talented researchers, Tsinghua's Human Resources Office has launched the "Tsinghua University Postdoctoral



Tsinghua Postdoctoral Innovation Forum

Support Program" providing extra allowances of RMB 30,000 - 50,000 to outstanding postdocs on top of their annual salaries.

## Two New Research Institutes Established

Two new research institutes, one for quantum sciences and the other for social media, have been established at Tsinghua University.

The Center for Quantum Science and Technology (CQST) was unveiled on September 10th at the School of Sciences. Professor Xue Qikun, Chair of Tsinghua's Department of Physics, was appointed its first Director.

CQST will carry out fundamental research into frontier areas of physics and multi-disciplinary applied fundamental research to meet technological challenges in the development of such areas as information technology and energies. It will function as a world leading research center to cultivate professionals, as well as promote international academic exchange and cooperation.

Tsinghua and global clean energy company ENN Group also signed, at the same time, a cooperative agreement to collaborate on research into topological insulators for high-performance thermoelectric materials.

Tsinghua has also set up a joint Social Media Research Center with China's leading real name social networking internet platform, Renren Inc. The Center, launched on September 19th, will carry out forward looking trans-disciplinary research into social media, both in theory and technology. This will include social media communication theory, user demands and preferences of social media, social networking maps, social search technology, and mobile internet technology. The new center plans to educate about 200 students to a high level in social media research and R&D skills.

Tsinghua values its collaboration with world leading companies and other organizations and has already launched dozens of joint research centers and institutes with its international partners. Its faculty members collaborate with 40 of the world's top 100 companies.



Unveiling Ceremony of CQST, from left: Professor Xue Qikun, President Chen Jining, Professor Gu Binglin, and Professor Zhang Shousheng



Signing Ceremony of the Joint Social Media Research Center

## Social Links

### Volunteers from Abroad Join Tsinghua's Summer Service in Rural Areas

This summer, 148 students and 27 faculty members from Tsinghua University, joined by 78 students and faculty members from US and Hong Kong universities, went for the Summer Service and Learning Program in China's rural areas. The project was run by Tsinghua University and Tseng Hin Pei Charity Fund Limited (THP Fund).

The participants went to 30 economically challenged counties

in 15 provinces in China, to carry out teaching missions at local primary schools and middle schools between July 17th and 27th. They conducted English and computer training courses, gave lectures, held seminars, and carried out social surveys in the hope of contributing to poverty alleviation in those areas. The project received generous financial support from THP Fund and support from the Department of Foreign Languages and Literatures at

Tsinghua University.

THP Fund became the annual sponsor of the project in 2009. James Wu, manager of THP Fund said, “The Summer Service and Learning Program delivers hope and inspiration to children in very deprived areas and at the same time builds a platform for both Tsinghua and American students to nurture intercultural exchange while developing a sense of awareness on poverty as a



English class given by a volunteer from Tsinghua

social issue. It provides students with knowledge which must be learned outside their classrooms.”

Initiated in 2006 as a part of the Poverty Alleviation through Education Project, the Summer Service and Learning Program has attracted 1,427 students and 220 faculty members from Tsinghua University, as well as 435 students and faculty members from American and Hong Kong universities.



A volunteer from the US bonding with students

## Distance Education Station Set Up in Tibet

The opening ceremony for the Distance Education Station at Tibet Vocational Technical College, funded by Tsinghua Hong Kong Sales Education Fund (HKSEF), was held in Lhasa, Tibet on September 23rd, 2012.

President Li Changshan of the Tibet Vocational Technical College delivered a speech at the ceremony. He said that thanks to Tsinghua HKSEF funded Distance Education Station, students in Tibet have access to advanced and professional knowledge delivered by outstanding scholars from Tsinghua University.

Mr. Lin Yanzhi, Tsinghua alumnus and honorary professor, and a member of the Committee of the Chinese People’s Political Consultative Conference, attended the ceremony and unveiled the center together with President Li Changshan.

Ms. Huang Li, Director of the Education-Aiding-the-Poor Office of Tsinghua University, expressed the wish that the two parties would further strengthen cooperation in future, to contribute to the development of Tibet.

The Tsinghua HKSEF was co-founded by HKS Education



Mr. Lin Yanzhi (right) and Mr. Li Changshan at the ceremony

Fund Limited and Tsinghua University Education Foundation and managed by the latter. The fund aims to help needy studies with their studies and career development.

Up to now, Tsinghua University has established 1,068 distance education stations in underdeveloped areas in China and has helped to train over 1.3 million people in those areas.

## Tsinghua Students Volunteer at China Open 2012

Nightly-thirty students from Tsinghua University worked as volunteers at the China Open 2012 tennis tournament, held from September 29th to October 7th. The students clocked up more than 6,400 hours of voluntary work mainly

at posts for ticket services, gathering statistics, dope control, questionnaire survey, and in one of the most popular activities for spectators, painting.

