Tsinghua
Newsletter

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President of Tajikistan Emomali Rahmon Visits Tsinghua

President of Tajikistan Emomali Rahmon visited Tsinghua University and delivered a speech on September 1st. He was conferred Honorary Professorship in the ceremony held that morning.

President of Tsinghua University Qiu Yong had a meeting with President Rahmon prior to the conferring ceremony. The two exchanged ideas on cooperation between science and education.

Following the ceremony, President Rahmon delivered a speech entitled "Tajikistan-China: Implementing New Opportunities Toward Broader Cooperation on Science and Education".

Under the witness of President Rahmon, a Memorandum of Understanding between Tsinghua University and Tajik National University was signed by President Qiu Yong and Mr. SAID Nuriddin, Minister of Education and Science of Tajikistan.
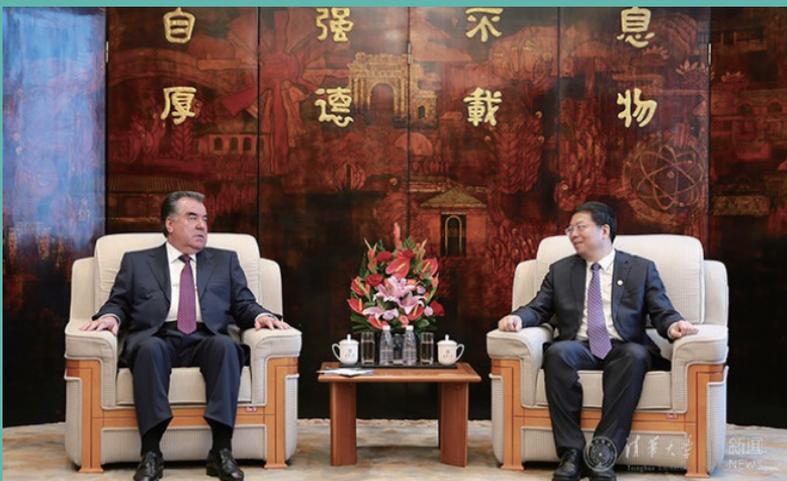
Tsinghua University Council Chairperson Chen Xu Visits Kenya

Tsinghua University Council Chairperson Chen Xu visited the Kenyan Ministry of Education and the University of Nairobi from September 1st to 5th. The visit expanded cooperation between Tsinghua University and institutes of higher education in Kenya, and injected a new dynamism into the cultural exchange between China and Kenya.

On September 4th, Chen Xu visited the Kenyan Ministry of Education and met Fred Matiang'i, the Minister of Education and Cabinet Secretary for the Interior. Ambassador Liu Xianfa and Chacha Nyaigotti, the Chairman of the Kenyan Higher Education Council, also attended the meeting.

Chen Xu stated that Tsinghua University attached great importance to cooperation and communication with institutes of higher education and research institutions in Kenya, and that Tsinghua University has engaged in cooperation on talent training, academic exchange and joint research with the University of Nairobi, the Agha Khan University and the African Academy of Sciences with the support of the governments of the two countries.

Chen Xu said that Tsinghua University has recruited and trained a number of excellent Kenyan students and also sent some students to study and engage in social practice in Kenya in the past decade. In future, Tsinghua will look deeply at the potentiality for cooperation and will expand channels of cooperation, continue to strengthen educational exchanges with Kenya and Africa, and contribute to the development of friendly ties between the two countries.

Following the meeting, Chen Xu held talks with Chacha Nyaigotti, the Chairman of the Kenyan Higher Education Council. The two discussed relevant issues in the development of higher education.

An agreement of cooperation was signed by Chen Xu and Peter Mbithi, the President of the University of Nairobi, during the visit. Under the agreement, the two universities will engage in cooperation and exchange in education and research activities for the mutual benefit of both institutions. According to the agreement, the Tsinghua University - University of Nairobi Office of Global Competence Development will be established by both parties to facilitate collaboration and activities between the two universities.

During her visit, Chairperson Chen Xu also visited the Chinese Embassy in Kenya and met with Ambassador Liu Xianfa.
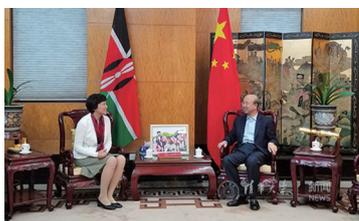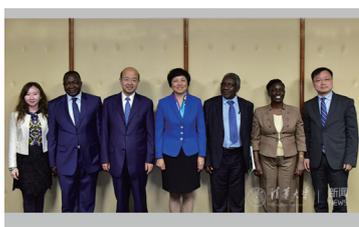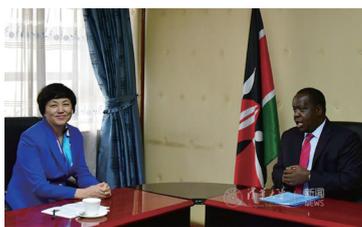
Tsinghua President Qiu Yong Visits the U.S.

Tsinghua University President Qiu Yong visited Seattle from September 13th to 15th. During his visit, President Qiu paid a visit to the Microsoft Corporation and discussed Tsinghua's further development with representatives from academic, technical and business circles. He later met with Bill Gates and discussed on issues related to the Global Innovation Exchange (GIX) and the Global Health Drug Discovery Institute (GHDDI). Yang Bin, Vice President and Provost of Tsinghua University, and Shi Zongkai, Vice Chairperson of the Tsinghua University Council and Vice President of the Tsinghua Alumni Association, attended the events.

President Qiu Yong had a meeting with Mr. Gates on September 15th. During the meeting, he briefed Mr. Gates on the opening of the GIX building and the incoming second North American Tsinghua Alumni Convention. When it came to the GHDDI, a joint program between the university and the foundation, President Qiu expressed the hope that the two sides would seek more cooperative partners to promote R&D and innovation in health drugs. President Qiu said Tsinghua University greatly valued the cooperation with the Bill & Melinda Gates Foundation, and would continue to promote mutual personnel exchange and cooperation in research to tackle the global challenges in public health that were facing mankind..

