TSINGHUA
2024 IN REVIEW

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Tsinghua partners with Brazilian universities to tackle global challenges

On the morning of November 20, local time, Chinese President Xi Jinping held talks with Brazilian President Luiz Inacio Lula da Silva in Brasilia, Brazil. The two heads of state announced the elevation of China-Brazil relations to building a China-Brazil community with a shared future for a more just world and a more sustainable planet.

During President Xi's state visit to Brazil, the two sides signed over 30 bilateral cooperation agreements spanning areas such as economy and trade, investment, agriculture, digital economy, sustainable development, science and technology, artificial intelligence, and global development cooperation.

During President Xi Jinping's visit to Rio de Janeiro to attend the 19th G20 Leaders' Summit and his state visit to Brazil, Secretary of the CPC Tsinghua University Committee and Chairperson of the University Council Qiu Yong led a delegation to Brazil from November 17 to 21 local time. On behalf of Tsinghua University, Qiu signed a Memorandum of Understanding with the Federal University of Rio de Janeiro for the "China-Latin America Youth Responding to Global Challenges" Program. As one of the over 30 bilateral cooperation agreements signed during Xi's visit, this memorandum was included as one of the outcomes of his state visit to Brazil.

The China-Latin America Youth Responding to Global Challenges Program aims to unite youth from China and Latin America to address challenges in poverty alleviation and other sustainable development areas. A core component of the program, the Poverty Alleviation Challenge was initiated by Tsinghua University and jointly organized in its inaugural session with the Federal University of Rio de Janeiro and the Pontifical Catholic University of Chile. The program contributes innovative solutions to poverty alleviation efforts in developing countries worldwide while fostering intercultural exchange and mutual learning.

Going forward, the program will expand its scale and involve more youth participants. It will broaden its focus beyond poverty alleviation to include other sustainable development topics. By organizing joint competitions, collaborative courses, and co-research initiatives, the program will produce more outcomes of cross-cultural exchange and mutual learning, contributing to building a community with a shared future for mankind.

During the visit, Qiu met with Brazil's Minister of Education, Camilo Sobreira de Santana. The two reached a consensus on strengthening collaboration between Tsinghua University and Brazilian universities and institutions. Additionally, he signed a MoU with Ricardo Alban, president of the Brazilian National Confederation of Industry (CNI), to deepen collaboration in education, science and technology, and economy and trade. Tsinghua also signed university-level agreements with the University of São Paulo, the Federal University of Ceará, and the Federal University of Rio de Janeiro.

Qiu also participated in the Tsinghua University-CNI Seminar and the Seminar on China-Brazil Collaboration for Promoting Bio-Industry and Sustainable Development. These efforts aimed to reinforce Tsinghua University's leading role in higher education and enhance collaboration with Brazil

Chinese President Xi Jinping holds talks with his Brazilian counterpart Luiz Inacio Lula da Silva in Brasilia, Brazil, Nov. 20, 2024.

Qiu Yong with Camilo Sobreira de Santana and other attendees.

Qiu Yong and Ricardo Alban reach a consensus on deepening collaboration.

Tsinghua University enters a Memorandum of Understanding with the University of São Paulo.

across various fields, including education, research, and people-to-people and cultural exchanges.

Through these initiatives, Tsinghua University contributes to building a China-Brazil community with a shared future for a more just world and a more sustainable planet.

Tsinghua places great importance on its cooperation with Brazil and other Latin American countries. The Tsinghua-UFRJ China-Brazil Center for Climate Change and Energy Technology Innovation was established with the support of both governments in 2010, with offices at Tsinghua and the Federal University of Rio de Janeiro. The center has since become a key platform for fostering educational, technological, and people-to-people and cultural exchanges in the fields of clean energy and climate change across China, Brazil, and Latin American countries.

In 2015, based on the prior cooperation under the support of the Ministry of Science and Technology, Tsinghua led the establishment of the China-Latin America Joint Laboratory for Clean Energy and Climate Change, with the Federal University of Rio de Janeiro as the Latin American lead institution. The joint laboratory has been recognized as a National International Science and Technology Cooperation Base by the Ministry of Science and Technology.

In 2018, Tsinghua established its Latin America Center in Santiago, Chile, to serve as an integrated platform for exchanges among governments, academia, think tanks, and enterprises from China and Latin America. Leveraging this center, the Latin American and Caribbean Ambassadors Convene at Tsinghua event has been held for four consecutive years, and the Poverty Alleviation Challenge has provided a platform for Chinese and Latin American youth to collaborate on solving pressing challenges.

Tsinghua University signs a Memorandum of Understanding with the Federal University of Rio de Janeiro.

Focused on cultivating global competence, the center has also facilitated winter and summer fieldwork opportunities for Tsinghua students and faculty in countries such as Chile, Brazil, and the Dominican Republic.

As part of the series of events celebrating the 50th anniversary of China-Brazil diplomatic relations, the final of "2024 Poverty Alleviation Challenge" concluded in August in Rio de Janeiro. Faculty and students from Tsinghua University and Brazilian universities explored innovative approaches and diverse strategies to address poverty, combining their academic expertise and cross-cultural perspectives.

The Poverty Alleviation Challenge is a core component of the China-Latin America Youth Responding to Global Challenges Program and the first poverty-focused initiative by a Chinese university to integrate case studies, innovative solution competitions, academic forums, and field research.

Group photo at the final of "China-Latin America Youth Responding to Global Challenges-2024 Poverty Alleviation Challenge (Chile)"

The final of "China-Latin America Youth Responding to Global Challenges-2024 Poverty Alleviation Challenge", held in Brazil.

ADVANCING INSTITUTIONAL EXCELLENCE

With over 113 years of academic heritage, Tsinghua University embodies a legacy of innovation and excellence. The establishment of new schools and departments, alongside the contributions of globally renowned scholars, underscores our unwavering commitment to being a transformative force—adapting to emerging trends, tackling new challenges, and shaping a brighter future for humanity.

Tsinghua establishes the Department of Psychological and Cognitive Sciences

On April 18, Tsinghua University established the Department of Psychological and Cognitive Sciences, marking a pivotal move in the University's disciplinary development and alignment with national strategies. The establishment of this department aims to promote interdisciplinary integration, enhance research on the origins of consciousness, the essence of intelligence, and other fundamental aspects, construct and improve the theoretical framework of mental health, actively serve the construction of a healthy China, and strive to promote the development of human psychological health undertakings.