Thirty-six of the volunteers worked in the ticket services



Volunteers at the competition venue

section, and at times were on duty until 2 AM.

Volunteers for doping control had a strict schedule to follow. They worked for nine continuous days and cycled to the venue for 40 minutes every day to make sure they arrived on time.

The painting volunteers were the most popular with spectators, especially children. An eight year old boy said, "I come here every year for the painting. They are very beautiful. I don't want to wash my painted hands anymore." The most popular requests for paintings included items like tennis, national flags, and the China Open mascots. Many



Tsinghua students paint spectators

people joined the long queue to be painted by volunteer artists.

Fourteen Tsinghua volunteers were rewarded for excellent service this year, winning gold, silver and bronze awards. Wang Shiqi, one of the volunteers in the team, said it was quite a challenging job but had given volunteers the chance to improve themselves in an all-round way. They also learned how to communicate more effectively with others.

Since 2008, the Tsinghua University Zijing Volunteer Team has served the China Open every year, with an average 100 volunteers working at the tournament.

## International Cooperation & Exchange

### Tsinghua and Carnegie Mellon Sign Double Degree Program

Tsinghua University and Carnegie Mellon University have signed an agreement to introduce a new double master's degree program in computer science. The first group of students joins the program this fall. Professor Wu Jianping, Chair of Tsinghua's Department of Computer Science and Technology and Professor Randal E. Bryant, Dean of Carnegie Mellon's School of Computer Science, signed the memorandum of understanding at Tsinghua University on June 7th.

Students enrolling in the double-degree program will spend at least a year at each campus. They will need to fulfill the course requirements for each university and complete a thesis requirement at Tsinghua. All courses in the program will be taught in English.

Carnegie Mellon had been looking for ways to establish



close ties with colleagues in China, said Jeannette Wing, head of CMU's Computer Science Department. "The dual-degree program takes us to that next level. We've always wanted to take that step with the best and Tsinghua is known to be the

best science and engineering university in China."

Tsinghua has cooperative relations with over 230 of the world's prestigious universities and has student exchange programs with 103 overseas universities.

## Tsinghua and KTH Launch New Cooperative C-Campus

The launch ceremony for the joint C-Campus project, run by Tsinghua University and the Swedish Royal Institute of Technology (KTH), was held on September 12th at Tsinghua University. The C-Campus project is designed to promote cooperation in many areas between the two universities. The letter 'C' in the name C-Campus stands for 'Cloud', 'Cyber', 'Cooperation', 'Cross' and 'Creativity'.

Under C-Campus, the two universities will build a comprehensive network platform together. The platform will be used for the sharing of courses and related resources, student activities, research and technological innovation, as well as collaboration with third parties.

In the near future, both Tsinghua students and KTH students will be able to use live C-Classrooms, which is an important part of the C-Campus. The live network classrooms will allow students to interact directly with lecturers and students at the other university 'face-to-face' using video-conference facilities. Both universities have planned to make selected courses available on C-Campus and to develop

new joint-curriculum specifically designed for C-Campus. Students who take courses through C-Campus will earn the same credits as courses taken on campus.

The joint C-Campus will play host to several other important network based activities which will also allow for significant cooperation. Researchers will be able to communicate with each other through video on the status of their research using the 'C-Labs' portion of the network. A 'C-Club' will offer students the opportunity to listen to academic reports and lectures from both universities. In association with C-Club, students will be able to develop their own virtual communities. The 'C-Innovation' area of C-Campus is hoped to attract enterprises to join in and help strengthen cooperation with industry.

C-Campus is considered an important initiative which tightens the link between international universities. With the development of ICT technology and infrastructure, C-Campus is expected to become an important model of international collaboration among close partners.



Launch ceremony for C-Campus

## Joint Research Lab Established with BT

Tsinghua's School of Economics and Management and BT, the British multinational telecommunications services company headquartered in London, announced the establishment of a new joint laboratory named the Advanced ICT Lab at Tsinghua. The laboratory was officially opened on September 20th.

The overall mission of the new laboratory is to develop

and demonstrate new intellectual property rights and advanced information communication technologies, and to provide a bridge between Chinese innovation and BT technology. The two sides are also considering a number of collaborative research projects, including the business application of cloud computing and e-Health.

Professor Zhu Yan, Vice Dean of Tsinghua SEM and

Director of the Advanced ICT Lab, said “Our existing collaboration with BT on many other projects has already resulted successful outcomes. We are quite excited about the establishment of this new research laboratory for the exploration of new technologies, the inspiring of young talent, and provision of an innovative environment for students and professionals.”

Tsinghua SEM and BT first signed, in 2009, a Memorandum of Understanding to begin strategic cooperation on collaborative research and student development. Since then 11 MBA projects have been completed and four or five internships have been conducted every year under the partnership.



