



清华大学  
Tsinghua University

# Tsinghua Newsletter

Issue **25**  
May 2014



**The First Tsinghua President's Innovation Challenge Competition**

**Tsinghua x-lab Education Platform Attracts Hundreds of Projects**

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# News & Events

## Tsinghua Online Courses 'XuetangX' Welcomed by Public

More than 170,000 registered users have been attracted to the online learning website, 'XuetangX' since its launch in October 2013. The website currently offers over 160 courses.

Tsinghua University launched the website to provide "massive open online courses" from Tsinghua, Peking University, Massachusetts Institute of Technology, the University of California, Berkeley and other universities. All the courses are offered free of charge.

'XuetangX' is already playing an important role in popularizing higher education. It is different from traditional web courses in China with more interaction between lecturers

and students. Students are able to test their study results on 'XuetangX' with related exercises after they have learned from the course videos. They can communicate with other students and their lecturers in an online community just as in a real class. The new form of courses gives the public the opportunity to study conveniently, as they can learn everywhere and at any time.

The courses now cover social sciences, engineering, natural science, arts, and management. All the courses are meticulously produced by different groups of faculty members. Principles of Electric Circuits, Chinese Architectural History and Chinese

Antiques and Culture are continuing to be updated this semester. Financial Analysis and Decision Making, College Physics, Linear System Theory, Organic Chemistry and four other courses are now open for new registrations.



'XuetangX' website

## Thirteen More Faculty Members and Alumni Elected to CAS and CAE

Thirteen more faculty members and alumni of Tsinghua University have been elected members of the Chinese Academy of Sciences (CAS) and Chinese Academy of Engineering (CAE).

Professor Shi Yigong from the School of Life Sciences and Professor Qiu Yong from the Department of Chemistry were elected members of CAS. Chair Professor Michael S. Waterman from the School of Information Science and Technology and Shoucheng Zhang from Tsinghua's

Institute for Advanced Study were elected foreign members of CAS, which brings the total number of CAS members at Tsinghua to 43.

Professor You Zheng from the Department of Precision Instrument and Professor Nie Jianguo from the Department of Civil Engineering were elected members of CAE, taking the total number of CAE members working at Tsinghua to 34.

There were also five alumni elected to CAS and four to CAE. Xiang Tao,

Ouyang Qi, Wu Lixin, Fang Daining, and Gao Deli were elected CAS members, while He You, Ouyang Xiaoping, Hu Chunhong, and Xiao Xuwen were among the newly elected CAE members.

CAS and CAE both elect new members once every two years. In 2013, CAS inducted 53 Chinese scientists and nine foreign scientists as new members, while CAE inducted 51 Chinese and six foreign members.

## Horse Zodiac Stamps Designed by Tsinghua Alumni and Faculty

A postage stamp featuring a Horse Zodiac designed by Tsinghua alumnus Chen Shaohua was officially unveiled to the public as China's Year of the Horse arrived. The stamp was available in

more than 2,300 retail outlets in China with sales reaching 800,000 sets.

Chen Shaohua, who graduated from the Academy of Arts and Design in 1982, said the basic style of the design

has the forcefulness and grandeur of the Han and Tang dynasties. The design of the stamp drew on the characteristics of the tricolor-glazed pottery of the Tang Dynasty. In the design, Chen



Chen Shaohua and his Horse Zodiac postage stamp

presents the horse's power and strength by employing geometrical figures. Instead of a galloping horse, a carefree and elegant white horse appears in Chen's design. In Chen's eyes, it is the embodiment of China and Chinese people. It's the national spirit.

The stamp also features patterns of bats and peonies, which best express the meaning of a blessed and auspicious Year of the Horse in traditional Chinese culture.



Professor Wang Hongwei and his Horse Zodiac stamp for 2014 New Year's postcards

The special stamp with a face value of RMB 1.2, was part of the 11th set (Year of the Horse) of China Post's third round of its release of the Zodiac Series of stamps. Chen previously created sets of Zodiac stamps for the Year of the Monkey (2004), Pig (2007), Ox (2009) and Dragon (2012).

Another Horse Zodiac Stamp, created specially for 2014 New Year's postcards, was also released by China Post. Its designers, Professor Wang

Hongwei and his graduate student Hao Wangshu, are also from the Academy of Arts and Design at Tsinghua.

The inspiration of the design came from bronze chariots and horses in the Chinese Han Dynasty. The theme of this stamp is 'everything goes well immediately'. The horse featured on the stamp is

considered festive, and symbolizes wealth and luck in traditional Chinese culture. The decorations and textures all express the wish to 'make a fortune or have happiness and luck immediately'. The circular and cloud patterns in the background signify an integrated harmony of heaven and earth, with the hope it will bring a new era in the upcoming Year of the Horse.

## Professor Shi Yigong Wins Gregori Aminoff Prize

Dr. Shi Yigong, Dean of Tsinghua's School of Life Sciences, has been awarded the Gregori Aminoff Prize in Crystallography 2014 "for his groundbreaking crystallographic studies of proteins and protein complexes that regulate programmed cell death".

The award ceremony was held in Stockholm on March 31st, 2014 at the Annual Meeting of the Royal Swedish Academy of Sciences.

