



# Tsinghua Newsletter *(No.3)*

September 2006

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## News Briefs

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- **President GU Attended the 10th APRU Annual Presidents' Meeting**

President GU Binglin attended the 10th Association of Pacific Rim Universities (APRU) Annual Presidents' Meeting on June 22nd – 24th in Sydney, Australia. The meeting focused on macro-issues facing global higher education and technology transfer.

- **New University President Appointments**

Professor GONG Ke, former Vice-President of Tsinghua University, was appointed President of Tianjin University on July 14th. Professor YANG Wei, former Vice-Dean of Tsinghua's School of Aerospace, became President of Zhejiang University on August 1st. Professor YI Hong, a 1990 Tsinghua University graduate, was appointed President of Southeast University on June 8th. Professor RAO Zihe, former Vice-Dean of Tsinghua's Institute of Biomedicine, was appointed President of Nankai University on May 26th.

- **Honorary Professor Conferred to Nobel Laureate**

Professor Hartmut Michel, who shared the Nobel Prize for Chemistry with J. Deisenhofer and R. Huber in 1988, visited Tsinghua University on September 5<sup>th</sup> and was conferred an honorary professorship by Tsinghua Vice-President XIE Weihe. He also delivered a speech entitled, "Structures and Mechanisms of Membrane Proteins—Routes and Achievements. "

- **Number of Excellent Doctoral Dissertations Ranked Top**

Tsinghua University ranked first among all China's universities in dissertations selected as National Excellent Doctoral Dissertations in 2006. Of 99 Excellent Doctoral Dissertations in China, 9 came from Tsinghua PhD's.

- **Increasing International Students**

International students coming to Tsinghua for degrees increased to 1,150 this academic year, an increase of 20% over last year. The total number of international students, counting continuing education and exchange program students surpassed 2,000, increased 13%.

- **President GU Met Tsinghua Alumni in South Korea**

President GU Binglin met with Tsinghua alumni on September 23<sup>rd</sup> at POSCO Center, Seoul, South Korea. He introduced the recent development of Tsinghua and its cooperation with some prestigious universities in South Korea and encouraged the alumni, both Korean and Chinese, to collaborate closely to achieve greater success.



- **Outsourcing Contracts from January to August**

Research contracts between Tsinghua University and industry totaled 961 in the period from January to August 2006, bringing an income of RMB 506 million.

- **Quantum Information Research Center Founded**

The Quantum Information Science and Technology Research Center was founded at Tsinghua University in September. Professor LI Zhijian, member of the Chinese Academy of Sciences, was appointed the Chief Scientist. Professor T.J. Tarn, IEEE Fellow, will serve as the center's Director.



- **New Student Service Center**

The new Student Service Center, located in Zijing student dormitory area, recently opened. The 10,000-square-meters building will provide more service options to students. It includes a post-office, bookstore, bank, supermarket, photo-shop, beauty salon and other service facilities.

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## **News & Events**

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### **New Honorary Doctorates**

Dr. Richard Brodhead, President of Duke University, and Dr. David Ho, Director and Chief Executive Officer of the Aaron Diamond AIDS Research Center, received Honorary Doctorate from Tsinghua President GU Binglin on June 29th and September 19th respectively.



**Dr. Brodhead Receiving the Certificate from President GU Binglin**

sharing or pooling of understanding. It is important to teach the students how to combine their bits of knowledge with those of others in the service of larger goals. The importance of cooperation was the underlying theme in his speech.



**Dr. Ho Receiving the Certificate from President GU Binglin**

by Tsinghua President Gu Binglin, he gave a speech on Preparing for Epidemic Diseases such as HIV, SARS, and Influenza.

### **Mr. Lester Brown Lectures at Tsinghua Forum**



Mr. Lester Brown, President of the Earth Policy Institute, delivered a speech on May 29th at the Tsinghua Forum entitled, “Rescuing a Planet under Stress and a Civilization in Trouble—China Forcing World to Rethink its Economic Future”.