Tsinghua launches Mechano-X Institute

Tsinghua University launched the Mechano-X Institute (THUM) on April 26. This marks a significant initiative to serve the country's major strategic needs and to promote in-depth interdisciplinary integration.

The institute aims to establish a more proactive research paradigm by promoting deep integration between mechanics and engineering disciplines such as materials science, advanced manufacturing, and biomedical engineering. The institute expects to actively explore the forefront of mechanics, enrich the theoretical framework of mechanics, attract and cultivate talents with international academic influence, serve the country's major strategic needs, generate original and breakthrough innovations, promote international exchanges and cooperation, and establish an international center for mechanics exchange.

Going forward, the THUM aims to make breakthroughs in frontier areas, address national issues, exert international influence, and uphold outstanding educational principles. Leveraging Tsinghua's engineering strengths, it will focus on emerging interdisciplinary fields like mechanomaterials, biomechanics and medical engineering, and mechanics and advanced manufacturing. The goal of the institute is to become a top-tier research center, academic exchange platform, and talent hub.

Tsinghua inaugurates new College of AI

Tsinghua University, on its 113th anniversary, announced the establishment of its new College of AI.

The College is dedicated to both advancing the “core foundational theories and architectures of AI” and fostering the integration of AI with various disciplines, or "AI + X".

The announcement was followed by the Tsinghua University AI Summit, which gathered preeminent experts for in-depth discussions on interdisciplinary research, talent development, and the deep integration of academia and industry in AI.

The Summit also featured an exhibition of Tsinghua's achievements in AI, not only showcasing significant accomplishments in fundamental AI theories and their applications, but also giving a special focus to "AI+", illustrating the impact of AI on digital transformations in various industries.

Tsinghua founds Department of Statistics and Data Science

Tsinghua University founded the Department of Statistics and Data Science on July 10. This is an important initiative by Tsinghua to optimize its disciplinary layout and serve national strategies.

The new department will be dedicated to developing statistical ideas and methods with significant social impact. Leveraging Tsinghua's strengths in engineering and business, it aims to advance statistical methods in areas such as internet technology, big data analysis, and artificial intelligence. It will also focus on cultivating top-tier talent in statistics and data science.

Tsinghua's statistics discipline has a strong foundation. Over the years, it has been the incubator of numerous outstanding statisticians. Looking forward, the department will adopt a global perspective, benchmark itself against world-class standards, and strive to become a renowned integrated academic hub for industry, academia, and research both domestically and internationally.

Tsinghua expands efforts in high-quality medicine development

Tsinghua University is ramping up its commitment to advancing high-quality medicine development, including launching new schools of Tsinghua Medicine and entering a strategic cooperation agreement to establish a new medical campus.

Tsinghua University announced initiatives to advance high-quality medicine development during the Tsinghua Medicine: Future of Medicine Forum, themed "Innovating Medicine and Healthcare for a Shared Future," on November 15, 2024.

The University launched several new specialized schools of Tsinghua Medicine, and also entered a strategic cooperation agreement with Beijing's Haidian district to develop a new medical campus.

The newly launched divisions include the School of Basic Medicine, the School of Biomedical Engineering, the School of Medical Management, and the School of Clinical Medicine (Beijing Tsinghua Changgung Hospital).

The new medicine campus will be a high-level facility incorporating Tsinghua Medicine, a research-centric hospital, and national-level research platforms.

During the forum, Victor Dzau, president of the U.S. National Academy of Medicine and a foreign member of the Chinese Academy of Engineering,

Victor Dzau receives an honorary professorship from Tsinghua University

received an honorary professorship from Tsinghua University.

Wong Tien Yin, Wong Tien Yin, vice provost of Tsinghua University, senior vice-chancellor of Tsinghua Medicine, and an elected foreign member of the U.S. National Academy of Medicine, Dong Jiahong, dean of the School of Clinical Medicine (Beijing Tsinghua Changgung Hospital), chair of the Academic Committee of Tsinghua Medicine, and a member of the CAE, and Victor Dzau, honorary professor of Tsinghua University, president of the U.S. National Academy of Medicine, and a foreign member of the CAE, deliver keynote presentations

The three-day event features seven specialized sub-forums covering medical education, advances in oncology, infectious diseases and immunity, aging and degenerative diseases, drug development, biomedical engineering, and health care management.

An inauguration ceremony for new schools of Tsinghua Medicine takes place during the forum.

Professor Gao Huajian named chair professor of Tsinghua University

Professor Gao Huajian was appointed a chair professor of Tsinghua University on January 13. Qiu Yong and Tsinghua University President Li Luming attended the appointment ceremony.

At the ceremony, Qiu Yong warmly welcomed Professor Gao upon his joining Tsinghua University.

Li Luming provided an overview of Professor Gao Huajian's acclaimed career and key contributions, and presented him with the appointment certificate for the chair professorship at Tsinghua University.

Professor Gao is a world-renowned scientist in mechanics, materials, and engineering science. He is a member of National Academy of Science of USA, National Academy of Engineering of USA, American Academy of Arts and Sciences, foreign member of the Chinese Academy of Sciences, a fellow of the Royal Society, German National Academy of Sciences Leopoldina, and a foreign member of Academia Europaea. His career is marked by exceptional accomplishments, being the sole recipient of all three top honors in his field: the Rodney Hill Prize, Timoshenko Medal, and ASME Medal, a feat unmatched on the global stage.

Professor Gao underscored the fundamental role of mechanics in both engineering and applied sciences. With a strategic vision, he is poised to champion interdisciplinary synergy, fostering collaborations with leading academic teams globally. His goal is to catalyze the advancement of mechanics, weaving it into the fabric of various academic realms. Furthermore, Professor Gao is devoted to the mentorship of emerging scholars, dedicating himself to sculpting the next generation of scientific leaders.

Global climate expert Chen Deliang joins Tsinghua as chair professor

Tsinghua University held an appointment ceremony to welcome Professor Chen Deliang, a globally acclaimed climate scientist, as a newly appointed chair professor on November 26.

On behalf of Tsinghua University, Li Luming extended a warm welcome and heartfelt gratitude to Chen for joining the University full-time and for his outstanding contributions to talent cultivation and the development of Earth Sciences at Tsinghua.

Chen stated that science and technology are the core driving forces of social progress, particularly in the environmental field, where many major challenges are global in nature and require effective international cooperation to address. He emphasized that the study and application of climate resilience are fundamental to Earth System Science and sustainable development research.