Dr. Shi Yigong studied Biology and Mathematics at Tsinghua from 1985 to 1989 and was awarded a Ph.D. from Johns Hopkins University, Baltimore, in 1995. His research interests include the structural biology of cancer, with a focus on

the key regulatory components in the apoptotic pathways and other important cellular processes, the structural biology of important membrane proteins and the structural mechanisms of macromolecular machineries.



Professor Shi Yigong

## Yi Siling Sets New World Record in Rifle Finals

Yi Siling, an undergraduate from Tsinghua's School of Economics and Management, won the gold medal and set a new air rifle world record in the 2013 ISSF (International Shooting Sport Federation) World Cup Finals in Munich, Germany, on November 10th, 2013.

In the contest Yi Siling set a new world record with 422.5 circles in the Women's 10m air rifle finals. She had previously broken the world record in the 2012 world shooting championships.



Yi Siling (center) wins Gold, Ivana Maksimovic from Serbia (left) wins Silver and Wu Liuxi (right) from China wins Bronze medals

## UC Berkeley Chancellor Nicholas Dirks Awarded Honorary Doctorate

Nicholas Dirks, Chancellor of the University of California, Berkeley, has been awarded an Honorary Doctorate by Tsinghua University.

Tsinghua President Chen Jining conferred the Honorary Doctorate on Chancellor Dirks at a ceremony on April 21st, 2014 and reviewed the collaboration and academic exchanges between Tsinghua and UC Berkeley since 1979.

Chancellor Dirks delivered



Tsinghua President Chen Jining (right) confers an Honorary Doctorate on Nicholas Dirks

a speech entitled “Global Universities: A New Model for Collaboration”. He spoke highly of the collaboration between the two universities and outlined UC Berkeley’s development and transformations.

President Chen Jining and Chancellor Nicholas Dirks also signed an addendum to the Tsinghua-UC Berkeley Strategic Partnership Agreement sealed in 2012 to broaden the scope of their collaboration.

## China Pavilion for Milan Expo 2015 Designed by Tsinghua

A competition to choose a winning design for the China Pavilion at next year’s World Expo in Milan was won by Tsinghua’s Academy of Arts and Design. AAD worked alongside Studio Link-Arc to jointly conceive their China Pavilion. Their winning proposal stood out from 14 finalists to win the final bid, with the result announced on March 31st, 2014.

In accordance with the theme of the Milan Expo, ‘Feeding the Planet – Energy for Life’, involving agriculture, food, food culture and food safety, the China pavilion developed a theme featuring a cloud floating over a ‘land of hope’. It comprises a field of crops with an overhead wave-like roof. The roof will create a sheltered public space incorporating the building’s exhibition program to create an iconic image for the Expo.

The project embodies the theme in part through its undulating roof, derived by merging the profile of a city on the northern side with the profile of a landscape on the southern side. This expresses the idea that hope can be realized when nature and city exist in harmony.

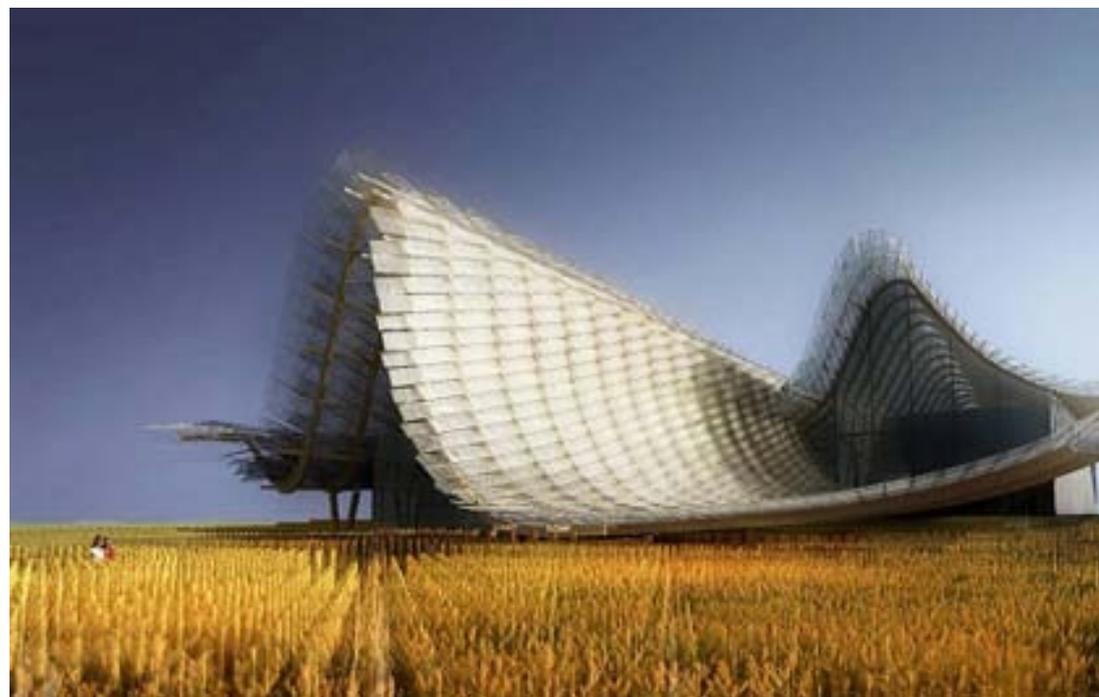
Elements like rice and wheat from Chinese traditional agrarian cultures are incorporated in the design. Bamboo has been chosen as the material for the roof, showing an image of China, as well as being cost-effective.