From left, Zhu Yan, Vice Dean of Tsinghua SEM, Jie Zhang, Head of BT China Research Centre, and Jonathan Legh-Smith, Head of BT Partnerships & Strategic Research

## 26th IAHR Symposium on Hydraulic Machinery and Systems Hosted by Tsinghua

This year’s world Symposium on Hydropower Machinery and Systems was held at Tsinghua University in August, attracting over 330 domestic and international experts and researchers.

The bi-annual symposium was organized by the International Association for Hydro-Environment Engineering and Research (IAHR). Professor Wu Yulin from Tsinghua’s Department of Thermal Engineering was appointed Chairman of the Organizing Committee. Professor Wang Zhengwei, Director of Tsinghua’s Institute of Fluid Mechanics and Engineering acted as Executive Chairman.

The Symposium featured special lectures, with three main forums themed Hydraulic Turbines and Pump Turbines, Pumps, and Dynamics of Hydraulic Machinery, as well as dozens of related sessions.

From August 19th to 23rd, the conference sessions covered research topics in advanced instrumentation and measurements, advances in computational and experimental techniques, cavitation, design and optimization of bearings, clearances, hydraulic machines, pumps and turbines, dynamic behaviour of hydraulic systems, erosion and cavitating flows, flow stability and control, fluid transport in special conditions,



hydraulic equipment for various industries, hydraulic systems, monitoring systems and failure analysis, models, algorithms and code development in hydrodynamics, ocean energy utilization, small hydropower, simulation and analysis of cavitating and multi-phase flows, sustainable hydropower, transient of hydraulic machinery and system, unsteady flow phenomena in hydraulic machines, vibration of hydraulic machinery unit and system, and water systems.

The IAHR Symposium on Hydraulic Machinery and Systems is the largest academic conference on hydropower machinery and is held every two years in various locations around the globe.

## Education Outlook

### Patent Rankings of Beijing’s Higher Education Institutes Released

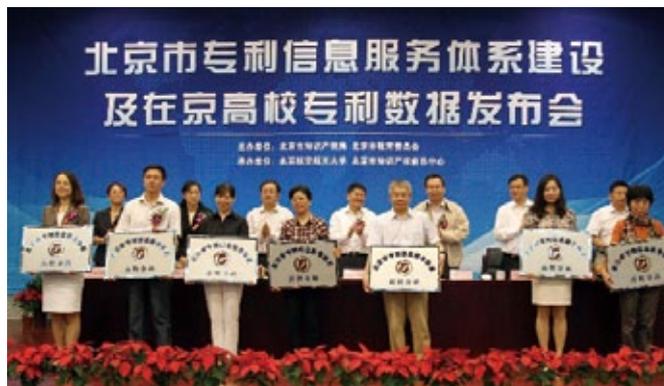
According to the patent rankings of Beijing’s Higher Education Institutes released by Beijing Intellectual Property and Beijing Municipal Commission of Education on September 25th, Tsinghua has topped the table for the number

of patents granted to universities in Beijing.

The number of patent applications submitted by higher education institutes in Beijing showed a steady and rapid increase between 2005 and 2011, with the average annual

growth rate of 28.7%. The total number of patents granted in 2011 was 5,698, which was five times the number in 2005. The average annual growth rate was 29.8%. The increases represent a significant sign indicating the improvement of the innovative abilities of Beijing's institutions, and also the raised awareness of intellectual property rights.

Tsinghua University ranked top with 1,273 patents granted in 2011, followed by Beihang University with 639. The top three to ten included Beijing University of Technology, Peking University, University of Science and Technology Beijing, Beijing Jiaotong University, Beijing University of Chemical Technology, China Agricultural University, Beijing Institute of Technology, and Beijing University of Posts and Telecommunications.



News conference for Patent Rankings of Beijing's Higher Education Institutions [Photo/bjipo.gov.cn]

## More Students from Impoverished Areas Enroll in Top Universities

The proportion of students from China's impoverished areas admitted to top universities in 2012-2013 academic years has increased by 10%. It is the largest seen over the past decade.

The Chinese government began an initiative this year designed to give a special focus to students from impoverished areas taking university entrance examinations. Universities were asked to allocate a certain quota of their enrollment for students from impoverished areas, where educational resources might be limited. With the help of the

policy the number of students from impoverished areas admitted to top universities grew significantly.

Statistics show that this year 3,000 students from the impoverished areas of 21 provinces enrolled in 72 top national universities, and 7,000 students were admitted to 150 top provincial universities located in developed areas in China. Among those 10,000 freshmen, over 70% are from rural areas



Freshmen enter into Tsinghua University

in China.