Mr. Brown began the speech by reviewing China’s current economic development and its implications for energy and the environment. He illustrated his point by reviewing the economic development and

Professor Brodhead became Duke’s ninth president in July, 2004 after a 32-year career at Yale University. In his speech—“Toward a New University: Research and Education in a Global Society” at the conferral ceremony, Professor Brodhead noted that, together with supplying more range to the expertise teachers hope to impart, it is also important to promote the

Dr. David Ho has been actively engaged in AIDS research for 24 years. He has published over 350 papers on the subject. He is most recognized for the elucidation of the dynamic nature of HIV replication in infected persons. In addition, his research team now devotes considerable effort to develop a vaccine to halt the spread of the AIDS virus. After the conferral of the Honorary Doctorate

energy situation in some other countries. He then explored the “new economy” philosophy of pursuing sustainable development. Achieving an environmentally sustainable economy, Mr. Brown emphatically urged, was vital for securing mankind’s future.

The Tsinghua Forum, organized by Tsinghua University’s Academic Affairs Committee, seeks to keep pace with the latest trends in academic discourse, to stimulate the exchange of new ideas, and to promote world peace and development. Four times a year the Forum sponsors lectures and roundtable discussions. The topics for discussion are selected from a wide range of current issues related to development in the world. These issues typically concern science and technology, economy, culture, and ecology. Forum speakers are recommended by members of Tsinghua’s Academic Affairs Committee. Recent Forum speakers have included former US Vice President Al Gore on “Global Climate Change”, Professor Anders Flodström, President of the Royal Institute of Technology (KTH), and three professors on the “Noble Prize and Scientific Discovery”, and physicist ZHOU Guangzhao, Chairman of Chinese Association for Science and Technology, on “Learning, Creation and Innovation.”

## China Institute for Development Planning Established



**Professor CHEN Xi (left), Chairman of Tsinghua University Council, and Mr. MA Kai at the Center’s Unveiling Ceremony**

The China Institute for Development Planning (CIDP) was established at Tsinghua University at the end of June. Jointly established by the National Development and Reform Commission and Tsinghua University, CIDP aims to further strengthen the study of theory and applied research on the national economy and social development and to improve program planning.

The CIDP is designed to become an important research center and think tank in China’s overall economic development strategy. Theory and applied research, policy consulting, planning research, and personnel training concerning the national economy and social development will be carried out at the Institute.

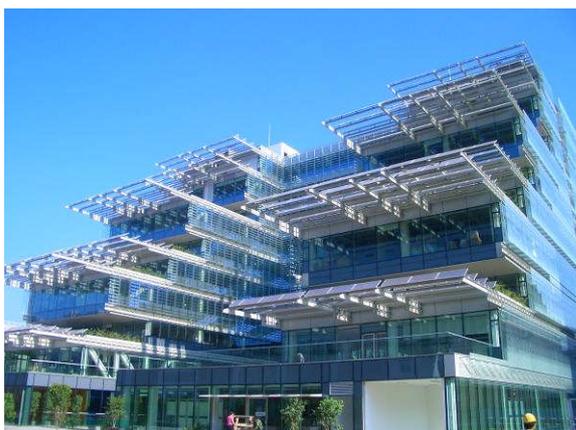
Mr. MA Kai, Chairman of the National Development and Reform Commission, has accepted the position of Chairman of CIDP’s Administrative Committee. Professor LIU

He, Vice-Director of the Office of Central Government Leading Group on Finance and Economic Affairs, was appointed Chairman of the Institute's Academic Committee.

## **New Building for Department of Environmental Science and Engineering**

The Sino-Italian Environment and Energy Efficient Building (SIEEB), jointly sponsored by China's Ministry of Science and Technology and Italy's Environment Ministry, has been constructed and will be put into use this October as the teaching building for the Department of Environmental Science and Engineering at Tsinghua University.