It is the first time China has participated in an overseas Expo with an independent design. The 4590-square-meter structure will be the second largest national pavilion at World Expo 2015. It conveys the core design concept

of ‘Heaven, Earth and Human Beings’, fully integrated with traditional Chinese architectural structures and forms, as well as applying modern technology.

The overall design of the China Pavilion was finished in April 2014, with construction underway from June in Milan, Italy. The China Pavilion opens when the Milan World Expo 2015 starts its six months run from May 1st until October 31st.

Architectural rendering of the China Pavilion for World Expo 2015



# Student Education & Development

## Internationalization-themed iTalk Show Held

Tsinghua's iTalk show, on the theme of internationalization, was held at the university on May 24th. Six speakers were invited to make speeches aimed at inspiring Tsinghua students to go out into the world and achieve more.

Yu Feng, a top grade scholarship Ph.D. candidate winner from the Department of Psychology, gave a speech on 'the death of moral education'. Wang Zhanshuo, a gold medal winner of Tsinghua's Social Practice Prize, shared his experience as a teaching assistant in Africa. Chris P. Tostado, a Mexican American student, spoke about becoming a cultural exchange messenger using his own experiences in China. Roger Olesen, who has taught in the Department of Foreign Languages and Literatures for ten years, talked about his own understanding of choice and life. Li Xiaolu, the first student to be offered a chance to study on a postgraduate course with the Associated

Board of the Royal Schools of Music, shared her own understanding and interpretation of music. Xu Jiru, a law school student with an offer of a place at Harvard University, delivered a speech entitled 'speak, travel and reflect'. In addition, Sir Anthony Leggett, the winner of the 2003 Nobel Prize for Physics, also attended the show and shared his experiences.

This was the fourth session of Tsinghua's iTalk, English - language talk shows hosted by the university's Graduate Union. iTalk - catchphrase I Talk to the World - aims to provide a platform for Tsinghua students to present their own unique personalities and images from their various fields such as science and research, culture, public service and art.

Apart from iTalk, "Friday Talk" and "Top Talk" are a series of campus activities organized by the Graduate Union to cultivate international competence for students. Friday Talk is a regular English academic salon while Top Talk is a platform for students to communicate with highly-esteemed academicians. At Tsinghua the cultivation of international competence for students is made up of two parts - on campus and overseas experience. The ultimate goal is to enable students to contribute to society, together with other talent from across the world.



## The First Tsinghua President's Innovation Challenge Competition

After a five-month preparation period and rounds of competition, the top 10 teams of



The 'Neatrition' innovation team award, from left, Xiong Xiaoge from IDG Capital, President Chen Jining, Xiao Pengfei, Chen Hong from HINA Group, Wang Tongzhou and Wu Yuanquan

the first Tsinghua President's Innovation Challenge Competition were finalized on May 25th.

Xiao Pengfei, Wang Tongzhou and Wu Yuanquan won the gold award of RMB 100,000 for their 'Neatrition' new material project.

The aerogel insulation material and the 'Shecare' pregnancy-aided projects both won silver awards of RMB 50,000. Bronze awards of RMB 20,000 went to the other seven teams, including the 'Yishuodian' English program, AOD intelligent

3D printer, 'YOUERYUN' family and kindergarten interaction platform and the high-performance scanning tunneling microscope project. In addition the 'Shecare' pregnancy-aided project also received the 'best popularity' award.

The competition was held by Tsinghua's x-lab, the university-based education platform, co-built by 14 of its schools and departments to foster creativity, innovation and entrepreneurship.

Zhang Wei, director of x-lab, said the Tsinghua President's Innovation

Challenge Competition is the university's only annual competitive activity on real innovative and entrepreneurial programs open to all Tsinghua faculty members, students and alumni. Its goal is to discover, cultivate and enhance entrepreneurial leadership among students, enabling them to take responsibility for solving problems in social development by guiding them to pay more attention to international, transformative and innovative entrepreneurial programs.

A total of 125 innovation teams competed in the competition, which commenced on December 13th, 2013.



President Chen Jining and other participants making an X-sign for Tsinghua x-lab

## 100-plus Student Innovation Projects

More than 100 innovative projects have been completed by 12 Tsinghua student innovation groups as part of a university program known as 'Ultra-Future'. A total of 20 patents have been granted, with 70 innovation projects currently in progress.

The first batch of innovation groups



A photo taken from pilot-free four-rotor aircraft at a height of 200 meters

were founded in 2009 as part of the 'Ultra Future' initiative. With names such as 'Future Aircraft', 'Future Healthcare', 'Future Communication', and 'Future Robots', the 12 teams consist of more than 500 students from all departments and grade levels in Tsinghua. They have focused on projects such as using intelligent systems on the management of dormitories, developing the 'Internet of Things' for the university network, renovating sports grounds through virtual reality technology, inventing an intelligent pillow for a better sleep, wireless car charging, and a pilot-free four-rotor aircraft, plus numerous similar inventions.

The pilot-free four-rotor aircraft designed by 'Future Aircraft', was used to take panoramic view photos of the Tsinghua campus from a height of 200 meters. Some of the inventions and technologies have moved from the lab into the marketplace. The 'Cube of Light' is an invention by Yan Bin, a graduate student from Tsinghua's Department

of Precision Instrument, and his team. It can produce three-dimensional images through the rotation of an illuminated object. The first batch of the products to reach the marketplace have already sold out.