Mr. Gates noted that Tsinghua University is a key cooperative partner for the Bill & Melinda Gates Foundation. He hoped that more collaboration could be built between Tsinghua University and the Foundation in the coming years.

President Qiu also paid a visit to the Microsoft Corporation on September 15th, where he had discussions with senior researchers at Microsoft. President Qiu expressed the hope that the university would continue to promote cooperation with Microsoft in talent education, joint research and researcher exchange.

Qiu Yong also met with Harry Shum, Executive Vice President of Microsoft and a foreign member of National Academy of Engineering (NAE) of the United States.

On September 14th, President Qiu briefed Tsinghua alumni on the university's global strategy and its latest developments in teaching and international cooperation, and then heard suggestions from the alumni.

The Second North America Tsinghua Alumni Convention Held in Seattle

The Second North America Tsinghua Alumni Convention was held in Seattle on September 16th, and more than 500 alumni representatives from North America and Europe met in Seattle.

Qiu Yong, President of Tsinghua University and Chairman of the Tsinghua Alumni Association, and Shi Zongkai, Vice Chairperson of the Tsinghua University Council and Vice Chairman of the Tsinghua Alumni Association, attended the convention.

During the convention, the establishment of the North America Federation of Tsinghua Alumni Association was announced.

HRH Crown Prince Visits Tsinghua

His Royal Highness (HRH) Crown Prince of the Kingdom of Denmark visited Tsinghua on September 24th. During the visit, he met with the President of Tsinghua University Qiu Yong and attended the China-Denmark High Level Seminar "Educating the Leaders of Tomorrow – Play, Creativity and Social Values".

President Qiu, on behalf of Tsinghua University, extended his warmest welcome to HRH Crown Prince at the meeting, and introduced to him the history and development, talents education, and international cooperation activities of Tsinghua University. He also expressed the hope that cooperation and exchange between Tsinghua University and the institutions of higher education and research institutes in Denmark could be deepened in the future.

HRH Crown Prince noted that China and Denmark have a lot to learn from each other and hoped to further promote bilateral cooperation in education and research.
Mr. Soeren Pind, Minister for Higher Education and Science, Denmark, Mr. A. Carsten Damsgaard, Ambassador of Denmark to China Royal Danish Embassy, Song Jingwu, Vice President of the Chinese People's Association for Friendship with Foreign Countries (CPAFFC) and other distinguished guests attended the meeting.

Chen Xu said that Tsinghua University has recruited and trained a number of excellent Kenyan students and also sent some students to study and engage in social practice in Kenya in the past decade. In future, Tsinghua will look deeply at the potentiality for cooperation and will expand channels of cooperation, continue to strengthen educational exchanges with Kenya and Africa, and contribute to the development of friendly ties between the two countries.

Following the meeting, the China-Denmark High Level Seminar "Educating the Leaders of Tomorrow – Play, Creativity and Social Values" was held.

In his opening remarks, Yang Bin, Vice President and Provost of Tsinghua University, said that understanding and exchange between the young people of the two countries plays an important role in the development of bilateral relations. He also hoped that cooperation could be conducted in a more innovative way in the future, thereby making bilateral relations closer.

The fellowship program of the Lab for Lifelong Learning of Tsinghua University was launched at the seminar.

After the seminar, HRH Crown Prince visited the Lab for Lifelong Learning, Tsinghua University.
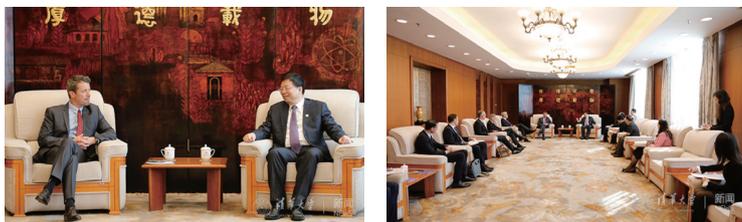
Chen Xu Attends China-U.S. Social and People-to-People Dialogue

Chen Xu, the Chairperson of Tsinghua University Council, attended China-U.S. social and people-to-people dialogue in New York from September 25th to 26th. The events included the China-U.S. University Presidents and Think Tank Forum, the inauguration ceremony of the China-U.S. Young Maker Summit and China-U.S. Youth Innovation Center, at which Chen Xu delivered a speech on "China-U.S. Relationship Review", and held meetings with participants from the two countries to promote cooperation between Tsinghua University and various institutions in the United States.

On September 26th, the China-U.S. University Presidents' and Think Tank Forum was held at Columbia University in New York, USA. Experts and scholars from renowned universities and think tanks of the two countries held discussions on the following four topics: "China-U. S. Relationship Review: From Economic, Political and Cultural Perspective"", "The Next 50 Years: Proposals in Tailoring Mutual Trust and Benefits", "Exploring Suggestions in Deepening China- U.S. People-to-People Exchange" and "Belt and Road: From Chinese and American Understanding". Chinese Vice Premier Liu Yandong attended the forum and delivered a keynote speech. Josette Sheeran, President and CEO of the Asia Society, Stephen Schwarzman, Chairman, CEO and Co-Founder of The Blackstone Group, and Henry A. Kissinger, former U.S. Secretary of State, addressed the forum. They spoke highly of the importance of China-U.S. relations for world peace and prosperity, gave full affirmation to the significance of people-to-people exchange in enhancing mutual understanding and cooperation between the two countries, and noted that they would continue their efforts in promoting the development of bilateral relations.

"Universities are not only pioneers in China-U.S. cultural exchanges but also catalysts for China-U.S. relations. In recent years, the contact between institutes of higher education of the two countries has become closer, and the gradually deepening cooperative education programs between China and the United States have become models for China-U. S. win-win cooperation and cultural exchanges, injecting new dynamism into the new development of higher education in the two countries and helping to build a better future for bilateral relations," said Chen Xu.