SIEEB, designed by Italian architect Mario Cucinella, is an intelligent, ecological, and energy-efficient pilot building. It will become a model for demonstrating the use and diffusion of high energy and environmentally efficient materials and technologies to the Chinese building industry.



The 40-meter high building with a construction area of 20,000 m<sup>2</sup> has been designated as a model project for the 2008 Green Olympics. The building was designed around a series of tests and computer simulations to seek a balance between energy efficiency, minimum carbon dioxide emissions, functional layout, and contemporary image.

The design philosophy successfully uncovered a way to integrate proven components with tested innovative systems.

Italian Environment Minister Alfonso Pecoraro Scanio, Tsinghua University President GU Binglin, and Chinese Minister of Science and Technology XU Guanhua attended the ribbon-cutting ceremony.

## **US Volunteers Join Tsinghua's Education-Aiding-the-Poor Project**

Tsinghua University's Education-Aiding-the-Poor Project, run by the School of Continuing Education, joined hands with the Wang Foundation in California, USA, for the first time this summer. In all, the project had 518 participants, including 69 students and 8 teachers from 12 American universities, 394 Tsinghua students, and 47 Tsinghua teachers. They went to 52 poor counties in rural China to carry out teaching missions at



local primary schools and middle schools from July 29th to August 14th.



This innovative project was based in the network of local distance-teaching stations established by Tsinghua. The participants ventured into remote counties in many provinces, including Jiangxi, Henan, Hebei, Guizhou, Shanxi, Hainan, Yunnan, Qinghai, Xinjiang, Inner Mongolia, Guangdong and Shaanxi. They focused mainly on improving teaching methods, demonstrating teaching techniques by conducting English and computer training courses, giving lectures, and

conducting study experience seminars for local teachers and students.

Since its establishment in 2003, Tsinghua's Education-Aiding-the-Poor Project has donated distance education facilities and teaching equipment to over 100 counties in China. These resources benefited more than 300,000 teachers, students, government officials, and farmers in these remote areas.

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## Research & Achievements

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### From Lab to World Market: Container Inspection System

In June 2006, RF6010, a new type of railway freight inspection system developed by Nuctech Company Ltd (NUCTECH) with the technique achievement of Tsinghua University, passed technology evaluations, which made an important step toward facilitating export of this state-of-the-art system to Slovakia.



The prototype of the inspection system was Large Container Scanner developed by Tsinghua University in 1996, with which a container can be scanned in less than 2 minutes. This technique made China the fourth country to develop such technology. At the time, no more than 10 such

inspection systems operated in the world.



**Relocatable Inspection System**

NUCTECH's first fixed inspection system was implemented at the Tianjin Donggang Customs facility in 1999. With reliable and high quality inspections, this system was awarded high marks by China Customs. 40 NUCTECH inspection systems were installed in China. To meet further demands from customers, NUCTECH developed mobile inspection systems and

relocatable inspection systems in the next 14 months and became the first in the world to develop the relocatable inspection system.

In 2001, a NUCTECH's product beat two competitors from other countries in a half-year-competition held in Dubai, United Arab Emirates, for it was the only one finding out \$1.6 million worth of drugs hidden in vehicles. Working for customs, the scanners have screened out many smuggled goods such as ivory, cigarettes, autos, and drugs hidden in containers and vehicles.

To date, more than 140 inspection systems has been exported to over 40 countries and regions, including Australia, Norway, Iran, Belgium, Denmark, and South Korea. China became one of the world's three major inspection system suppliers, along with the USA and Germany.

## **Advanced Brain-Computer Interface System**



**The Rehabilitation Training device**

Remotely dialing a mobile phone or switching on a reading lamp without touching it —most people consider such things the stuff of science fiction. Recently, professors from the Institute of Neural Engineering (INE) in the School of Medicine at Tsinghua University acquired science fiction powers from their research into Brain-Computer Interface System.