Tsinghua provides various support for the inventive students, including the provision of workspace, funding and guidance. The teams have also had the opportunity to attend international invention exhibitions, or visit and study in well-known organizations and enterprises. About half of the team members have applied for patents, published academic papers, or won technology awards.



Three-dimensional images produced by the 'Cube of Light'

## Tsinghua Top Grade Scholarships Awarded

Ten undergraduates and ten graduates have been awarded 2013 Tsinghua Top

Grade Scholarships at a ceremony held on December 20th, 2013.

The undergraduate winners are Huang Cheng from the School of Economics

and Management, Ji Zhe from the Department of Chemistry, Ren Dongsheng from the Department of Automotive Engineering, Sun Hongfeng from the Academy of Arts and Design, Sun Qili from the Department of Civil Engineering, Wu Jiajun from the Institute for Interdisciplinary Information Sciences, Yang Yuanchen from the School of Humanities, Zhai Shang from the School of Architecture,

Zhang Guowei from the Department of Electronic Engineering, and Zhao Huakai from the Department of Computer Science and Technology.

The graduate winners are Feng Xiao from the Department of Physics, Hamidreza Arandiyan from the School of Environment, Li Guoxuan and Li Jinjin from the Department of Mechanical Engineering, Tian He from the Department of Microelectronics and Nanoelectronics, Wu Yu'en and Xu Jun from the Department of Chemistry, Yu



The 2013 Top Grade Scholarship winners and their supervising professors

Feng from the School of Social Sciences, Zhang Rufan and Zhang Tongbao from the Department of Chemical Engineering. Among them, Hamidreza Arandiyan, a Ph.D. candidate from Iran, is the first international student to win the scholarship.

The Tsinghua Top Grade Scholarship, worth RMB 15,000 to each winner, was established in 1989, and is regarded as the most competitive and highest academic honor that students can be awarded. The selection procedures include

recommendation, review, preliminary assessment and a selection competition consisting of a self-introduction, presentation and a question and answer session. The competition aims to promote the overall development of students and to cultivate more talent for society by commending those who excel in an all-round way, or who have made outstanding contributions, or those who have special strengths in specific fields. At present there are 166 scholarship programs at Tsinghua.

## Research & Achievements

### Fifteen More National Science & Technology Awards

Fifteen research projects from Tsinghua have won 2013 National Science and Technology Awards. The prizes were awarded at a ceremony held in Beijing



Professor Zhang Jianmin

on January 10th, 2014.

The successes include five State Natural Science Awards (SNSA), five State Technological Invention Awards (STIA), and five State Scientific and Technological Progress Awards (SSTPA).

Professor Zhang Jianmin and his team from the Department of Hydraulic Engineering won the only first prize for State Technological Invention Awards (General Category) for their research on the Development and Application of New Large-scale Structure-soil Interface Test Systems.

Two second SNSA prize-winning

projects led by Tsinghua faculties are:

- Research on the Physics Basis of Quantum Communication and Quantum Algorithms, led by Professor Long Guilu from the Department of Physics.

- Serial Studies on High-Performance FEM Based on Generalized Conforming and New Natural Coordinate Methods and Analysis of Structures, led by Professor Long Yuqiu from the Department of Civil Engineering.

The four projects to win second prizes in STIA are:

- Vehicle Intelligent Safety Technologies and their Applications

Based on Driving Environment Recognition and Coordinated Control, led by Professor Li Keqiang from the Department of Automotive Engineering,

- 4over6 Transition Technologies and Applications for the Next-Generation Internet, led by Professor Wu Jianping from the Department of Computer Science and Technology,

- A District Heating Technology Based on Absorption Heat Exchange, led by Professor Fu Lin from the School of Architecture,

- Marine Gyro with its Manufacturing Technology, led by Professor Gao Zhongyu from the Department of Precision Instrument.

The Radiation Imaging Innovative Research Team of Tsinghua University, led by Professor Kang Kejun, won a State Scientific and Technological Progress Award (Innovative Team). The special awards were initiated in 2012 to promote collaboration and innovation. Only three awards are given out every year.



Professor Kang Kejun (middle) and his research team

By the end of 2013, Tsinghua had received 471 national awards for science and technology, the highest number among China's universities.

## Plasma Hsp90 $\alpha$ : A Novel Tumor Biomarker

A research team led by Professor Luo Yongzhang from Tsinghua's School of Life Sciences has made a major breakthrough in the battle against cancer with their discovery of a novel tumor biomarker, known as plasma heat shock protein 90 $\alpha$  or Hsp90 $\alpha$  for short. Collaborating with Protgen Co., Ltd., a Quantitative Detection Kit for plasma Hsp90 $\alpha$  has been developed, which has been authorized with the Certificate of Class III (top class) Medical Devices by China Food and Drug Administration (CFDA) and the European Union CE and ISO13485 certifications, respectively, after the completion of clinical trials carried out in eight hospitals.

Hsp90 $\alpha$  is an essential and



Professor Luo Yongzhang

ubiquitous molecular chaperone with the function of stabilizing its client proteins in their active states. It is one of the most abundant proteins in eukaryotic cells, which accounts for about 1-2% of total intracellular proteins. Due to its key role in modulating signal transductions, especially in tumor cells, Hsp90 $\alpha$  has become a potential therapeutic target in cancer therapy.