Universities that have independent enrollment not based on the National Universities Entrance Examination, such as Tsinghua University, Peking University, Fudan University, Renmin University and others, enrolled over 200 candidates from impoverished areas. This is the first time the proportion of independent enrollment from impoverished areas reached over 20%.

Tsinghua University has designed several programs to work with the development of underdeveloped areas and

the students who will work there. The measures will help those students achieve a better future and is expected to benefit their home towns.

It is considered that the government policy is a significant milestone in promoting equal opportunity for higher education. It brings great opportunities and encouragement to talented students from impoverished areas.

## Entrepreneurship Education Promoted within Chinese Universities

The Chinese Ministry of Education has requested universities to set up a new compulsory curriculum for entrepreneurship education.

The new entrepreneurial curriculum will introduce basic methods and theories to students, showing how they can start their own businesses. Relevant laws and policies will also be taught. The hope is that the curriculum will ease



Graduates at the recruitment fair [Photo by Fei Husheng/shbiz.com.cn]

any fears among students of entering the world of entrepreneurial work, allowing more students to develop a passion for launching their own companies.

Compared with developed countries, China has a long way to go to catch up on entrepreneurial education. In the US and Britain entrepreneurship education starts as early as primary school level. Colleges in Japan incorporate ideas

and experiences about entrepreneurial competition into their curriculums.

A difficult employment market and hopes of greater personal achievement are driving college graduates to take a careful look at entrepreneurship as a new choice. According to the “Chinese College Graduates Employment Annual Report (2012)”, only 1.6% of the 2011 graduates started

their own businesses, a slight rise on the 1.5% for 2010 and 1.2% for 2009. The figures show a small increase in the trend towards entrepreneurship. Another survey from a well-known Chinese recruitment website showed only 7% of job seekers among a sample group of 2,000 had venture motivation and had tried entrepreneurship. However, 89% of those quizzed indicated an interest in starting up their own businesses.

## College Open Day to Popularize Scientific Knowledge

Over 200 Chinese universities and colleges opened their doors to the general public on September 15th, to help spread knowledge of science. The nationwide event was promoted by the China Association for Science and Technology and China's Ministry of Education to help popularize scientific knowledge.

On the open day, universities across China opened their key laboratories, libraries, research centers and other facilities to visitors and created opportunities for interaction between citizens and university scholars. The goal of the open day was to help bridge the gap between knowledge seekers among the general public and the mysteries of science taking place behind university doors.

Speaking at the opening ceremony of this year's Teenager Science Summer Camp, Professor Chen Jining, President of Tsinghua University, announced a proposal by 41 universities to spread scientific knowledge. He said, “We will organize activities to popularize scientific knowledge among people, especially teenagers. It is an important way of serving the public and taking responsibility to improve the level of scientific knowledge of the general public.”

China Agricultural University organized over 20 interactive programs on the theme “Food & Health”, opening its food science and nutrition laboratories to the public. Beijing Institute of Technology held a public exhibition on innovation. Fudan University, Shanghai Jiaotong University, Tongji University and East China Normal University all opened their most popular laboratories to the public and also held lectures for the public.

The open day came at the start of National Science and

Technology Promotion Week which ran from September 15th to 21st. According to the China Association for Science and Technology, up to 400 universities across the country will be encouraged to join the open day events next year.



Students at Beijing Institute of Technology show experiments to pupils [Photo/roll.sohu.com]



An expert at Fudan University gives a lecture to the public [Photo/roll.sohu.com]

**Editor-in-chief:** Chen Hong

**Executive Editor:** Song Peijing

**Editors:** Yue Xiaoling, Guo Jing, Larry Neild, Tom Cullen

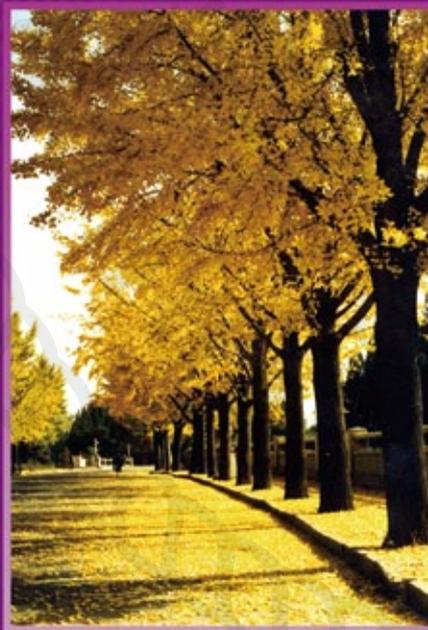
**Photographers:** Yu Zhifei, Chen Sijuan, Guo Haijun, Chen Qiang, Ding Li

**Designer:** Zhang Jianqiang

**Contact:** Office of Overseas Promotion, Tsinghua University

**E-mail:** overseas@tsinghua.edu.cn

# Tsinghua University



Campus in Autumn