At the INE lab on June 23rd, student assistants used only their minds to dial a

mobile phone, to switch on a reading lamp or a fan or radio, to start or stop a rehabilitation training device according to the users' intention. They even tried to control robot football player. To realize these powers, one only needs a short period of training and an electrode cap.

The BCI system provides the brain with a new communication and control channel for conveying messages and commands. By linking brain activity to a computer, the interface enables a person to communicate with others or directly control devices.

According to Dr. HONG Bo, a professor from the Institute of Neural Engineering, their research into processing and decoding nerve signals—now regarded at the international cutting edge—has been going on for 20 years. The technology has been widely adopted in many fields. The BCI system can even mentally input words into a computer without a keyboard.



**Control Robot Player with Brain Waves**

“Human mental activity elicits a certain kind of rhythm and spatial pattern in the brain waves recorded on the surface of the head. With the help of a high-performance bio-amplifier and a specific computer algorithm, this feature of brain waves can be extracted and classified automatically to display the class of the ongoing mental states in real time. The label of the mental states given by the computer can be mapped onto a predefined control command and then delivered to external devices through a wireless network,” Dr. Hong Bo said.

One primary application of BCI system research is to assist the handicapped to use brain waves directly to control their wheel chairs, artificial limbs, and computers. INE has established cooperative relationships with medical rehabilitation institutions to work out effective ways to apply the BCI system to benefit the handicapped. It has been demonstrated that this new technology can significantly enhance the quality of their lives and accelerate their ability to overcome physical and neural handicaps.

## **IPv6 Project Collaboration between China and Japan**

The IPv6 Collaboration Project between China and Japan led by Tsinghua University passed the technical evaluation by China's National Development and

Reform Commission on May 27th. IPv6, or Internet Protocol Version 6, increases IP address space to 128 bits from IPv4's 32, which means IPv6 can provide  $2^{128}$  addresses for internet users.

IPv6 Network



The IPv6 Project was co-sponsored by the National Development and Reform Commission of China and Japan's Ministry of Economy, Trade and Industry. It was implemented by the China Education and Research Network (CERNET) and Communications and Information Network Association of Japan (CIAJ).

More than 20 institutes from China and Japan participate in this hi-tech research and development project. Professor WU Jianping from Tsinghua's Department of Computer Science and Technology has been appointed Director of the Project Coordinating Group.

Launched in January 2002, the IPv6 Project consists of 20 sub-projects in four specific areas: trial network construction and testing, system development, application technology development, and standardization. Nine sub-projects were completed at Tsinghua. The project was completed at the end of 2005.

By September 2006, Tsinghua University's campus network has been connected with the CERNRT2 based on IPv6 with 1Gbps of bandwidth.

## Professor WANG Xiaoyun Awarded Qiushi Outstanding Scientist Prize



Professor Wang Awarded the Certificate by Nobel Laureate C.N. Yang

(Photo from China.org.cn)

Professor Wang Xiaoyun, China's Changjiang scholar and professor of the Center of Advanced Study at Tsinghua University, was awarded the Qiushi Outstanding Scientist Prize at the 2006 annual meeting of Chinese Association for Science and Technology, held in the Great Hall of the People on September 16th. The prize was for her excellent achievement in the research on cryptology.

Professor Wang, born in 1966, got her Ph.D. in Mathematics at Shandong University in 1993. Her research fields focus on hash functions, block ciphers and public-key cryptography. She was renowned for decoding two international cipher systems, MD5 and SHA-1, spotting loopholes in the latter. Two papers from her and her co-workers "How to break MD5 and other Hash functions" and "Cryptanalysis for Hash functions MD4 and RIPEMD" shared "Best Paper Award" in Eurocrypt 2005, and her another paper "Finding collisions in the full SHA-1" gained the "Best Paper Award" in Crypto 2005.

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## Student Communities

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### New Financial Aid System Established

A new financial aid system was established at Tsinghua University in August 2006. Those newly enrolled students from impoverished families can obtain financial aid grants of at least RMB 6,500 per year to cover tuition and accommodation fees. Some others can receive RMB 4,000 per year. In total, 25% of the freshman gain support within the system. Meanwhile, part-time campus jobs for senior undergraduates will be doubled.