Professor Luo's team first reported in 2009 the regulatory mechanism of Hsp90 $\alpha$  secretion, and predicted that secreted Hsp90 $\alpha$  would be an effective target in cancer therapy. In their research paper they reported that "the correlation between the levels of plasma Hsp90 $\alpha$  with tumor malignancy indicates that it may not only be a promising marker for diagnosis of malignant tumors, but also a potential index for prognosis of metastasis."

Based on their findings, they developed the Quantitative Detection Kit for Plasma Hsp90 $\alpha$  and carried out the clinical trials with a total enrollment of 2,347 cases conducted among eight hospitals, including the Cancer Hospital of the Chinese Academy of Medical Sciences. "The Quantitative

Detection Kit for plasma Hsp90 $\alpha$  can be used for disease monitoring and efficacy evaluation" said Professor Luo. "Compared with other traditional means of tumor detection, the tumor biomarker detection is more convenient and much less expensive."

The clinical trials were led by Professor Shi Yuankai, Vice President of the Cancer Hospital of CAMS, who said: "Clinical trials on lung cancer patients showed that the accuracy rate of the Quantitative Detection Kit for Plasma Hsp90 $\alpha$  is higher than two other traditional lung cancer detection agents. The changes of Hsp90 $\alpha$  levels correlate well with the therapeutic efficacy. This could help physicians to customize specific medical treatment for their patients."

Professor Luo's team also found out that Hsp90 $\alpha$  is sensitive to a wide variety of cancers. Clinical trials on other cancers, including liver cancer, breast cancer, and colorectal cancer, have almost been finished.

Fu Yan, an assistant professor of Luo's team said, "The discovery of this new biomarker, plasma Hsp90 $\alpha$ , offers a new option for doctors and patients."

## CERNET: China's First 100 Gb Internet Backbone

The world's largest 100 gigabit academic Internet backbone, China Education and Research Network (CERNET), successfully passed its performance evaluation at Tsinghua University on December 31st, 2013. CERNET is China's first 100 Gb Internet backbone.

The project, CERNET Backbone Network and Key Discipline Information Service System Upgrade and Expansion Project, was launched in September 2011. A total of 38 universities participate in the project led by Tsinghua University. The finished

100 Gb CERNET, with a transmission distance of 22,000 kilometers, covers 34 cities across the country.

The aggregate bandwidth of the CERNET 100 Gb transport network has a capacity of 4Tbps. It can offer more than 1Gbps Internet connections to over 2,000 universities.

Professor Wu Jianping, Chair of Tsinghua's Department of Computer Science and Technology and Director of CERNET's experts committee, said that the CERNET's 100 Gb Internet backbone outperforms current networks not only in capacity and

speed, but also provides better security services. Professor Li Xing, Deputy Director of CERNET, explained that with the 100 Gb network, it takes only 0.2 of a second to download a 2 Gb file, 10 times faster than a 10 Gb network.

China Education and Research Network is a national academic computer network managed by the Ministry of Education and operated by universities including Tsinghua. Over 2,000 universities and schools are connected to CERNET.

## Tsinghua Faculty Explore Secrets of PM2.5

One of the by-products of China's economic development, environmental pollution - and especially air pollution - is becoming an increasingly daunting threat to public health and the daily lives of people. City residents are familiar with a relatively new term PM2.5, or particulate matter with an aerodynamic diameter of 2.5 micrometers or less. These types of small particles, which are 100 times thinner than a human hair, are considered to be more dangerous as they can penetrate deeper into the lungs.

Experts and researchers from Tsinghua's School of Environment have been working hard to find solutions to China's pollution issues. Professor Hao Jining, a member of the Chinese Academy of Engineering, said, "China's air pollution is a combination of several factors. It combines not only different pollutants from sources such as coal combustion, petroleum, and vehicle emissions, but also other factors." The other factors that need to be considered are demographic, meteorological, as well as social and economic development.

Three basic characteristics of PM, or Particulate Matter, in China are high PM2.5 concentrations, a high

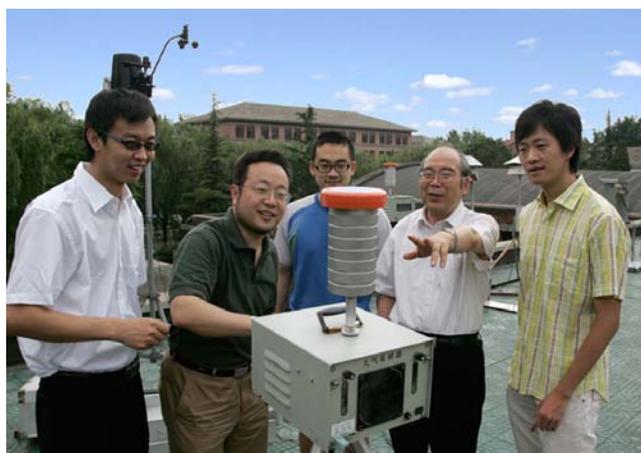
contribution of PM2.5 to PM10, and a high ratio of secondary species in PM2.5.