"China and the United States share the same pursuit of peace and development and face the same global challenges such as the environment, climate, security and development. Therefore, the universities of the two countries must jointly assume the mission of talent cultivation, scientific research, social services, cultural inheritance and innovation, and international exchange and cooperation with a wider vision, a more positive attitude and stronger actions, to establish a broader communication platform for scholars and young talents in China and the United States, and provide powerful support for creating a better world," noted Chen Xu.

Prior to the forum, Vice Premier Liu Yandong met Chinese and foreign guests in the forum; Chen Xu also attended the meeting. During the meeting, Chen Xu talked with Henry A. Kissinger, former U.S. Secretary of State, Robert Zimmer, President of the University of Chicago, Peter Salovey, President of Yale University, Mark Wrighton, President of Washington University in St Louis, Josette Sheeran, President and CEO of the Asia Society, and Stephen Schwarzman, Chairman and CEO of The Blackstone Group, on issues related to bilateral cooperation and exchange on education.

On the afternoon of September 25th, Chen Xu attended the inauguration ceremony of the China-U.S. Young Maker Summit and China-U.S. Youth Innovation Center held at New York University.

The 6th World Tribology Congress opened in Beijing

The 6th World Tribology Congress opened in Beijing on September 18th. Chinese Vice Premier Liu Yandong sent a congratulatory letter to the congress. More than 2,000 Chinese and foreign tribology researchers from China, the United States, Japan, Britain, Germany, France and other countries attended the congress. It is the first time the congress has been held in China since it was established 20 years ago. The 6th World Tribology Congress was organized by the Tribology Institute of the Chinese Mechanical Engineering Society and hosted by Tsinghua University.

In her congratulatory letter, Vice Premier Liu extended warm congratulations on the opening of the congress. She noted that as an interdisciplinary subject, tribology research covers a wide range of fields, and plays an important role in energy conservation, environmental protection, and the sustainable and healthy development of the economy and society. She expressed the hope that all the participants would make full use of this opportunity to have in-depth communication, obtain inspiration and cooperate with each other, so as to make new contributions to tribological development as well as the improvement of human well-being.

At the opening ceremony, the Vice President of the Chinese Tribology Institute and Director-General Gu Kali, the Chairperson of Tsinghua University Council Chen Xu, the Director of the National Natural Science Foundation of China Yang Wei, the Chairman of the Congress and Head of the School of Mechanical Engineering, Tsinghua University, Luo Jianbin , and Professor Ali Erdemir of Argonne National Laboratory, United States, and the new Chairman of the International Tribology Council (ITC) attended the congress.

Chen Xu noted that after more than 50 years of development, tribology has developed a mature theoretical framework and improved industrial chain. A number of outstanding Chinese and foreign scholars contributed to the progress and development of human science. "The State Key Laboratory of Tribology, Tsinghua University, has made a positive contribution to the development of tribology, and played an important role in supporting the development of related disciplines," she said. She also pointed out that the significance of this International Tribology Congress lies in that it brought together tribology experts from around the world to communicate and exchange ideas, and she hoped that the congress would be a great success.

The five-day congress aims to highlight the important achievements in different areas of tribology, explore the future development of tribology research, and strengthen the links between academia and industry.

The "Science and Technology Exhibition of Friction Science" was held during the congress.

Professor Shi Yigong Wins 2017 Future Science Prize

Laureates of the 2017 Future Science Prize,China's first non-governmental science award and regarded by some as the Chinese version of the Nobel Prize, were announced on September 9th. Tsinghua University Professor and a member of the Chinese Academy of Sciences Shi Yigong won the Life Science Award for his elucidation of high-resolution structures of the eukaryotic spliceosome,revealing the active-site and the molecular-level mechanism of this key complex in mRNA maturation.

Professor Shi's research has provided important insights into programmed cell death,regulated intramembrane proteolysis, and pre-mRNA splicing. His pioneering research on caspase activation, inhibition, and derepression markedly advanced mechanistic understanding of programmed cell death. He is a world leader in the structural biology of cell signaling and macromolecular assemblies.In 2015, Shi and his team made a landmark discovery in the area of "Central Dogma" by reporting the first three-dimensional structure of an intact yeast spliceosome at 3.6 angstrom resolution. Since then, Shi and his team have made a series of remarkable advances in structural elucidation of several distinct functional states of the spliceosome, which together with achievements from a number of other laboratories,have conceptually advanced the mechanistic understanding of pre-mRNA splicing.
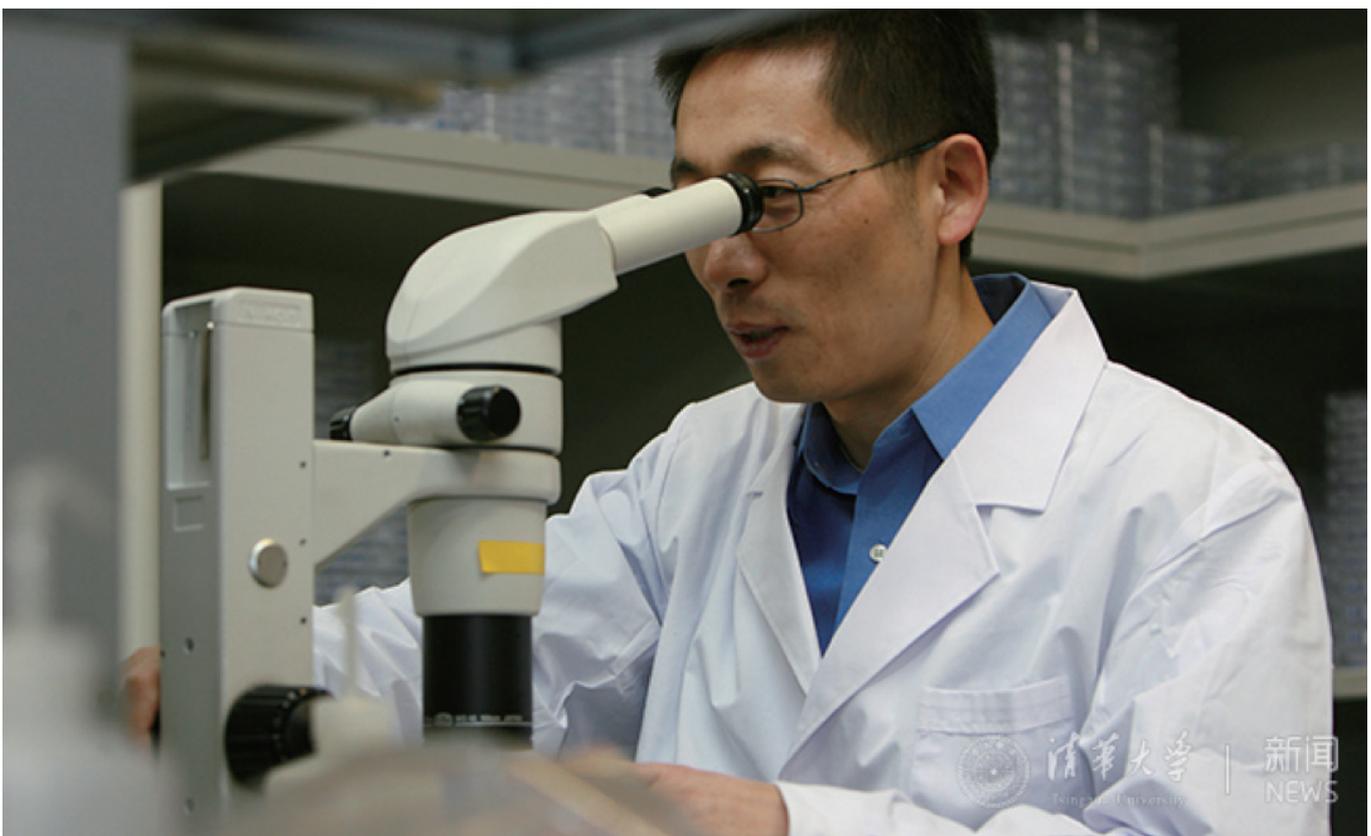
Jianping Wu Selected as the 2017 Internet Hall of Fame Inductee

