



清华大学

Tsinghua University

March, 2010

Inside this Issue

1 New Year's Greeting

2 Awards

3 Work in Partnership

4 Figures & Facts

This edition is prepared by the staff of the

Overseas R&D Management
Office, UICC,
Tsinghua University

Room 1203,
Hua Ye Building
Tsinghua University
Beijing 100084,
P.R. China
Tel: +86-10-62773190
+86-10-62796025
uicc@tsinghua.edu.cn

UICC Newsletter

UICC (University-Industry Cooperation Committee), Tsinghua University

New Year's Greeting

As the bells welcoming 2010 start to ring, we bid farewell to an unforgettable 2009 and welcome a promising New Year. On this special occasion, I would like to take this opportunity on behalf of Tsinghua University to extend New Year's greetings to Tsinghua students, members of the faculty and staff, our alumni, and those who have faithfully supported the development of Tsinghua University in past years.



Tsinghua University President Gu Binglin

In the past year, we have made great progress in building Tsinghua into a world-class university. Four members of our faculty were elected to the Chinese Academy of Sciences and the Chinese Academy of Engineering in 2009.

Twelve Tsinghua faculty members were selected for the Thousand-Talent Project launched by Chinese government, and 21 were chosen for the Ministry of Education's Cheung Kong Scholars Award Plan. A series of programs to promote the cultivation of innovative talent have been launched, including the "Tsinghua Xuetang Plan" for undergraduate students and the "Future Scholars Plan" for graduate students.

To meet the strategic demands of the nation and maintain our commitment to keeping our research on the cutting edge of world scientific developments, we opened several institutes, including the School of Life Sciences which has grown out of the Department of Biological Sciences and Biotechnology, the Tsinghua Academy of Chinese Learning, the Institute of Education, and the Center for Earth System Science. Many high-quality papers were published last year in top academic journals. Tsinghua ranked first nationwide in the citations of research papers collected by SCI. In 2009, Tsinghua won 23 State Science and Technology Awards and one research achievement was selected as "China's Top Ten Scientific and Technological Progress in Higher Education 2009".

For many years Tsinghua has encouraged international academic exchange, and in 2009, Tsinghua University, the University of Cambridge, and Massachusetts Institute of Technology formed a Low Carbon Energy University Alliance. The "China Computer Science 2020 Plan", led by the Turing Award winner and Tsinghua Professor Andrew Chi-Chih Yao, has attracted the participation of a number of prestigious international scholars. Over 20 percent of our undergraduate students and more than 40 percent of our graduate students participated in various overseas exchange programs last year.

2010 will be a crucial year for the university. Tsinghua will celebrate its centenary in 2011. In the coming New Year, we will continue our efforts in our educational reform, seize historical opportunities stemming from the centenary celebration, broaden our perspectives and dedicate ourselves to the goal of making Tsinghua a world-class university.

(Excerpt from Tsinghua University President Gu Binglin's Speech)

Awards

TSINGHUA UNIVERSITY JOINT SCIENTIFIC RESEARCH PROJECT WINS AWARD



On January 19th, 2010, the Digital TV Terminal Equipment Testing and Verification Platform, which is designed and developed by Tsinghua University- ASTRI Multimedia Broadcasting and Communication Joint Research Laboratory (“MBC Lab”), won the 2009 “Best Collaboration (Greater China Market) Certificate of Merit and Certificate of Merit (Most Innovative Project) Collaboration Partner” award issued by Hong Kong Software Industry Association. Dr. Song Jian, Director of the Digital Television Technology Research Center of Research Institute of Information Technology (RIIT) Tsinghua University and MBC Lab, attended the ceremony and accepted the prize on behalf of Tsinghua University in Hongkong.

Digital Television Terrestrial Multimedia Broadcasting (DTMB) is a digital television transmission standard based on China’s independent background technology. Hong Kong, as the first region to launch commercial DTMB broadcasting services, has over one million users (the population in Hong Kong is over 6 million) with about 90% signal coverage rate and nearly 50% penetration rate.

Under the support of Hong Kong Innovation and Technology Commission (ITC), Tsinghua University and Hong Kong Applied Science and Technology Research Institute (ASTRI) signed a strategic cooperation framework agreement in 2007. The MBC Lab was established in December the same year. It is targeted to promote the local implementation of DTMB through standard publicity, on-site testing, product certification and follow-up technical support, to stimulate the development of Digital TV-related industries in Hong Kong, and to provide support and services in

technology and human resources for commercial broadcasting of television programs using DTMB in Hong Kong. Up to now, the MBC Lab has completed four joint R&D projects. The award-winning project, “Instrumentation Technologies”, which is developed based on the instrument platform of Rohde & Schwarz in Germany, has been successfully applied to the test platform in Hong Kong Science Park and has already started to provide a testing service for DTMB set-top boxes and digital TV manufacturers.