Professor He Kebin and his team published the 1999-2010 Beijing PM2.5 Air Quality Report based on their years of observations. In the report they reveal that PM2.5 results from a combination of complicated sources, including primary particulate matters directly emitted from pollution sources, and secondary particles formed from sulfur dioxide, nitrogen oxides (NOX), volatile organic compounds, and ammonia in the atmosphere.

Generally, particulate organic matter (POM) and SNA are the major components in PM2.5. Both are significantly influenced by emissions and atmospheric oxidation activity. In China's eastern area, SNA is the dominant component in PM2.5, accounting for 40% to 57%, while the contribution of

POM is 15% to 53%, which is lowest at the Changbai Mountain and highest in Urumqi. The sum of POM and SNA constitutes 53% of PM2.5 in Beijing, the rest being crustal dust and other unidentified or un-analyzed components. Between 1999 and 2008 the percentage of secondary species in PM2.5 has been growing. For example, the SNA (the sum of sulfate, nitrate and ammonium) fraction in identified PM2.5 mass in Beijing rose from 29% in 2002 to 36% in 2007.

Results from long-term measurements conducted in Beijing suggest the ratio of PM2.5 to PM10 has tended to increase



Professor Hao Jining (second right), Professor He Kebin (second left) and other researchers

during the last decade. For most cities in China, especially the eastern cities with heavier pollution, it is even more difficult to control PM2.5 pollution than PM10 pollution.

Apart from the high



Professor Zhu Ting

density of particulate matters, the airborne microbes in the air also raise concerns. Are there any dangerous microbes floating in the air? To answer the question, a team led by Professor Zhu

Ting from Tsinghua's School of Life Sciences examined the composition of microbes in PM2.5. They found that although there are more than 1,300 species of microbes, most of them are not pathogenic. Only a very few of the microbes may cause respiratory diseases or allergy.

## Two Patents Win First Prize in Beijing Invention Patent Awards



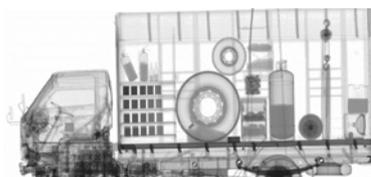
Self Air-breathing Portable Power Source

Two patents from Tsinghua University won first prizes at the Third Beijing Invention Patent Awards Ceremony held on May 15th, 2014.

The two winning patents were 'Self Air-

breathing Portable Power Source' invented by researchers from the Institute of Nuclear and New Energy Technology, and 'Method and Apparatus for Recognizing Substance' co-invented by faculties from the Department of Engineering Physics and Nuctech Company Limited.

The Beijing Invention Patent Awards, founded in 2008, are the first specialized provincial Awards in China. This year's 36 winning projects, including one special prize and five first prizes, were selected from 182 projects.



The comparison between single-energy grayscale image and dual-energy color image with the patented recognizing technology

## Social Links

### Tsinghua x-lab Education Platform Attracts Hundreds of Projects

Over 300 innovation and start-up project applications have been received since Tsinghua launched its x-lab education platform in April 2013. Of over 53 on-site projects, 18 have already secured capital investment.

The new location of Tsinghua x-lab is within the Tsinghua Science Park. The design of the site was completed by faculty members and students of Tsinghua's School of Architecture. The intelligent service system for community management of the site was developed by AlliStart Technology, one of the project teams supported by x-lab.

Many of the innovation and start-up

programs have attracted public interest, including innovative ventures such as the AOD 3D intelligent printer team, Yun Cheng Basal Body Temperature Expert team, and the Endless Flow project team. Phantom Smart, from which the team Intellectual Home Utility System evolved, was honored in February 2014 by the US magazine *Fast Company* as one of ten Chinese companies possessing the most global innovative abilities.

As a university-based education platform for fostering creativity, innovation and entrepreneurship, Tsinghua x-lab focuses on the development of talent pools for innovation, centering on learning, activities,

network resource and cultivation. It offers on-campus angel investment and business advisory services via speed-up programs, start-up plans and also acts as a bridge between project teams and MBA students.

In January 2014, Tsinghua x-lab signed a bond with InnoSpring at the Silicon Valley workstation. This center will expose x-lab to Silicon Valley's rich innovation ecosystem, provide a base for Tsinghua researchers, students, and entrepreneurs and embed them into InnoSpring's network of talent, investment, and ideas.

Other channels are also used to support and provide resources for

the innovative teams, such as free *pro bono* services, including creative activities, open days for entrepreneurial teams, entrepreneurial business partner services, support from EiR (Entrepreneurs in Residence) and AiR (Angels in Residence). Also available is the online platform of Tsinghua x-lab (Tsinghua Entrepreneurship Website), entrepreneurial learning and practice space, such as internships at the on-

campus industry training center, and at the Tsinghua Science Park site. The support extends to the exchange and training of entrepreneurial teams, and provision of guidance and resources for business development with the help of Tsinghua alumni and cooperative partners.

Tsinghua x-lab was initiated under the auspices of Tsinghua's School of Economics and Management and links together 14 schools and

departments across the university. It aims to provide services for students, alumni, faculty, and off-campus entrepreneur teams, through a variety of measures to promote the proliferation of entrepreneurial activities and the development of an entrepreneurial ecosystem. The measures also cultivate the innovative qualities of students, and foster the integration of resources across various schools at Tsinghua University.