On September 18th, the Internet Society announced the names of 14 individuals who have been selected for induction into the 2017 Internet Hall of Fame. Jianping Wu, professor and chairman of the Department of Computer Science at Tsinghua University, and an academician of the Chinese Academy of Engineering, was selected as the 2017 Internet Hall of Fame Global Connectors, and is the only Chinese person on the name list.

Dr. Jianping Wu has played a pioneering role in advancing Internet technology, deployment, and education in China and Asia Pacific, and has helped strengthen the region's relationship with and position in the global Internet community.

Since 1994 he has led the design, development and evolution of CERNET, the first Internet backbone in China, helping it become the largest national academic network. He has also been a leader in the promotion and deployment of IPv6 in China, proposed the China Next Generation Internet Project—designed to facilitate the development of China's next-generation Internet backbone—and led the development of CNGI-CERNET2, China's first large-scale IPv6 Internet backbone and one of the largest native IPv6 networks in the world.

He has consistently encouraged the participation of Chinese scientists in global Internet development efforts and has played an important role in developing advanced networks in Asia Pacific and Trans-Eurasia.

Representing 10 countries, the 14 individuals who comprise the 2017 inductee class are computer scientists, academics, inventors and authors who have advanced the Internet with key technical contributions, fostered its global reach and increased the general public's understanding of how it works and in turn accelerating global accessibility and usage among us all.

The Internet Hall of Fame is a recognition program and virtual museum that celebrates the living history of the Internet and the individuals whose extraordinary contributions have made the Internet, its worldwide availability and use, and its transformative nature possible. The Internet Hall of Fame was launched by the Internet Society in 2012. The Internet Hall of Fame considers nominee candidates in three categories: Pioneers, Innovators, and Global Connectors.

Opening Ceremony for the Second Class of Schwarzman Scholars

The opening ceremony for the second class of Schwarzman Scholars was held at Schwarzman College, Tsinghua University, on September 8th. Attending the ceremony were Terry Edward Branstad, US Ambassador to China, Yang Bin, the Vice President of Tsinghua University, Gao Hong, the Vice Provost and Director of International Education Office at Tsinghua University, and Stephen A. Schwarzman, Chairman, CEO and co-founder of Blackstone, and Founding Trustee of Schwarzman Scholars. Also present at the ceremony were the leaders of Schwarzman College, namely Dean Wang Youqiang, the founding Dean David Daokui Li, Executive Dean David Q. Pan, Associate Deans Wenhao Cheng and Melanie Koenderman, and Chief Professor Xudong Gao.

In his address, Yang Bin, Vice President of Tsinghua University, welcomed and extended cordial greetings to the 126 Schwarzman Scholars on behalf of the students and faculty of Tsinghua. "Not long ago, you bade farewell to families, and came to the capital of this ancient oriental country. Today marks a new starting point in your journey of life. Whichever of the 26 countries that you come from, whether you have been to China or not, every one of you will have a proud new name: the "Tsinghuaer". As a new member of Tsinghua, you will be presented with a wealth of opportunities to sharpen your brain, make true friends and demonstrate vitality and creativity. I do hope that you can immerse yourself in learning and write your own story of life at Tsinghua," he said.

Terry Edward Branstad, US Ambassador to China, and Stephen A. Schwarzman also congratulated the second class of Schwarzman Scholars, encouraging them to be the best they themselves want to be, and wishing them all the best in the year ahead. "We are delighted to welcome our second class of Scholars to Beijing. They join a community of Scholars who will make up an influential alumni network dedicated to improving multi-national cooperation and understanding", Schwarzman said.

Three student representatives expressed their thanks to all of the remarkable people who have made this possible and stated that there is still more to learn at Tsinghua. "We are here at Tsinghua University, China's premier institution of higher education. We're here to learn with China's best scholars and students, to get lost in Tsinghua libraries, to compete on the green football fields, and to become part of a community of students who will one day become leaders in China", Roxanne Roman, the student representative from the United States said. They also shared some words from the Scholar pledge, "We, the students of Schwarzman College at Tsinghua University, do pledge that we will hold true to the principles of self-discipline and social commitment, striving for a better understanding of China and the world, in the service of our own nations and in the service of all humanity", Bob Wu, the student representative from Australia said.