At the appointment ceremony, Li Luming presented Chen with the certificates of Tsinghua University Chair Professor and Xinghua Distinguished Chair Professor of Tsinghua University.

Chen Deliang is an internationally renowned climate scientist, an advocate and practitioner of Earth System Science, and a strategic scientist with a global perspective. His research focuses on climate change, its causes and impacts, and climate dynamics. He is a leading expert and pioneer in climate downscaling models and enjoys a high reputation on the international stage.

Chen has been elected a member of the Royal Swedish Academy of Sciences, a foreign member of the Norwegian Academy of Science and Letters, a foreign member of the Chinese Academy of Sciences, a member of the World Academy of Sciences for the advancement of science in developing countries, a member of the European Academy of Sciences and Arts, a member of the Royal Society of Arts and Sciences in Gothenburg, and a fellow of the International Science Council.

He has received the H. M. The King's Medal in the 8th size with the Order of the Seraphim ribbon and was listed among the Top 1,000 Climate Scientists globally by Reuters. In 2017, he was awarded the China International Science and Technology Cooperation Award.

As the only executive director with Chinese origin since the establishment of the International Council for Science (ICSU), Chen organized and developed a global visioning process for Natural Sciences and Earth System Science, and led the launch of the large-scale international scientific research program "Future Earth," which has had a profound impact on global ecology, environment and climate research, and sustainable development. With a deep concern for his homeland, he has devoted himself to advancing China's scientific endeavors and has long served as the science director at the National Climate Center and as the chair of the International Scientific Advisory Committee of the Institute of Urban Meteorology, Beijing. Thanks to his efforts, the International Council for Science launched the "Integrated Research on Disaster Risk" and the "Urban Health & Well-being" projects, providing important platforms for Chinese scientists to participate in international scientific research.

CELEBRATING ACHIEVEMENTS AND RECOGNITIONS

In 2024, Tsinghua faculty and researchers were recognized with prestigious honors, including the State Preeminent Science and Technology Award and others. These accolades highlight Tsinghua's unwavering commitment to excellence in academic and scientific innovation.

Tsinghua Professor Xue Qikun receives China's top sci-tech award

The 2023 State Preeminent Science and Technology Award, China's top scientific honor, was granted to academician Xue Qikun on June 24 for his outstanding contribution to scientific and technological innovation.

Tsinghua University won nine awards in the 2023 National Science and Technology Awards, including two first prizes and seven second prizes, ranking first among universities in China in terms of the number of awards received.

Born in 1963, Xue, an internationally renowned experimental physicist, once earned the State Natural Science Award in 2018, China's highest accolade for basic research, for his experimental discovery of the quantum anomalous Hall effect. He is dedicated to research in the fields of scanning tunneling microscopy, molecular beam epitaxy, topological insulator quantum matter, and high-temperature superconductivity.

Xue is a professor of Tsinghua's Department of Physics, president of the Southern University of Science and Technology, and a member of the Chinese Academy of Sciences. He is the first Chinese national to win the Fritz London Memorial Prize and the first Chinese national to win the Oliver E. Buckley Condensed Matter Physics Prize.

Professor Xue joined Tsinghua from 2005, going on to serve as the dean of the School of Sciences, director of the State Key Laboratory of Low-Dimensional Quantum Physics, director of the Research & Development Affairs Office, and Tsinghua vice president. He was appointed president of the Southern University of Science and Technology in 2020.

Since 2008, Xue has led a team composed of researchers from Tsinghua's Department of Physics and the Institute of Physics, Chinese Academy of Sciences, achieving a series of significant advancements in the experimental research of topological insulators and superconductors.

At the award ceremony, nine research achievements of Tsinghua University also won other prestigious national awards.

Of all the awards Tsinghua received, four are the State Natural Science Award, four are the State Technological Invention Award, and one is the State Scientific and Technological Progress Award.

The research project "Key Technologies and Equipment of Chemical Mechanical Planarization for Integrated Circuits", led by Professor Lu Xinchun from the Department of Mechanical Engineering obtained the first prize of the State Technological Invention Award.

The research project "Source Address Validation Architecture (SAVA) for Next-Generation Internet: Key Technologies and Applications," led by Academician Wu Jianping from the Department of Computer Science and Technology and the Institute for Network Sciences and Cyberspace obtained the first prize of the State Scientific and Technological Progress Award.

The following research projects received second prize of the State Natural Science Award:

- "Synthesis and Properties of Sub-1nm One-Dimensional Nanomaterials" (The Department of Chemistry);
- "Drivers, environmental impacts, and health effects of atmospheric composition change in China" (The Department of Earth System Science);
- "Theory and Method of Cross-media Big Data Graph Representation Learning" (The Department of Computer Science and Technology);
- "Order parameter manipulation and device design in ferroic materials" (The School of Materials Science and Engineering).

The following research projects received second prize of the State Technological Invention Award:

- "Inorganic non-metallic wastewater treatment and resource recovery technologies and their applications" (The School of Environment);
- "Semiconductor Devices, Key Technologies, and Series DC Circuit Breakers for High Voltage and Large Capacity DC Breaking" (The Department of Electrical Engineering);
- "Key Technologies and Applications of Visual Spatial Computing" (The Department of Automation).

Tsinghua excels at Beijing Science and Technology Award

Announced by the Beijing municipal government, projects led by Tsinghua University won nine first prizes and 17 second prizes of the Beijing Science and Technology Award for the year 2023, setting a new record for the University.

At the award ceremony on November 19, a total of 13 first prizes and 39 second prizes were granted for the Beijing Natural Science Award, six first prizes and 18 second prizes for the Beijing Technological Invention Award, and 31 first prizes and 89 second prizes for the Beijing Science and Technology Progress Award.

Tsinghua Professor Li Yadong wins Future Science Prize

The Future Science Prize winners were announced on August 16. Professor Zhang Tao, an academician of the Chinese Academy of Sciences from the Dalian Institute of Chemical Physics, and Professor Li Yadong, also an academician of the Chinese Academy of Sciences and a professor in the Department of Chemistry at Tsinghua University, jointly won the Future Science Prize in Physical Sciences. They were recognized for their seminal contributions to the development and application of Single-Atom Catalysis (SAC).