## 3D Printer Company Registered by Students



Wang Shidong with his products

Wang Shidong, a postgraduate from Tsinghua's Department of Automotive Engineering, and four other students have established their own 3D printer company on the campus.

Wang, 25 years old, and his four partners, registered their company in March 2014. They are operating their business from a 10 square meter studio at Tsinghua Science Park offered free by the university in support of Tsinghua x-lab education platform. Aiming at developing 3D printers for ordinary Chinese families with a low price and of good quality, Wang and his partners

started their entrepreneurial dreams in July 2013.

The first generation of their 3D printer evolved in less than a month. It printed out a 5cm height octopus mold. Once satisfied with the performance of their 3D printer, Wang's team opened an online shop. A South American student studying in China became their first customer, buying a 3D printer for RMB 3,000.

Since then, Wang's team has successfully developed

the second and third generation 3D printers. The printer's sprayer can achieve precision printing from 0.1 mm to 0.4 mm. Whether it is a mold of just one centimeter or a craft plate of 20 centimeters, it can be printed perfectly. Thanks to good quality and an economical price, Wang's online shop had, by March 2014, sold more than 200 of the 3D printers. Nearly 100 third generation 3D printers were sold out in just 30 days. Their online shop was ranked No.1 for sales, with all customers giving high praise for their purchases.

"We are now developing the fourth generation of 3D printers", said Wang Shidong. The latest models will be equipped with LED displays. Future printers will also employ stereo planographic printing technology.



## 10th Anniversary of Education Poverty Alleviation Project

Tsinghua University's Education Poverty Alleviation Project, initiated in 2003, has trained more than 1.7 million people in its first ten years.

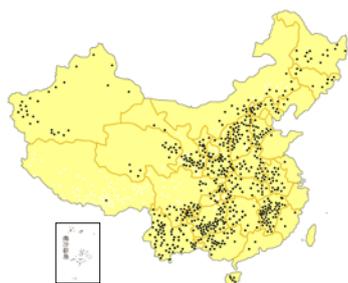
By January 2014 the project had established more than 3,600 distance learning centers at county schools and education organizations around China. The project provides various free courses,

estimated at over 2,000 credit hours per year. In 2013 alone, about 210,000 people received training courses through the project.

The project's ultimate goal is to help eliminate poverty by spreading knowledge. In the past ten years, the project has not only built a platform to alleviate poverty in many areas of China, but has also become a platform

for integrating society's resources and diversified patterns of talent training.

Several of the project's programs were initiated by Tsinghua students. The Tsinghua Postgraduate Student Voluntary Teaching Program, founded in 1998, has sent about 240 volunteers to help with teaching in rural areas of Henan, Gansu, Shanxi, Hubei,



Map of Tsinghua University education-aiding-the-poor modern long-distance learning centers

and Qinghai provinces, and the Tibet Autonomous Region. The program is currently hosting several one-year voluntary service initiatives in various locations. In 2006, Tsinghua students launched the Education Poverty Alleviation Commonweal Association.

More than 300 members have so far created several influential activities, such as the program for ‘delivering love through computers’. Through the program, 232 computers have been donated to nine primary schools in poverty-stricken areas. It built several computer labs and offered computer training in schools.

Aiming at benefiting poverty-stricken areas of China, Tsinghua’s Education Poverty Alleviation Project was founded to provide people in underdeveloped areas with the opportunity to access high-quality educational and training

resources. People who have undertaken training through the project include local officials, primary and middle school teachers and students, medical and health personnel, technicians and farmers.



Volunteer students deliver a lecture

# International Cooperation & Exchange

## XIN Center Inaugurated with TAU

Tsinghua University President Chen Jining and Joseph Klafter, President of Tel Aviv University (TAU), have signed an agreement and officially inaugurated the joint XIN Center. The signing ceremony took place in Tel Aviv on May 20th in the presence of Madame Liu Yandong, Vice Premier of the State Council of China.

The XIN Center, a joint innovative education and research center between Tsinghua and TAU to be based at Tsinghua with a branch at TAU, is designed as an international hub for cross-disciplinary scientific and technological innovation. The aim is to boost global innovation by joining hands with top scholars, innovators, and entrepreneurs from around the world.

The center is being established in response to challenges facing humanity in sustainable development. It is oriented to tackle global challenges in science and technology and is committed

to fostering the next generation of innovative talent.

Professor Zheng Quanshui, Director of Center for Nano and Micro Mechanics at Tsinghua will serve as the founding Director of the XIN Center. Professor Yael Hanein, Director of Nanoscience and Nanotechnology at TAU, will serve as the Co-Director.

During his stay in Israel, President

Chen Jining also met Israeli Prime Minister Benjamin Netanyahu, Mayor of Tel Aviv-Yafo Ron Huldai, Founder and Managing Partner of the Infinity Group Amir Gal-Or, Chairman and CEO of Rainbow Medical Efi Cohen Arazi and other representatives from various circles of Israel, seeking their support for the XIN Center and future cooperation with Tsinghua University.



Agreement signing and inauguration of XIN Center, from right, President Chen Jining, China’s Vice Premier Madame Liu Yandong, and President Joseph Klafter

## Cooperation on UV Disinfection

Tsinghua's School of Environment renewed its five-year cooperation project with Canada-based Trojan Technologies on March 11th, 2014.

The two sides will work together on both basic theory and application research into drinking water ultraviolet disinfection technologies. The project will also provide internship opportunities for students.