The ceremony started with a video in which Michael R. Bloomberg, founder of Bloomberg LP and Bloomberg Philanthropies, the 108th Mayor of New York City, Ray Dalio, the founder of Bridgewater Associates, Mary Barra, the CEO of General Motors, and Elon Musk, the founder of SpaceX and Tesla extended their congratulations to the second class of Schwarzman Scholars.

Wang Youqiang, Dean of Schwarzman College, presided over the ceremony. He congratulated the second class of Schwarzman Scholars, "Dear Scholars, all of you will play a new role as an ambassador to Tsinghua University, China, your home country and the future of the world. Your study at Schwarzman College will begin a new chapter of your life, which will provide you with tremendous opportunities to explore China on the global stage and a global network that fosters your future success. I hope that all of you will learn from each other, respect each other and grow together. With our joint effort, we will make our contribution to this great college as a community. More importantly, we share a common mission to make the world a better place for everyone to live." He said.

Schwarzman Scholars is a master's degree program meticulously designed for the continued improvement of the global leadership skills of future world leaders. The program selects far-sighted and right-minded young talents from all over the world with academic aptitude, a sense of responsibility and the leadership potential for a one-year study course at Tsinghua University.

The second class of Schwarzman College has 126 scholars from 26 countries who graduated from the most prestigious graduate and undergraduate academic institutions in the world. Among them, 45% come from the USA, 20% from China, and 35% from the rest of the world.

Council of Tsinghua University Art Museum Established

Qiu Yong: Incorporate art education as a vital part of general education
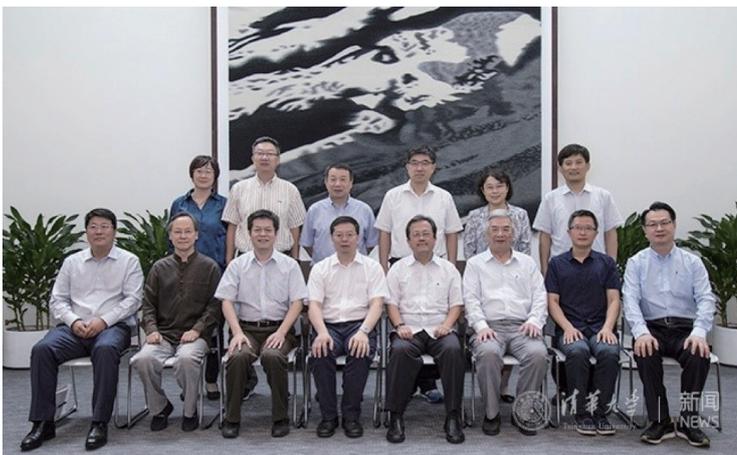
The Council of Tsinghua University Art Museum was founded on September 10th and the first council meeting was held the same day. Qiu Yong, President of Tsinghua University, and Deng Wei, Vice Chairperson of the Tsinghua University Council, attended the meeting.

Qiu Yong delivered a speech at the meeting and spoke highly of what Tsinghua University Art Museum has achieved in the past year since its opening. The establishment of the Tsinghua University Art Museum is a milestone of great significance for liberal and art education, as well as for the cultural development of Tsinghua University as a whole, said Qiu. It also plays a pivotal role in enriching cultural life at the university, enhancing the cultivation of talents and improving cultural literacy and artistic appreciation. To further develop art education and culture, we should incorporate art education as a vital part of general education, he added.

Qiu Yong noted that we should continue to build the art museum in a more professional manner and make it a first-class world university museum in the long run.

Deng Wei announced the decision of Tsinghua University to set up the Council, as well as the list of Council members. President Qiu Yong was appointed Chairman of the Council and Deng Wei was appointed Vice Chairman. Other Council members include Feng Yuan, Du Pengfei, Zheng Li, Hao Yonghong, Yu Dingwen, Meng Qingguo, Zhang Zuo, Li Jiaqiang, Tang Jie, Wang Mingzhi, Lu Xiaobo, Hang Kan, Zhao Weiguo and Shi Jinshan. Du Pengfei also serves as Secretary General.

Tsinghua University Art Museum was officially opened to the public on September 11th, 2016, following the opening ceremony on September 10th, that same year.

Global Innovation Exchange (GIX) Opening Celebration

The GIX Building in Seattle Opens

The GIX (Global Innovation eXchange institute) celebration to mark the opening of the GIX building and to welcome the first two cohorts of GIX graduate students was held on September 14th at the GIX building in Bellevue Spring District, Washington State, the United States. President of Tsinghua University Qiu Yong, President of the University of Washington Ana Mari Cauce, Consul General of the People's Republic of China in San Francisco Luo Linquan, Governor of Washington State Jay Inslee, former Governor of Washington State and former U.S. Ambassador to China Gary Locke, former Governor of Washington State Christine Gregoire, former Microsoft's CEO Steven Ballmer, Microsoft's President and Chief Legal Officer Brad Smith, and Microsoft's CEO Satya Nadella attended the ceremony. Yang Bin, Vice President of Tsinghua University, and Vikram Jandhyala, Vice President of the University of Washington presided over the ceremony.