Li and co-workers systematically advanced the deterministic and controlled synthesis of single-atom catalysts with structurally-defined morphology and coordination environment of the metal center. These methods enable the large-scale production of single-atom catalysts with high metal loading and uniform structural features, moving Single-Atom Catalysis one step closer to industrial production. The methods developed by Li are widely adapted all over the world for the development of single-atom catalysts with desirable activity and selectivity, significantly broadening the scope and bolstering the impact of SAC in chemical transformation, energy conversion, environmental protection, and materials discovery.

Zhang and Li's seminal contributions to SAC have paved the way for understanding the nature of active sites in supported metal catalysts and controlling the structure of solid catalysts with atomic precision. Their pioneering work has brought SAC to the forefront of heterogeneous catalysis and technology. Furthermore, their innovations have enabled environment-friendly and energy-efficient production of commodity chemicals, such as chloroethylene, acetic acid, and propanol. These advancements highlight how SAC contributes to fostering a sustainable society.

Prof. Li Yadong was born in 1964 in Anhui province. He earned his Ph.D. in 1998 from the University of Science and Technology of China.

Founded in 2016, the Future Science Prize, which includes categories for Life Sciences, Physical Sciences, and Mathematics and Computer Science, has been awarded to 39 scientists.

Tsinghua professor Nicolai Reshetikhin receives China's top honor for foreign experts

Nicolai Reshetikhin, a tenured professor at Tsinghua University and a world-class mathematical physicist, has been awarded the 2024 Chinese Government Friendship Award.

In recognition of their contributions to China's development, Reshetikhin was one of 100 foreign experts who were conferred with the 2024 Chinese Government Friendship Award on September 30.

Reshetikhin is an expert in the field of mathematical physics and one of the founders of quantum group theory and Reshetikhin-Turaev invariants. He is a significant contributor to the theory of quantum integrable systems, an important contributor to Poisson geometry and symplectic geometry, and has made significant contributions to quantum Kac-Moody algebras. He is also a pioneer in the quantum 6j symbols related to quantum gravity.

He is currently working at Tsinghua's Yau Mathematical Sciences Center, where he teaches courses such as Knot Invariants and 3-Manifolds, dedicating his efforts to nurturing the next generation of leading mathematicians. In 2022, he was awarded the Weyl-Wigner Award, a top international prize in mathematical physics.

The Friendship Award is the highest honor for foreign experts who have made outstanding contributions to China's modernization drive. Up to now, 17 foreign experts from Tsinghua University have been honored with this award.

Tsinghua announces third cohort of Distinguished Professors of Arts, Humanities and Social Sciences

A symposium saw two professors awarded the title of "Distinguished Professors of Arts, Humanities and Social Sciences at Tsinghua University" on January 24. The honorees are Bai Chong'en from the School of Economics and Management, and Li Xiangqun from the Academy of Arts & Design.

Bai, born in 1963, is an economist with PhDs from UC San Diego and Harvard. Currently serving as a chair professor and dean at the School of Economics and Management, he is recognized for his significant contributions to both economics and various national committees and academic societies.

Li, born in 1961, is an alumnus of the Lu Xun Academy of Fine Arts. Appointed as a professor at the Academy of Arts & Design in 2000, he has won prizes both domestically and internationally.

PIONEERING RESEARCH AND DISCOVERY

At Tsinghua, research transcends the pursuit of knowledge—it reflects our unwavering commitment to tackling humanity's most pressing challenges and pushing the boundaries of discovery. Through transformative innovation, Tsinghua reshapes possibilities and drives meaningful change. This year's breakthroughs exemplify our integration of academic rigor with impactful solutions, advancing progress toward a more sustainable and equitable future.

Tsinghua Professor Dai Qionghai's super microscope set to broaden human understanding

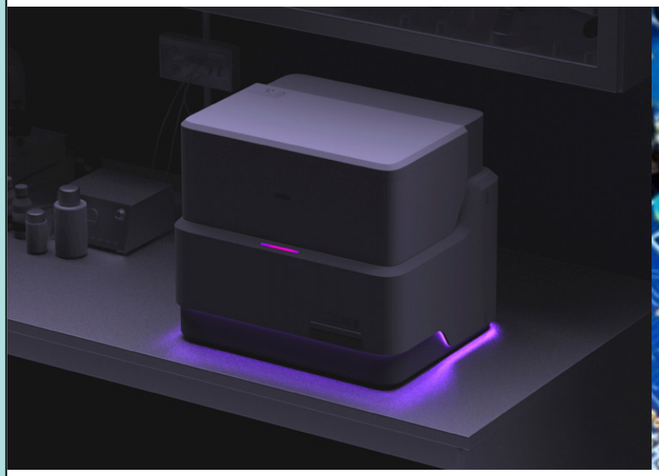
Tsinghua University has achieved a significant breakthrough in biomedical imaging with the development of the RUSH3D system, a novel mesoscale microscope designed by Professor Dai Qionghai's team. This advanced instrument provides a centimeter-level three-dimensional field of view with subcellular resolution, dramatically expanding the potential for dynamic, in vivo observations across entire mammalian organs. Published in *Cell* on September 13, 2024, the study showcases RUSH3D's capabilities, including continuous low-phototoxicity observation and a high-speed imaging rate of 20 Hz, features that enable detailed study of complex biological processes such as neuronal activity, immune responses, and tumor dynamics.

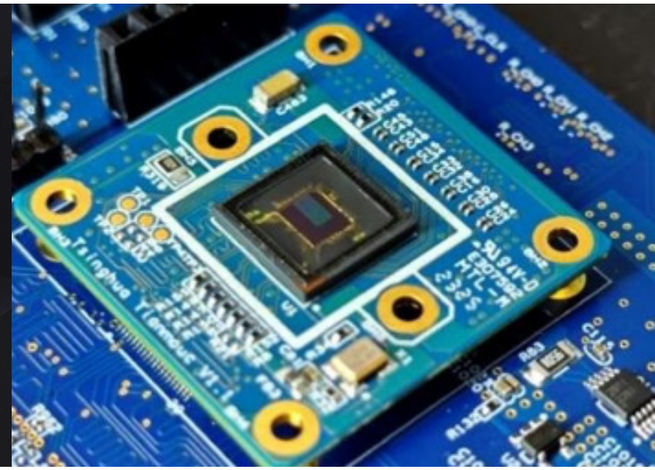
The interdisciplinary research team utilized RUSH3D to conduct pioneering observations, such as tracking the interaction of nearly 100,000 neurons in multiple brain regions and capturing immune cell dynamics during disease processes. These insights could revolutionize medical research by enhancing our understanding of neurodegenerative diseases and improving the efficacy of drug screenings and immunotherapies.