Both the university and the company

will together carry out a three-year cooperative project initiated by China's Ministry of Science and Technology and the Government of Ontario, Canada, looking at the evaluation and control of biological risk of drinking water in Beijing related to the South to North Water Diversion Project.

Since the first cooperation agreement was signed in 2006, Tsinghua and

Trojan Technologies have promoted the research and application of ultraviolet disinfection technology. They jointly worked on China's first municipal drinking water plant UV disinfection project in Tianjin. Two other water plants in Beijing which will use source water from the South to North Water Diversion Project have also employed their UV disinfection technology.

## International Design Management Symposium

The 2013 Tsinghua International Design Management Symposium was held on December 1st and 2nd at Tsinghua's Graduate School at Shenzhen in China's Guangdong Province. Over 350 experts, designers, businesspeople, as well as students and faculty members from 18 countries and regions participated in the event.

The theme of the Symposium was 'Design-Driven Business Innovation'. Focused around the theme, eight keynote forums and eight workshops were presented.

Two keynote lectures were delivered by Mr. Paul Gardien, Vice President of Philips Design and Mr. Jeffrey Swystun, Global Branding & Marketing Executive of DDB Worldwide. Six other speakers from China, the UK, and the US also delivered speeches on innovation management, China's industry, user research, service design and related topics.



Topics of the eight workshops concerned strategies for growth through design-driven innovation, new business opportunities, auto design management, SMEs design management innovation & 3D printing technology, design assistance, user experience design mode, service design, and users' insights.

Alongside the Symposium,

the China (Shenzhen) International Industrial Design Festival 2013 and the Shenzhen Industrial Design Exposition were also held.

The biennial Symposium was first held by Tsinghua in 2009. It is one of the most important design management conferences focusing on industry and academy research and exchange.

## Global Finance Forum at Tsinghua

The first Tsinghua PBCSF Global Finance Forum was held between May 10th and 12th at Tsinghua. Madame Wu Xiaoling, Dean of PBC School of Finance, Tsinghua University, and Mr. Li Jiange, Chairman of Shenyin&Wanguo Securities Co., Ltd. were Presidents of the Forum.

Against the background of China's

'comprehensive and deepening' reforms in financial market regulation, the theme of the forum was 'Reform: The New Odyssey for Development'. Its aim was to promote international communication focusing on ways of reviving China's 'growth dividend' and how to enhance financial stability globally.

During the three days, various

activities including two plenary sessions, five themed-forums and a whole day academic conference were held. The topics of the forum were concerned with China's financial policy, the establishment and development of a multi-level capital market, E-finance, liberalizing capital accounts, global capital flow and financial risk control,



VC/PE investment and financing, asset and wealth management, real estate

finance, governance and succession of family businesses and related topics.

About 3,000 people participated in the three-day event, including officials from the People's Bank of China, China Banking Regulatory Commission, China Securities Regulatory Commission and China Insurance Regulatory Commission, leaders of China's major financial institutions, authoritative international experts from world-

renowned academic institutions, the International Monetary Fund and the Federal Reserve System of the US.

Participants from both academic institutions and financial organizations shared their experiences, findings, and thoughts openly on issues such as banking regulations, financial risk management, and the benefits and risks associated with international capital flow.

## Joint Center for Innovation and Intellectual Property

The Tsinghua University-Microsoft Joint Research Center for Innovation and Intellectual Property has been unveiled at Tsinghua.

The Center will foster in-depth study on areas such as innovation policy support and intellectual property rights protection. It also looks to provide policy support and proposals for China's development of a sustainable innovation mechanism as well as a more comprehensive long-term intellectual property protection system.

The Center's research will also cover patent systems, software copyright protection,

intellectual property litigation procedures and innovation policies. It will promote cross-industry and cross-field research as well as case studies on sample international practices.

Following the launch of the center at Tsinghua on October 28th, 2013, Tsinghua Vice President Xie Weihe has been appointed Director of the center's

management committee, while Professor Wang Zhenmin, Dean of Tsinghua's School of Law, is Director of the Joint Research Center.



Unveiling Ceremony of the Tsinghua-Microsoft Joint Research Center for Innovation and Intellectual Property

# Education Outlook

## Universities to Establish Academic Committees

China's Ministry of Education has implemented a new regulation requiring all universities to set up Academic Committees. The regulation became effective in March 2014.

According to the regulation, all universities are required to set up Academic Committees to function as an independent and supreme academic institution on campus. The committees will have the right to supervise, evaluate, and make suggestions and decisions on academic affairs. This will include

the establishment of new majors, the criteria for hiring faculty members and appraisals of academic research.

The regulation requires college academic committees to have at least 15 members from different disciplines. Half of committee memberships should be non-administrative professors from different specialties. Only one quarter of the members can also hold administrative positions. A definite ratio of young teachers is also required on each committee.

Some universities in China have

already had such committees established for a long time. Tsinghua University established its committee in 1972 and Peking University in 1979. Tsinghua University's academic committee has five groups, namely a discipline planning group, an ethics group, a scientific research group, a teaching group, and an academic communications group.

With the establishment of academic committees, academic power can be separated, enabling better cooperation with administrative authorities within Chinese Universities.

# Tsinghua University



Graduation Exhibitions, Academy of Arts and Design

<http://www.tsinghua.edu.cn/eng>