In his remarks, Qiu Yong, President of Tsinghua University, congratulated the GIX on opening and stated what university collaboration means to Tsinghua. "We just 'opened the door' to the brand new GIX building," said President Qiu. "I know we have opened the door to a level of cooperation that is unlimited by boundaries. We have opened the door to a collaboration that will facilitate international and interdisciplinary integration for technological innovation. And we have opened the door to an innovative education model and greater global capacity to tackle the world's greatest challenges."
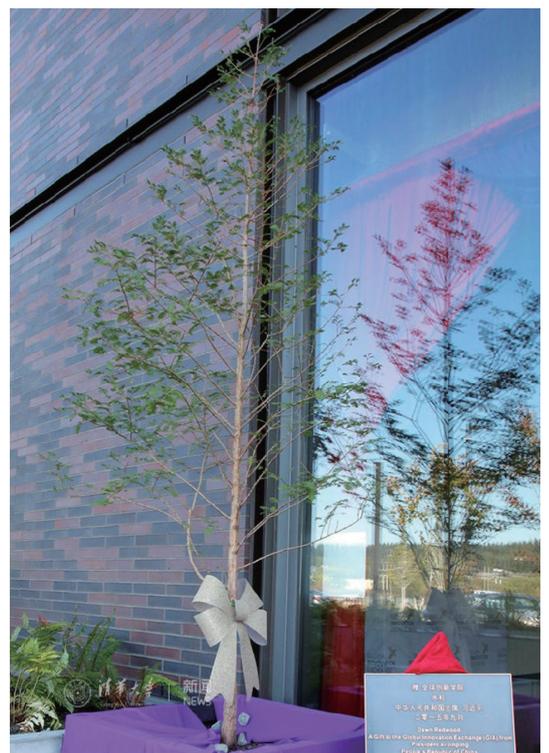
"With these new members, GIX is at the forefront of collaborative innovation, not only internationally, but also between universities and industry," said Ana Mari Cauce, President of the University of Washington. "Our students will have world-class faculty, professionals, and industry leaders to help ignite their passion for discovery and solving pressing global challenges."

Luo Linquan, Consul General of the People's Republic of China in San Francisco, welcomed the incoming students and emphasized the significance of the partnership. He also noted that he believes there will be a bright future for GIX.

"Innovation has always been the soul of Washington State and GIX is the best embodiment of Washington's innovative spirit", Jay Inslee, Governor of Washington State, said. He also expressed the hope that Washington State would provide more opportunities for the development of GIX in the future.

"GIX has moved from a vision to a reality with the completion of the Steve Ballmer Building and its first two cohorts of students," said Brad Smith, Microsoft's President. "This unique partnership brings together talented people from around the world to advance new ideas and solve some of the most pressing challenges in health, sustainability and social equity."

During his visit to Seattle in September of 2015, Chinese President Xi Jinping presented a dawn redwood tree as a gift to be planted at the new Global Innovation Exchange (GIX) facility. This gift of the dawn redwood tree represented Xi Jinping's blessing to GIX for its future success. It is now planted in front of the GIX building.

The Global Innovation Exchange (GIX) is a new model that is changing the game in innovation education and practice. It is a collaboration between universities and industry partners from around the world, focused on developing leaders in innovation. The first two academic partners are Tsinghua University and the University of Washington with foundational support from Microsoft. More universities and companies are joining and in a decade more than 3,000 learners will have enrolled. This new model combines learning and practice focused on solving pressing global challenges.

The announcement comes as GIX celebrates the opening of its new home, a 100,000 square foot, state-of-the-art facility in Bellevue's growing Spring District. As part of a 36-acre mixed-use development built around a planned light rail, the GIX building is just 10 miles from the UW campus and offers proximity to multiple technology corridors. Specifically designed for the program, the building features design studios, an incubation space, electronics prototyping labs, presentation spaces and one of the largest and most comprehensively equipped makerspaces in the region.

The first two cohorts of GIX graduate students are from different countries and regions, including China, the United States, Canada, Germany, France, India, Pakistan, Paraguay, Russia, and Estonia.

The eight members of the GIX Academic Network are: école Polytechnique Fédérale de Lausanne, Hong Kong University of Science and Technology, the Indian Institute of Science, Korea Advanced Institute of Science & Technology, Taiwan University, Technion-Israel Institute

of Technology, Tecnológico de Monterrey, and the University of British Columbia.

Following the GIX opening celebration, the UW Innovation Summit was held. As a gathering of academic, industry, and community organizations, it focused on sharing experiences in global innovation in the areas of sustainability, the future of computing, and health.

The Finals of the Second GIX Innovation Competition Held in Seattle

The Finals of the Second Innovation Competition of the Global Innovation eXchange institute (GIX) were held on September 16th at the GIX building in Seattle. Attending the event were Yang Bin, Vice President of Tsinghua University, Vikram Jandhyala, Vice President of the University of Washington, Dean Shi Yuanchun and Deputy Dean Jia Qingshan of the GIX of Tsinghua University, and Shwetak Patel, CTO of the GIX of the University of Washington. The Competition was presided over by Xu Bin, Deputy Dean of the GIX of Tsinghua University.

The theme for this year's GIX Competition was "Connected Devices", seeking out projects that have technological foresight and meet realistic demands, and covering technological innovations in areas such as the Internet of Things, wearable devices, intelligent hardware, VR, AR, ubiquitous computing, intelligent sensors and natural interactions.

This innovation competition was launched in April 2017. Eight teams made up of competitors from China, the United States, the United Kingdom, Canada, Germany, India, South Korea, Singapore, Mexico and Australia stood out from nearly 500 competing teams to enter the final round.

The next GIX innovation Competition will be held in China.

Foundation of the Tsinghua University-WPI Joint Research Center for Global Public Safety

Tsinghua-WPI (Worcester Polytechnic Institute) Day was held at Tsinghua University on September 4th. The President of Tsinghua University Qiu Yong and the President of WPI Laurie A. Leshin attended the Inauguration Ceremony.

In his address, President Qiu extended his congratulations on the establishment of the center and welcomed Laurie A. Leshin to Tsinghua. "The collaboration intends to engage world-class researchers in strategic collaborative research supported by local and global industry partners to create a better understanding of public safety concerns that face various countries and cultures across the world. Our collaboration provides joint research and educational programs to train young talents with cross-cultural preparation to become next generation world leaders in global public safety." said President Qiu.

"In the Center, public safety will be advanced through collaborative research, cross-cultural exchange, shared knowledge and resources in key academic areas" said President Leshin. "Our two world-leading universities have identified the urgent need for advancing research and knowledge for global public safety when fast development in the internet of things and cloud technology are revolutionizing the way we live, and fast urbanization demands new thinking and a new design of cities for better life quality."

A cooperation agreement was signed by the Presidents of the two Universities during a visit by a WPI delegation to Tsinghua University on October 20th, 2016. Under the agreement, the universities will develop a joint academic and research center focused on global public safety concerns.