The achievements made by the MBC Lab owe credit, first of all, to the establishment of a joint research center between Tsinghua and the enterprise. The joint research center provides an important channel for university technology transfer. This collaboration model not only helps the company solve problems in technological innovation capability, but also promotes the industrialization of technological achievements and talent training in the university. The achievements also owe credit to the support from both sides in funding and management. Dr. Zhang Niankun, ASTRI President, serves as the Director of the MBC Lab Steering Committee, and the Deputy Director of the MBC Lab is Prof. Yang Zhixing from Tsinghua University. Prof. Yang is also the first author of the DTMB standard. The Steering Committee consists of Executives from ASTRI and Directors of Overseas R&D Management Office and RIIT Tsinghua University. At this stage, the focus of the MBC Lab is gradually shifting from industrialization support to development of emerging applications.

TSINGHUA RESEARCH ACHIEVEMENTS WIN 21 STATE SCIENCE AND TECHNOLOGY AWARDS

Twenty-one Tsinghua research achievements recently were recognized at the 2009 State Science and Technology Awards. Tsinghua professors accepted the awards on

January 11 at the annual National Science-Technology Award Ceremony in the Great Hall of the People in Beijing.



Tsinghua’s research achievements rank first in total achievements among Chinese universities. Of Tsinghua’s 21 awards, two were State Natural Science Awards, three were State Technological Invention Awards, and sixteen were State Scientific and Technological Progress Awards. Altogether eight research achievements (listed below) were carried out by Tsinghua as the lead research institution in collaboration with others:

The characteristics of emission and complex pollution of atmospheric particulate matter and its precursors, led by Professor He Kebin and his colleagues (State Natural Science Award second prize);

High Temperature Superconducting Receiver Front-ends for Microwave Communications, led by Professor Cao Bisong and his colleagues (State Technological Invention Award second prize);

Pervaporation dehydration membranes, modules and their applications, led by Professor Chen Cuixian and her colleagues (State Technological Invention Award second prize);

The indirect evaporative chiller used for dry regions, led by Professor Jiang Yi and his colleagues (State Technological Invention Award second prize);

Rare earth catalytic materials and their applications in vehicle exhaust purification, led by Professor Weng Duan and his colleagues (State Scientific and Technological Progress Award second prize)

Key Technology and Application of Stability Design of New Type of Steel Structures, led by Professor Guo Yanlin and his colleagues (State Scientific and Technological Progress Award second prize);

→ continued on page 4

Work in Partnership

TSINGHUA VISITS JAPAN PARTNER ENTERPRISES

From January 12th to 18th, Vice President of Tsinghua University, Xie Weihe led a delegation to visit five strategic partner companies in Japan. During this visit, both parties exchanged ideas on earlier work, discussed future cooperation, and deepened the friendship between Tsinghua University and the partner companies.

On January 12th Xie Weihe, Ma Jun, Deputy Secretary-General of Tsinghua UICC and Director of Overseas R&D Management Office, and Li Bing, Deputy Secretary-General of Tsinghua University Foundation visited the headquarters of MHI in Tokyo, accompanied by Gu Chunwei, Director of the Tsinghua University-Mitsubishi Heavy Industries (MHI) Joint R&D Center. The Vice President of MHI, Dr. Sunao Aoki welcomed Xie Weihe and expressed the hope that the Tsinghua University-MHI Joint R&D Center could make further progress under the support and promotion from both parties.

On the morning of January 13th, Tsinghua delegation visited Sony, a member of UICC. They discussed with Mr. Osamu Kumagai, Vice President of Sony and Mr. Masahiro Fujita, Director of the System Technology Institute, how to promote further scientific research collaboration between Tsinghua and Sony. In the afternoon, the delegation also visited Hitachi, a member of UICC. Former President of Hitachi Mr. Shoyama Etsuhiko, and Vice President of Hitachi Mr. Takashi Hachoji had a discussion with the Tsinghua delegation on the issues of R&D collaboration, talent training and Sino-Japanese exchange. After the discussion, the delegation visited the Hitachi Central Research Institute, and was given a brief introduction on research achievements in ultrasound, micro-chip, finger vein technology and network technology.