Tsinghua's cutting-edge vision chip brings human eye-like perception to machine

Tsinghua University's Center for Brain-Inspired Computing Research (CBICR) has made a significant advance in visual perception technology with the development of the world's first primitive-based brain-inspired complementary vision chip, "Tianmouc." Drawing on principles of the human visual systems, this chip delivers high-speed visual sensing at 10,000 frames per second, a dynamic range of 130 dB, while also reducing bandwidth use by 90% and maintaining low power consumption. The Tianmouc chip demonstrates excellent performance and robustness in autonomous driving, excelling in challenging open scenarios such as sudden lighting changes and interference.

Featured on the cover of *Nature* in May 2024, this breakthrough supports pivotal applications in autonomous systems and other areas of embodied intelligence. With its robust real-time perception capabilities, the Tianmouc chip is poised to become a cornerstone for advancing artificial general intelligence and enhancing the brain-inspired intelligence ecosystem.

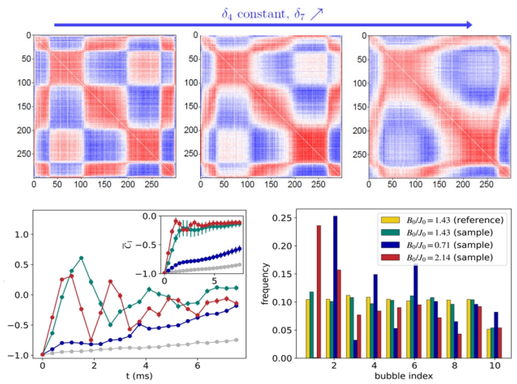


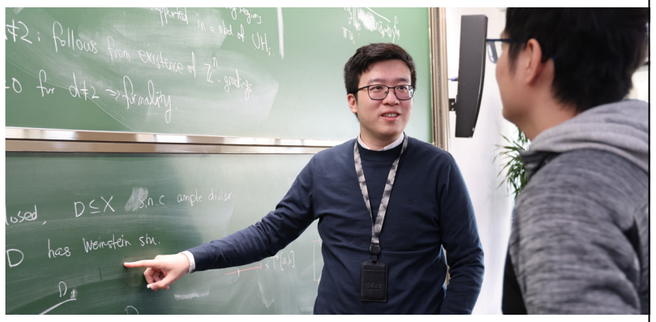


Prof. Duan Luming's group achieves largest-scale ion trap quantum simulation

Professor Luming Duan's group at Tsinghua University has marked a significant milestone in quantum simulation by successfully trapping and cooling a two-dimensional crystal of 512 ions and performing simulations with 300 ion qubits, as detailed in their recent publication in *Nature*. This achievement not only surpasses the previous record of 61 ion qubits but also represents the world's largest-scale multi-ion quantum simulation with single-qubit resolution, enhancing the precision and stability of quantum measurements.

This breakthrough paves the way for quantum computing to solve complex problems that are currently beyond the reach of classical computers, with far-reaching implications for fields such as cryptography, material science, and pharmaceuticals. By advancing the capability to model quantum systems, this research could lead to transformative advancements in energy efficiency, drug discovery, and secure communication.





Classification of Lagrangian fillings

Symplectic geometry is one of the most important directions of development in modern theoretical mathematics. A central problem in this area is the classification of Lagrangian fillings of Legendrian knots, and a young Tsinghua faculty member Gao Honghao has made essential progress on this cutting-edge problem, with collaborative research published in top mathematics journals, including the *Inventiones mathematicae*.

The search for Lagrangian fillings was initiated by Eliashberg and Polterovich in 1996. For a long time, the community speculated that the number of Lagrangian fillings was finite. This expectation was spectacularly overturned in 2022 when Roger Casals (UC Davis) and Gao Honghao (Tsinghua University) proved there exist infinitely many Lagrangian fillings. This work was published in the prestigious *Annals of Mathematics*.

This year, the collaborative duo made further progress on the filling problem by introducing a novel framework combining a geometric operation called Lagrangian disk surgery with algebraic objects called quivers with potentials. Using this new technique, the team proved surjectivity in the conjectured correspondence between Lagrangian fillings and cluster seeds. This result establishes the lower bound for the conjectured complete classification of Lagrangian fillings and brings new insights to understanding symplectic 4-manifolds. This work demonstrates the power of algebraic machinery in solving geometric problems and carves out a path for future explorations and developments in low-dimensional symplectic topology.

The Tsinghua University Warring States Bamboo Manuscripts (Volume 14), Collated Interpretation Series, and *Studies and Translation Series* Book Launch held in Beijing

On December 20, the book launch for *The Tsinghua University Warring States Bamboo Manuscripts (Volume 14), Collated Interpretation Series,* and *Studies and Translation Series* was held at Tsinghua University. The event was jointly hosted by the Research and Conservation Center for Unearthed Texts at Tsinghua University, Zhongxi Book Company, The Commercial Press, and Tsinghua University Press, focusing on the latest research outcomes on the Tsinghua bamboo manuscripts.

The Tsinghua bamboo manuscripts, acquired by Tsinghua University in 2008, comprise nearly 2,500 slips, making it the largest known collection of Warring States period bamboo manuscripts to date. The content predominantly includes classics, historical texts, and philosophical writings, touching on the core of traditional Chinese culture. Since the acquisition, under the leadership of Li Xueqin and subsequently Huang Dekuan, the research team has published annual reports on the manuscripts. Additionally, they have initiated the compilation of the *Collated Interpretation Series* and its English counterpart, the *Studies and Translation Series*, to further research and promote the manuscripts globally.

The works released during this event include *The Tsinghua University Warring States Bamboo Manuscripts* Volume 14, *Collated Interpretation* Series 1, Volumes 1-4, *Studies and Translation* Volumes 2, 3, and 6, along with the English version of *Approaching the Tsinghua Bamboo Manuscripts (Revised Edition)*.

Tsinghua's space network experimental platform achieves breakthrough

On May 9, 2024, the ZHIHUI TIANWANG-1 01 satellite was successfully launched, becoming China's first medium earth orbit (MEO) broadband communication satellite and the world's first MEO space-based networking satellite. This milestone marks a critical first step in Tsinghua University's leadership of its first system-level aerospace project, the Tomorrow Space Network (TSN) Innovation Project. Following its deployment into orbit, the satellite facilitated tests on space-based network routing and switching, elastic capacity on-demand coverage, and long-duration inter-satellite laser communication, achieving a series of significant breakthroughs.