Founded in 1865 in Worcester, WPI was one of the United States' first engineering and technology universities, and it now has 18 academic departments with over 50 undergraduate and graduate degree programs in science, engineering, technology, management, the social sciences, and the humanities and arts.

Tsinghua and MIT Sign Urban Innovation Agreement

Yang Bin, Vice President and Provost of Tsinghua University, visited Massachusetts Institute of Technology (MIT) on September 16th. During the visit, he met with Martin Schmidt, MIT Provost and Richard Lester, MIT Associate Provost for International Activities, and signed an agreement, the MIT-Tsinghua Future City Innovation Connector (FCIC).

"The rich academic intellectual resources and active entrepreneurship ecosystem at both universities have huge potential to land its impact in Chinese cities," Yang Bin said. "MIT-Tsinghua FCIC will build a broad partnership with local city and industries to scale up its impact. It is of great significance to universities, local governments, and industry leaders."

"The MIT-Tsinghua Future City Innovation Connector will become the new starting point of a series of engagements between MIT and Tsinghua in entrepreneurship, education, and urban research," Schmidt said.

FCIC will draw upon the work of MIT professors and labs to identify innovative concepts and technologies that could be implemented in China. Its founder and faculty director is Siqi Zheng, the Samuel Tak Lee Associate Professor of Real Estate Development and Entrepreneurship, in MIT's Department of Urban Studies and Planning and its Center for Real Estate. Zheng also holds a visiting professor position at Tsinghua University.

MIT and Tsinghua University have developed extensive formal collaborations in recent decades, across a range of areas involving their shared commitment to research, education, and the support of entrepreneurship.
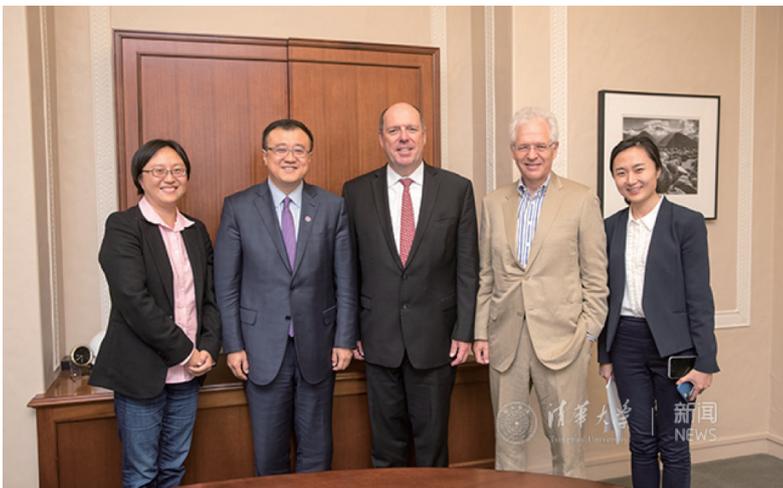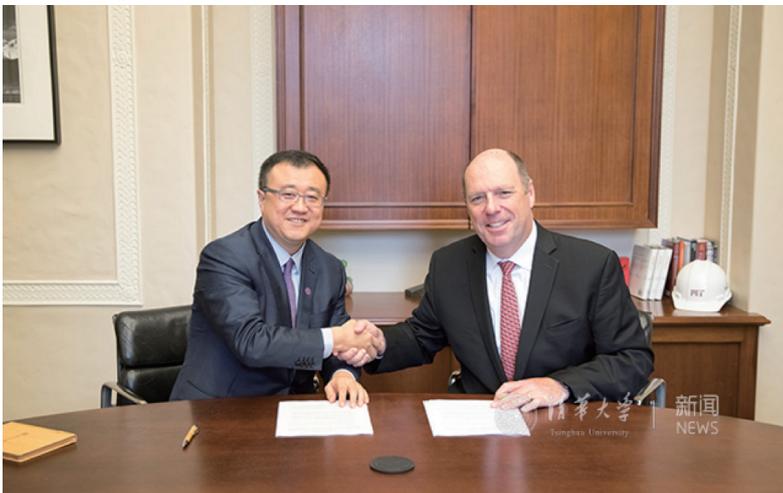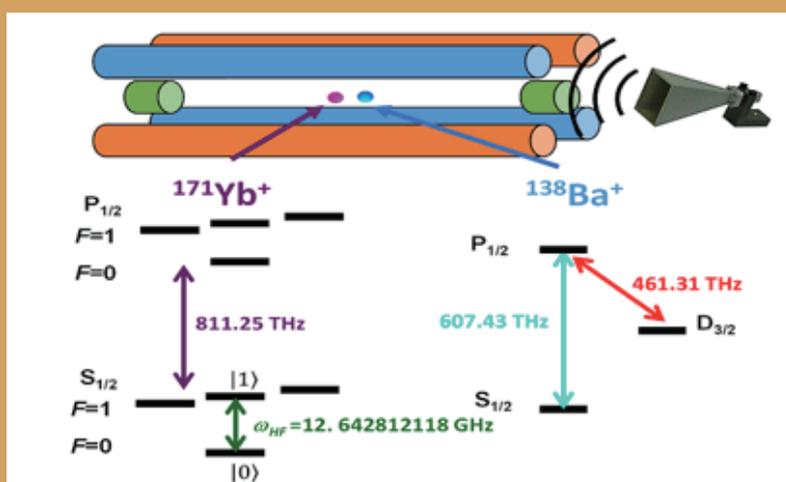
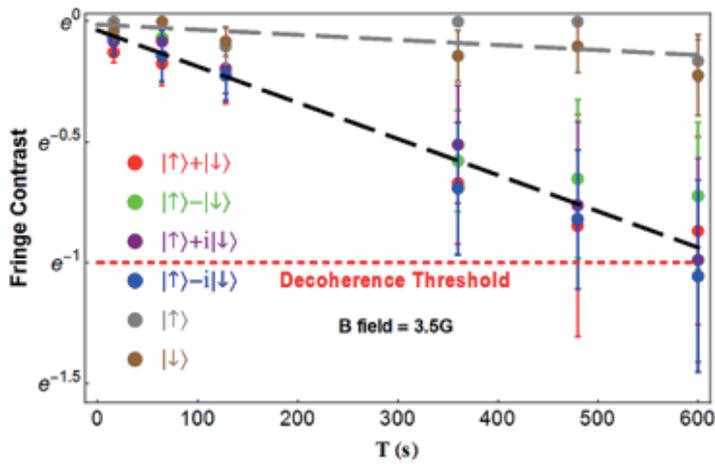# The longest coherence time of a single qubit in the world