The financial resources of the new system derive mainly from alumni donations, university internal appropriations, endowments from society, and national student loans. To raise more funds for needy students from families with monthly incomes less than RMB100 per person, the Tsinghua Alumni Association launched a Tsinghua Alumni Financial Aid Program early this year. The program has already received more than RMB 2 million from over 2000 alumni.

In addition, students can take national student loans and apply for scholarships to cover their education expenses. Tsinghua has assured its students that no one has to give up their education for financial reasons.

### Tsinghua Students Win First National Smart Car Design Competition

Three students from Tsinghua University's Department of Automotive Engineering were Champions at the First Freescale Cup National Smart Car Design Competition. Twenty-five teams participated in the final contest at the



gymnasium of Tsinghua University on August 21st. Teams from Shanghai Jiao Tong University and Tsinghua's Department of Automation took second and third places.



The participants were required to design the smart car control mechanism and supporting systems based on a 16-bit micro-controller MC9S12DG128 provided by the sponsor. They were also required to finish the installation and commissioning themselves. In the contest, each car was required to pilot itself through the race course, which featured continuous curves. Place scores for each team were determined primarily based on the time taken by each race car to complete the course. Scores for technical design, production, and engineering quality were also weighed.

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## International Cooperation & Exchange

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### Tsinghua and MIT Collaborations in Architecture and Management



**MIT President Susan Hockfield Conferred  
Honorary Doctorate by Tsinghua President  
GU Binglin in January 2006**

The *Tsinghua-MIT Beijing Joint Urban Design Studio Exhibition 1985-2006* was held at the Beijing Planning Exhibition Hall in June 2006 to mark the 20 year anniversary of Tsinghua University—MIT (Massachusetts Institute of Technology) collaboration.

The Tsinghua-MIT Beijing Joint Urban Design Studio was inaugurated in 1985. The aim of the studio is to

encourage students and faculty to tackle Beijing's leading edge urban design issues and problems. For the past two decades, the theme of how the city's long history and distinctive culture can be safeguarded with the improvement of the citizens' daily live

has been the focus of the study.

Nine joint studios have been successfully carried out till 2006 by some 250 students and 30 faculty members from both schools. With the assistance from local planning authorities, the joint studios have successively worked on more than ten Beijing design projects. The common questions addressed are: can the historic buildings and townscapes be effectively protected? What should be the crucial infrastructure for the areas and the neighborhoods? Can the local community's housing conditions be improved? And, finally, is the neighborhood economy sustainable? In recent years, the importance of light rail systems to urban development has been recognized by municipal government. As a result, design efforts have focused on the development of light rail stations to explore architectural solutions.



**Discussing Designs Together**

The student works presented in the Exhibition represent the complexity and immediacy of today's urban questions as well as the determination and dedication of the universities to seek a better future for our cities.

Another important effort is the Tsinghua-MIT Collaborative International MBA Program, launched in 1996 by Tsinghua School of Economics and Management (Tsinghua SEM) and MIT Sloan School of Management (MIT Sloan). In order to meet China's need for professional managers with a global perspective, a sound understanding of international markets, and experience managing business operations, the Tsinghua SEM-MIT Sloan made a joint effort to develop the International MBA Program, the first of its kind in China.

More than 50 faculty members from Tsinghua SEM have worked at MIT Sloan as International Faculty Fellows for an average of 5 months in the period 1996-2006. During their stay there, each teacher took courses at MIT Sloan and discussed course content and teaching methods with Sloan professors. Based on the results, the curriculum for the collaborative International MBA program was designed and developed.