The TSN Innovation Project spearheads the development of a cutting-edge space network experimental platform. It supports the testing, validation, and rapid iteration of core technologies in integrated space-air-ground 6G communications, satellite internet, and other advanced fields. The project has achieved internationally leading research outcomes in frequency and orbital resource optimization, seamless satellite-terrestrial networking, and sustainable space development.

TSN aims to establish an open platform for research and education in space information networks. By enhancing foundational research infrastructure and cultivating specialized engineering talent, the project advances innovations in science and education. Leveraging Tsinghua University's strengths in disciplines such as information and communication engineering and aerospace science, it promotes interdisciplinary collaboration, fosters new academic growth areas, and strengthens its global academic influence.

The Rise of Modern Chinese Thought

The book titled *The Rise of Modern Chinese Thought* by Professor Wang Hui's team from Tsinghua Institute for Advanced Study in Humanities and Social Sciences for the first time presents the insightful venation of the development of thoughts from Song Dynasty to modern China in complete form and reveals the choices in the transformation and their global significance. It criticizes the west-centered perspective systematically and combines the traditional and the modern innovatively, providing a new framework for understanding the various methods of Chinese modernity.

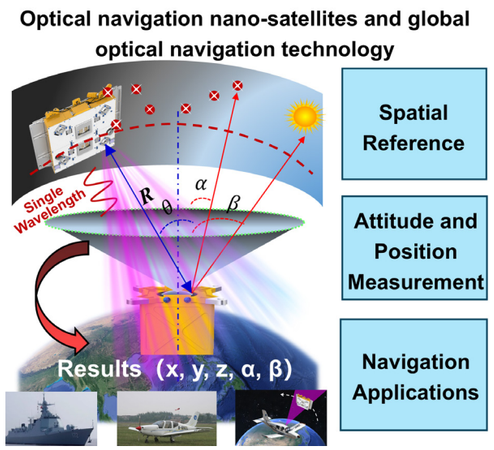
At present, *The Rise of Modern Chinese Thought* has already had several versions. The key chapters are available in Japanese and Italian. In 2023, Harvard University Press published the English version, and it was selected as the 2023 Best Book from Academic Presses by a famous British political and cultural magazine *The New Statesman*. In 2024 the Korean version was published, which offers a proper opportunity for exchange of thought between China and South Korea. Korean scholars comment that this book "urges its readers to readjust the fixed perspective and perception of modernity and Chinese thought through subtle analysis of Chinese intellectual, philosophical and political discourse in over a thousand years," and it "evokes the the tension between ideas and the transformation in perception, opening a broader vision of thoughts for Korean readers."

The Korean intelligentsia comments that "the reaction to *The Rise of Modern Chinese Thought* from the global intelligentsia shows that the topics for discussion in Chinese intellectual history not only needs changes, but is changing." The 2024 Korean version facilitates the comprehensive collation and effective discussions of the intellectual history between the two countries and is a milestone in the academic exchanges between China and South Korea.

Optical navigation nano-satellites and global optical navigation technology

Professor Xing Fei's team from the State Key Laboratory of Precision Space-time Information Sensing Technology has pioneered global navigation principles and methods based on satellite optical signals. On June 6, 2024, the Tsinghua optical navigation double satellites NanoSat-3A/B were launched from the Jiuquan Satellite Launch Center. Subsequently, on November 15, 2024, the Tsinghua optical navigation double satellites NanoSat-4A/B were delivered to the space station via the Wenchang Space Launch Site. After being deployed, they formed an optical navigation satellite constellation.

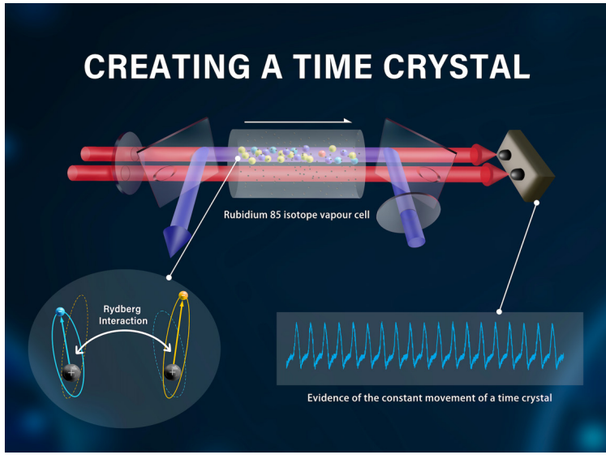
This milestone marks the first successful implementation of global optical navigation for carriers such as space stations, ships, and aircraft. Demonstrations have shown that its accuracy has improved by two orders of magnitude compared to traditional astronomical optical navigation methods, offering an entirely new solution for global navigation research.



Professor You Li's team creates first room temperature time crystal, unlocking new quantum frontiers

In a pioneering effort, a team led by Tsinghua University's Prof. You Li, in collaboration with researchers from China, Denmark, and Austria, has developed the first stable time crystal at room temperature. This groundbreaking achievement, utilizing rubidium-85 atoms excited into Rydberg states by lasers, demonstrates a quantum system that can oscillate indefinitely without energy loss. Previously, creating time crystals required ultracold environments and delicate setups prone to disturbances.

This new method allows the atoms within a gas cloud to synchronize naturally, creating a repetitive, asymmetric motion characteristic of time crystals. The robustness of these oscillations was confirmed through sustained patterns in light transmission, suggesting near-infinite stability. This advancement not only simplifies the exploration of time crystals but also broadens their potential applications in developing highly sensitive quantum sensors and enhancing quantum computer memory systems.