From January 14th to 15th, Xie Weihe and Ma Jun took part in the Tsinghua University (Department of Thermal Engineering) - Toshiba Energy and Environment Research Center 2009 Annual Report Meeting, which also acted as the Third Steering Committee Meeting. The meeting was chaired by Cai Ningsheng, Director of the joint

research center. Dr. Ichiro Tai, Vice President and CTO of Toshiba and Xie Weihe delivered speeches in the meeting. In his speech, Xie Weihe emphasized that with the rapid development of global economy, environmental issues have transcended national borders. He also expressed the hope that the cooperation between Tsinghua and Toshiba would promote global environmental protection. Nine project leaders reported the progress of the projects which are undertaken by the joint research center. Prof. Yao Qiang, Dean of the Dept. Thermal Engineering Tsinghua University, made closing remarks. The steering committee also evaluated three proposed projects and suggested further directions for research.

On January 18th, Xie Weihe, Ma Jun and Hao Jiming, Director of the Tsinghua University-Toyota Research Center visited Toyota, which was the first overseas company to establish a university-level joint research center with Tsinghua. They reviewed and exchanged ideas on bilateral research cooperation with Vice President of Toyota Mr. Takeshi Uchiyamada and Managing Director of Toyota Mr. Suzuki Shigeki and Mr. Isogai Masashi. Both parties expressed the hope that the research achievements of the joint research center would be applied to production as soon as possible to benefit society. The Tsinghua delegation also visited Toyota's manufacturing facilities and the achievements show hall. Xie Weihe gave a high degree of appreciation of Toyota's advanced technology and hoped that the cooperation of both sides would provide society with more high quality products.

SIEMENS CKI SYMPOSIUM HELD

From Feb 10th to 11th, the Siemens CKI (Center of Knowledge Interchange) Symposium was held in Munich in Germany. Representatives including directors and managers of Siemens CKI offices from eight prestigious universities - MIT, UC Berkeley in the U.S., Tsinghua University, Tongji University in China, the Technical University of Denmark, the Technical University of Berlin, RWTH Aachen and the Technical University of Munich - all participated in the symposium. The representatives from eight Siemens CKI offices shared their experiences on key collaboration projects, research

collaboration models with Siemens, talent training and also exchanged the ideas on future collaboration plans. The symposium was hosted by Siemens CKI Director Dr. Natascha Eckert. Managers from Siemens Human Resources department, Industry Solution, Industrial Automation, Mobility, Building Science and Healthcare sectors introduced their demands on talent recruitment and research collaboration. Dr. Ma Jun, Director of Siemens CKI Tsinghua Office, participated in the meeting and made a presentation in the symposium.

CKI is at the top level of the cooperation model between Siemens and universities around the world. Since the year 2007, Siemens has been endeavoring to establish cooperative ties with universities outside Europe. Tsinghua University and Tongji University were the first China universities to establish CKI offices with Siemens.

TSINGHUA-INTEL JOINT RESEARCH INSTITUTE PROJECT REVIEW CONFERENCE AND NEW YEAR PARTY HELD



On January 26th, the Tsinghua-Intel Joint Research Institute project review was held in the FIT building in Tsinghua University. The project review panel, which is composed of experts and researchers from Intel and Tsinghua University, jointly reviewed the projects to be carried out in 2010, as well as funding allocation. The panel also discussed research directions for 2010 and drafted a preliminary timetable to call for collaborative projects from both sides in 2010.

After the project review, researchers from the joint research institute and the Intel participated in a 2010 New Year Tea Party.

TSINGHUA PARTICIPATES IN THE 2010 INTERNATIONAL PATENT LICENSING SEMINAR

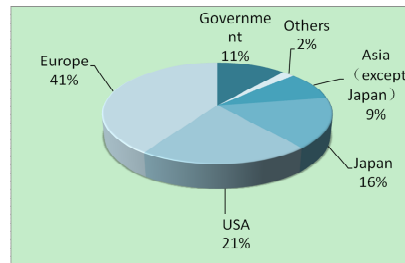
From January 25th to 26th, Deputy Director of Overseas R & D Management Office Dr. Jiang Yongbin was invited to attend the 2010 International Patent Licensing Seminar held in Japan. As an invited speaker, he participated in the meeting with a talk on the theme of “The present situation of university intellectual property management and human resource development to promote industry-university collaboration in Japan, China and Korea.” Professionals including government officials, lawyers, patent agents, and managers working on technology transfer in companies and universities from Europe, U.S. and Asia took part in the meeting. In the seminar, the issues on revision of laws and regulations and the problems occurring in technology transfer were discussed in depth.