**MBA Students from both Universities  
Sharing Time at Tsinghua**

The Tsinghua-MIT Collaborative International MBA Program enrolled its first students in 1997. It is an all English Program which covers standard core courses and electives such as *Data, Model and Decision-Making, Managerial Economics, International Economics, and Managerial Communications*. Upon successful completion of the two year program, students receive the Tsinghua University MBA degree and a certificate

from the MIT Sloan School of Management. Thus far, 589 students have graduated from the program. The Tsinghua-MIT Collaborative International MBA Program has become one of the top MBA programs in China and has gained recognition worldwide.

## 2006 Summer School

Tsinghua University's Summer School this year featured communication and exchange between eastern and western students from May until August. More than 30 programs were carried out on Tsinghua's campus. The courses included Chinese culture, Chinese economics and foreign trade, China's foreign policy and Sino-US relations, the Chinese legal system, international intellectual property law, policy and investment in intellectual property in China, and Chinese language.

Some programs were jointly organized by Tsinghua University with overseas universities and institutions such as MIT, the Georgia Institute of Technology, University of Illinois at Urbana-Champaign, University of Pittsburgh, University of Texas, College of William and Mary, Northwestern University (USA), China and Franklin Pierce Law Center (USA), James Madison University, Chinese University of Hong Kong, and Inha University (Korea).

"We hope that more and more overseas students will come to Tsinghua in the future," Tsinghua Vice President XIE Weihe said at the opening ceremony. "It will help promote the exchange of ideas and mutual understanding between Tsinghua students and their counterparts from other universities. They can share their knowledge and experience with each other."

In future, more such programs will be carried out at Tsinghua every summer.

## **U.S. Secretary of Treasury Spoke to Tsinghua Students**

Henry M. Paulson, the new U.S. Secretary of the Treasury, visited Tsinghua and spoke to students on September 21<sup>st</sup>.

In his speech, he cited important factors in success from his experience and suggested students embrace change, think globally, maintain integrity, and cultivate a positive attitude. Then he answered questions on Sino-U.S. economic relations, environmental protection, the development of Chinese business schools, and how to balance between life and career.

Mr. Paulson was Chairman of the Advisory Board, School of Economics and Management, Tsinghua University, from 2000 to 2003.



## **2006 ETHICS Regional Workshop for Asia on International Criminal Law**

The 2006 ETHICS Regional Workshop for Asia on International Criminal Law, sponsored by the European Union, was held at Tsinghua from September 6th to 9th. More than 100 judges, attorneys, prosecutors, and scholars participated in the workshop, including Judge J.M. Cao, First Vice-President of China's Supreme People's Court, Judge F. Pocar, President of the International Criminal Tribunal for the former Yugoslavia, Judge E. Møse, President of the International Criminal Tribunal for Rwanda, and Judge R. Blattmann, Vice-President of the International Criminal Court (ICC).

The workshop was organized jointly by Tsinghua University's Law School and the Robert Schuman Centre for Advanced Studies at the European University Institute, which conducts the European Training in Higher International Criminal Sciences (ETHICS) Project.

Speeches concerning the development of international criminal law and its challenges were delivered during the four-day workshop. The topics covered the experience and achievements of the international criminal tribunals, the development of international criminal law, trials and the courts, and comparative approaches to criminal proceedings.

## **2006 Far East Meeting of the Econometric Society**

The 2006 Far East Meeting of the Econometric Society (FEMES2006) was held at Tsinghua University from July 9th -12th, 2006. This was the first time an econometric society meeting was held in China's Mainland, an important event for promoting further economic research in China.

At the opening ceremony, Professor Richard Blundell, President of the Econometric Society, gave the keynote speech entitled "From Income to Consumption: Partial Insurance and the Transmission of Inequality".

During the three-day meeting, more than 140 parallel sessions were conducted and 17 world-renowned economists and econometricians gave hour-long lectures on various economic topics. Over 400 papers from 36 countries and regions were admitted by the FEMES2006 Program Committee covering theoretical research in econometrics, microeconomics, macroeconomics, and applied research in various economic specialties.

**Edited by Office of Overseas Promotion, Tsinghua University**