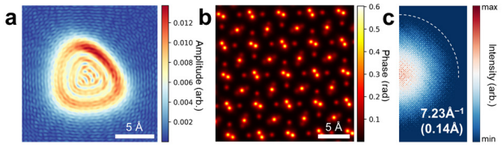


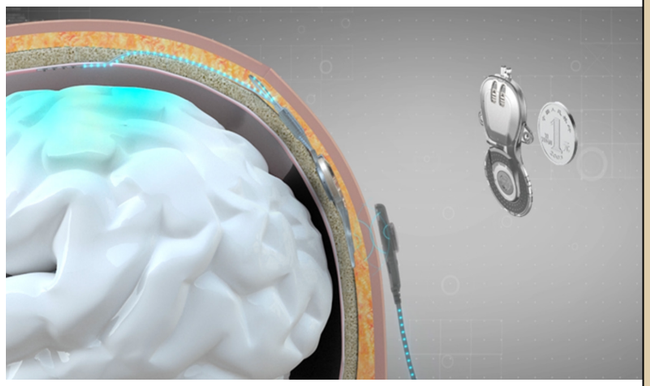
Tsinghua University breaks through the information limit of microscopic imaging

Clear atomic world is not only intriguing in physics, chemistry, and biology, but also forms a foundation for the development of high technologies related to materials, chips, and energy. Electron microscopy is the main platform for high-resolution imaging of materials. At the beginning of this century, aberration-corrected electron microscopes brought the resolution to the sub-angstrom scale. In recent years, electron ptychography, as a form of scanning diffraction imaging, has achieved deep sub-angstrom resolution. However, traditional ptychographic imaging methods represent the electron beam and object with two-dimensional matrices, which are not suitable for the discrete atomic world, limiting further improvement in spatial resolution.

Professor Yu Rong's team from the School of Materials Science and Engineering at Tsinghua University proposed a new ptychographic method that uses spatially localized atomic orbital-like functions to describe the object and aberration functions to describe the electron beam, thus fully leveraging the discrete characteristics of the atomic world and significantly improving the resolution and accuracy of microscopic imaging. The local-orbital ptychography not only pushes the information limit of microscopic imaging to 14 pm but also enhances the accuracy of atomic positions to 400 fm, paving a new way to obtain the precise atomic configuration of materials.

The relevant research results have been granted several patents and were published on January 29, 2024, in *Nature Nanotechnology* under the title "Local-orbital ptychography for ultrahigh-resolution imaging."





Minimally invasive brain computer interface helps tetraplegia restore hand functions

Professor Hong Bo's team at Tsinghua Medicine has made significant strides in developing a minimally invasive brain-computer interface (BCI), the NEO system, designed to assist individuals with severe spinal injuries. This 25mm-diameter epidural implant, which fits within the skull without a battery, leverages wireless power and data transmission to maintain the integrity of cortical neurons. Unlike more invasive systems like BrainGate and Neuralink, the NEO system offers a less invasive approach to intracranial BCI performance.

Having passed pre-clinical tests, the NEO system was first implanted in humans in 2023 at Beijing Xuanwu and Tiantan Hospitals. Early results are promising, with the first patient, tetraplegic from a car accident, now able to grasp objects with a prosthetic hand controlled by the NEO system. Ongoing development aims to restore more complex hand movements and expedite neural recovery at damaged spinal segments, offering new hope for patients to regain independence in daily activities. In November this year, the third tetraplegic patient was implanted in Shanghai Huashan Hospital and has recovered well. The NEO BCI team plan to expand to larger clinical trials in 2025, which has been listed as one of the worldwide scientifc events to watch for in 2025 by *Nature* magazine.

BUILDING A COLLABORATIVE FUTURE

In 2024, Tsinghua University served as a global platform for academic collaboration, convening thought leaders to address critical issues such as climate change, digital health, world peace, and education innovation. These forums highlighted Tsinghua's role in fostering dialogue, advancing solutions, and shaping the future of science, society, and learning on a global scale.

The Fourth Global Forum on the Development of Computer Science

On January 20, the Fourth Global Forum on the Development of Computer Science took place, attracting over 10,000 live-streamed viewers worldwide. Focused on the theme “The Role of Computer Science in University Development Strategies,” the forum featured keynote addresses from leading experts, including Turing Award recipient Jack Dongarra. The discussions highlighted the evolving nature of computer science research and the wide-ranging effects on computer science education and industry.

2024 World Digital Health Forum: AI at the Forefront of Healthcare Innovation

On April 29, Tsinghua University hosted the 2024 World Digital Health Forum in Beijing, drawing over 700,000 online attendees. Part of the ZGC Forum’s AI Theme Day, the event highlighted advancements in digital health with speakers like Dong Jiahong and Andrew Chi-Chih Yao. Key moments included the launch of the “Tsinghua Urban Health Index,” evaluating health services in 296 Chinese cities, and the ratification of the “World Digital Health Forum Declaration,” advocating for universal access to healthcare. The Principal’s Dialogue explored medical talent development, the transformative impact of AI, and ethical approaches to digital health technologies for global impact.

80 Years after Bretton Woods: Building an International Monetary and Financial System for All & 2024 Tsinghua PBCSF Global Finance Forum

On May 27, the “80 Years after Bretton Woods: Building an International Monetary and Financial System for All & 2024 Tsinghua PBC School of Finance (PBCSF) Global Finance Forum” commenced. Over the course of two days, the event brought together global leaders and experts to discuss topics including macroeconomic shifts, the resilience of emerging markets, climate finance, and financing innovation in science and technology. Since its inception in 2014, the Tsinghua PBCSF Global Finance Forum has become a key platform for discussions on China’s financial reforms and is now regarded as one of the country’s most influential financial forums.

The Fourth Latin American and Caribbean Ambassadors Convention

On June 18, over 30 diplomatic envoys and representatives from 17 Latin America and the Caribbean (LAC) countries convened at Tsinghua University to discuss "China's Investments and the Development of LAC Countries." The event highlighted the decade-long growth of China-LAC cooperation, particularly in infrastructure investments. Discussions focused on strengthening mutual understanding, promoting high-quality investments, and enhancing collaboration across various sectors such as science, technology, and education, further contributing to the shared future of humanity.

The 12th World Peace Forum

On July 6, the 12th World Peace Forum, organized by Tsinghua University and co-organized by the Chinese People's Institute of Foreign Affairs, was held in Beijing. With the theme "Improving Global Security Governance: Justice, Unity, and Cooperation," the forum attracted over 400 participants, including former dignitaries, diplomats, and experts from more than 80 countries. Discussions focused on finding common ground, promoting new cooperation, restoring stability to the international order, and safeguarding world peace amid the challenges posed by de-globalization.