VISIT OF DELL VICE PRESIDENT

On Feb 24th, Tsinghua University Vice President Kang Kejun welcomed the visiting delegation led by Mr. Joe Kremer, Vice President of Dell. During the meeting, Mr. Kremer said that Dell will allocate more investment on education resources and expressed a wish to establish collaboration with Tsinghua University to promote the development of higher education in China. Kang Kejun gave them an outline of Tsinghua’s scientific research development and pointed out the opportunities for future cooperation. Both parties also had detailed discussions on specific issues, and in particular on collaboration models and related matters. Prof. Li Jun, Executive Vice Dean of the School of Information Science, and Dr. Ma Jun, Director of Overseas R & D Management Office, participated in the meeting.

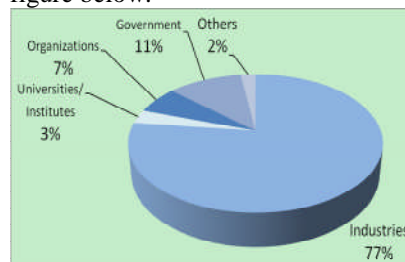
Figures & Facts

In the year 2009, Tsinghua University actively promoted scientific research cooperation with leading world-class universities and enterprises in key research areas. The international scientific research collaborative projects that Tsinghua University signed in 2009 are listed in the following diagram and are categorized according to region.



Compared with the year 2008, the number of scientific research collaborative projects with Europe was increased in approximately 80% in 2009.

Through various kinds of collaboration, Tsinghua has kept close cooperative relations with well-known international enterprises. One of the goals of Tsinghua University is to integrate science and technology development into the innovation systems of enterprises and to promote the industrialization of technology. A breakdown of the collaborative research projects signed in the year 2009 categorized according to types of collaboration partners is shown in the figure below.



In the past year, Tsinghua encouraged cutting edge research and promoted collaboration with overseas universities and enterprises in the areas of energy, environment and medicine. The key collaborative projects in 2009 are listed below:

1) **Energy and Environment:** Aimed at developing low carbon energy and tackling climate change, Tsinghua University, University of Cambridge and MIT formed a Low Carbon Energy University Alliance. Also Tsinghua signed a cooperation agreement with PJM to install the Automatic Voltage Control system (AVC), developed by Prof. Zhang Boming and Prof. Sun Hongbin from the Dept. of Electrical Engineering, into the PJM power grid and carry out testing. It is the first AVC system installed in the U.S. power grid. Meanwhile, it is also the first successful case of transferring China’s power grid control technology to the U.S. This project sets up a model for promoting industrialization of Tsinghua’s research achievements

worldwide. The “Tsinghua University – Veolia Advanced Environmental Technology Joint Research Center” was established focusing on the research of water environment.

2) **Medicine:** Tsinghua University signed cutting edge scientific research collaborative projects with Pfizer and J&J in US, as well as Novartis, and Roche in Switzerland and GSK in Britain. The “Tsinghua University (School of Medicine)-Bayer Innovative Medicine Joint Research Center” was also set up. In the following three years, Bayer will sponsor the research of medicine in Tsinghua. The “Tsinghua Center for Advanced Genome Technology with Columbia University” was established in 2009 with the aim of building up an international well-known genome technology R & D and innovation base in response to the demands in the development of life sciences, disease diagnosis and medicine.

3) **Information Technology:** The “Tsinghua University-ROHM Joint Research Center” was established to promote the cooperation between Tsinghua and ROHM from Japan in the areas of research, talent training and academic exchange. The “Tsinghua University-Qualcomm’s CDMA wireless communications research program” was also signed. In addition, Prof. Wu Jianping and Wang Jilong from the network center were granted funding from the European Union for a project named “The Third Generation Trans-Eurasia Information Network TEIN3 Operations Center”. This will be the first international academic network managed by a Chinese organization. Under the EU 7th Framework Program”, Prof. Tao Linmi from the Dept. of Computer Science received funding for a large scale integrated project. This is the first time that a large scale integrated project has been granted to applicant in China.

→continued from page 2

New Design and Practice of RCC Arch Dam, led by Professor Liu Guangting and his colleagues (State Scientific and Technological Progress Award second prize)

Novel Low Energy-consuming Membrane Bioreactors for Wastewater Reuse and Their Application, led by Professor Huang Xia and her colleagues (State Scientific and Technological Progress Award second prize).