Prof. Kihwan Kim's trapped ion group at Center of Quantum Information of Institute for Interdisciplinary Information Sciences realized a single-qubit memory with over 10 minutes coherence time, which is the longest coherence time for a single qubit, the basic unit of quantum information processing. The work was published in Nature Photonics on Sep. 25th, which is entitled as "Single-qubit quantum memory exceeding ten-minute coherence time." Ye Wang, Ph. D candidate in IIIS, is the first author and the corresponding authors are a former post-doc. Dahyun Yum and Tenured Associate Professor Kihwan Kim.

The actual quantum information processing is fundamentally based on the technology of coherent manipulation and detection of the basic unit, the qubit. Without the full accessibility to individual qubits, it is fundamentally inconceivable to store, operate and retrieve a quantum information. It has been a long quest to develop technologies to coherently process and detect a quantum information in a single qubit level. Here we report the coherence of over 10-minutes in a single-qubit system, which is an order of magnitude longer than the previous world record. Actually, similar coherence times in the ensemble of trapped ions were reported more than 20 years ago and even longer coherence times in the ensemble of solid state system were reported recently. We have brought the long coherence time seen in the ensemble to the single qubit level, a single ion.

The experimental result is the clear realization of the quantum memory zone, which would be the essential ingredient for the quantum computation and quantum computation based on the trapped ion technology, which is one of the leading candidates for a practical large-scale quantum computer. One scalable architecture for the ion-trap quantum computer would consist of memory zone and operation zone connected by ion shuttling. Our technique would provide the key technique for the realization of the memory zone in this scalable quantum computers. It is also an important technique for a quantum network based on ion-photon mapping, which performs in probabilistic way and requires long coherence time for the fault-tolerant performance.

The schematic diagram of the demonstrated trapped-ion quantum memory

The experimentally measured coherence times of ion with six different initial states

The coherence time of a single ion is mainly limited by the reduction of state-discrimination efficiency from the heating of the qubit ion without any laser cooling. In the experimental demonstration, the problem is resolved by the sympathetic cooling, where the 138Ba+ ion is used as the cooling ion for the qubit ion of 171Yb+ ion. The 138 Ba+ ion is chosen for the cooling ion, since the mass is similar to that of qubit ion while the wave-length for the cooling ion is far from that for the qubit ion, which does not influence on the coherence of qubit ion. Then thousands of dynamical decoupling pulses were applied to extend the coherence time in the influence of magnetic field fluctuation with the gate fidelity of 99.99%. Finally, the coherence times of the single-qubit memory with six different initial states were measured. As shown in Fig. 2, for states |↑> and |↓> , the coherence time is 4,740± 1,760s and for the other four initial states, the coherence time is 667± 17s.

The full paper is available at:

https://www.nature.com/articles/s41566-017-0007-1.epdf?author_access_token=Wue794TclIZq1RJz-cRuIdRgN0jAjWel9jnR3ZoTv0Oa-alZStUfdQeyVj4caj8YvMkAbOdPoGeSrXjLswho3ZSnRz-o8P2LWrnBVDHW5-Zts3Sr3LI8T2wiL1VDac2Fn9O1hhFI7LpG8wXMFFmH4w%3D%3D

Scientists from interdisciplinary fields published a new machine learning algorithm for predicting drug-target interactions in Nature Communications

A collaborative team from interdisciplinary fields, including Prof. Jianyang Zeng in the Institute for Interdisciplinary Information Sciences (IIIS), Prof. Ligong Chen's Lab in the School of Pharmaceutical Science at Tsinghua University, and Prof. Jian Peng, in the Department of Computer Science at the University of Illinois at Urbana-Champaign, recently developed a novel machine learning algorithm for predicting drug-target interactions. The paper of this work has been published in the journal Nature Communications.

Prediction of drug-target interaction is a crucial step of drug discovery and drug repositioning. Large-scale genomic, chemical and pharmacological data provide new opportunities for drug-target interaction prediction. However, systematic integration of these heterogeneous datasets remains a challenge. The proposed algorithm, called DTINet, employs a new machine learning approach to integrate these heterogeneous networks. The algorithm represents each drug and gene by compact patterns to remove the background noise of biological data and reveal the topological properties of drugs and genes, which is essential for improving the prediction performance. DTINet was found to outperform several state-of-the-art prediction methods. Furthermore, most of the novel drug-target interactions predicted by DTINet can be supported by known evidence in the literature. In addition, experimental assays had been performed to validate those predicted drug-target interactions that were rarely reported in previous studies, including those interactions between three drugs and two proteins (PTGS1 and PTGS2). The validation results demonstrated new potential applications of these drugs in preventing inflammatory diseases, which provides new insights into drug repositioning.

Nature Communications, with an impact factor 12.124 in year 2016, is a scientific journal published by the Nature Publishing Group. This work is a joint work with Prof. Ligong Chen's Lab in the School of Pharmaceutical Science at Tsinghua University and Prof. Jian Peng's Group in the Department of Computer Science at the University of Illinois at Urbana-Champaign. Yunan Luo (Yao Class 20 at Tsinghua University, now a PhD candidate in the University of Illinois at Urbana-Champaign), Xinbin Zhao and Jingtian Zhou (Class 20 at Tsinghua University, now a PhD candidate in the University of California, San Diego) are the joint first authors, and Jianyang Zeng, Ligong Chen and Jian Peng are the corresponding authors of the paper.

The paper is available at:
https://www.nature.com/articles/s41467-017-00680-8.

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