The Confucius-Aristotle Symposium 2024

On July 11-12, 2024, the Confucius-Aristotle Symposium took place at Tsinghua University, co-organized by Tsinghua Institute for Advanced Study in Humanities and Social Sciences, the Mencius Foundation, and the UN Sustainable Development Solutions Network (UN SDSN). The symposium, themed "The Commons in Intellectual Traditions and Future Practice," brought together 101 scholars from 17 countries to engage in discussions on global challenges such as unequal development, changes in the international order, ecological and climate crises, and technological iterations. Drawing from both Eastern and Western philosophical traditions, the event provided a platform for cross-cultural dialogue and exploration of solutions to pressing global issues.

The 2024 International Congress of Basic Science

On July 14, 2024, the International Congress of Basic Science was held in Beijing, bringing together leading scientists from around the world to foster collaboration and knowledge exchange. The event featured four Fields Medal winners—Edward Witten, Andrei Okounkov, Artur Avila, and Caucher Birkar—as well as three Turing Award winners, Adi Shamir, Leslie Valiant, and Andrew Chi-Chih Yao. Nobel Laureate Eric Maskin and International Mathematical Union President Hiraku Nakajima, along with more than 70 academicians from various countries.

The Second Tsinghua Global Youth Dialogue

On August 29, 2024, The Second Tsinghua Global Youth Dialogue was held at Tsinghua University, bringing together 100 participants from 35 countries and regions. The forum aimed to showcase Chinese youth perspectives, foster understanding among international youth, and encourage innovative approaches to international affairs. Key topics included artificial general intelligence, renewable energy, peace and security, poverty, unemployment and social welfare, globalization, economic growth, digital revolution, climate action, bio-medicine and human enhancement, and cultural diversity and inclusion.

The Fourth Global Youth Summit on Net-Zero Future

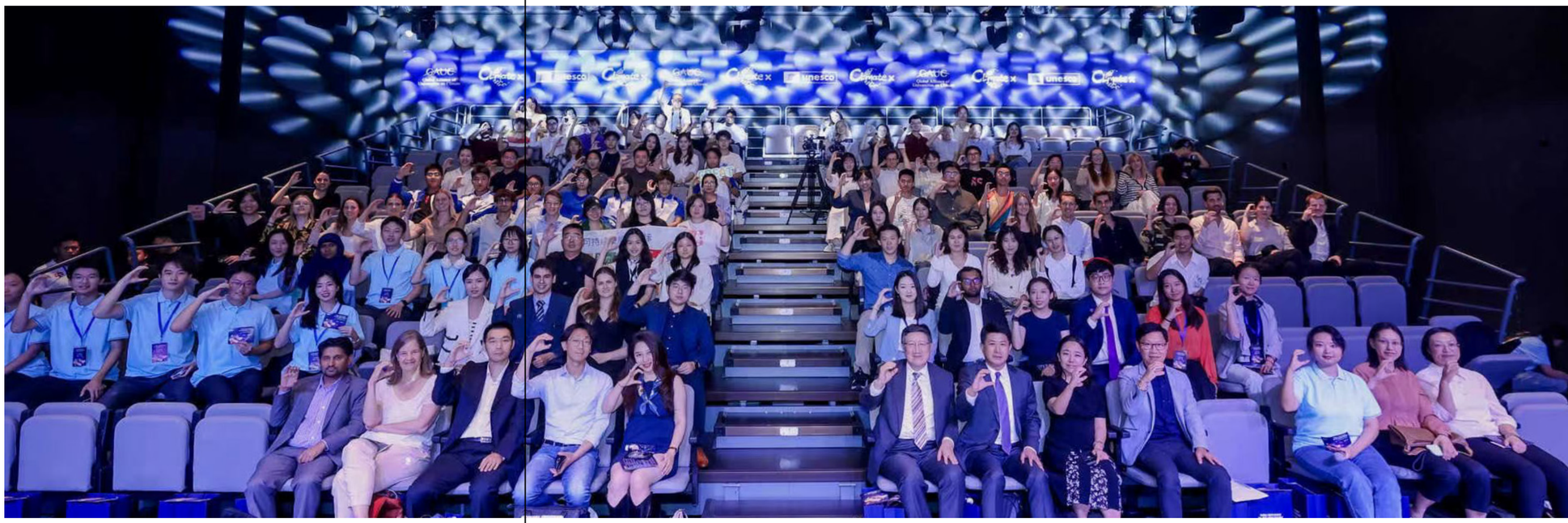
On September 12, 2024, The Fourth Global Youth Summit on Net-Zero Future was held at Tsinghua University, jointly hosted by the Global Alliance of Universities on Climate (GAUC) and the UNESCO Regional Office for East Asia. Young delegates and invited guests from 26 countries gathered to engage in discussions on climate action, with representatives from key global organizations including UNESCO, the World Bank Group, the Asian Development Bank, the Mercedes-Benz Star Fund, and the China Youth Development Foundation participating. The summit is designed to harness the collective strength of young minds, sparking their creative solutions to tackle climate change and fostering unity in the pursuit of a sustainable future. The opening ceremony drew over 270,000 online viewers.

The Third Tsinghua Higher Education Forum

On August 30, 2024, The Third Tsinghua Higher Education Forum was held with the theme "Boundaries of Possibility: Empowering Higher Education with Artificial Intelligence." Li Luming highlighted the dual role of higher education in both fostering the development of artificial intelligence and being shaped by its rapid advancements. During the opening ceremony, the Institute of Education at Tsinghua University released the report *"Beyond the Horizon: The Global Development of AI-Empowered Higher Education."*

China-Latin America Roundtable

On September 24, 2024, the China-Latin America Youth Thinkers Roundtable was held at Tsinghua University, bringing together aspiring youth leaders from both regions to foster dialogue and cultural understanding. The event provided a platform for Tsinghua students and their Latin American counterparts to share unique perspectives and explore common challenges and opportunities. Emphasizing the transformative role of youth, the roundtable celebrated their potential to build a more interconnected world.



The 25th Tsinghua SEM Advisory Board Meeting

On October 25, 2024, Tsinghua University's School of Economics and Management hosted its 25th annual Advisory Board Meeting. During the meeting, Chinese Vice Premier Ding Xuexiang met with board members and underscored China's stable economic performance and commitment to economic globalization. Apple CEO and board chair Tim Cook expressed Apple's intention to expand investment in China. Li Luming and Dean Bai Chong-En highlighted the school's advancements and ongoing reforms. Discussions centered on strategies for enhancing the school's global impact and expanding its international presence.

The Fourth World Health Forum

On November 2-3, 2024, the Fourth World Health Forum, hosted by Tsinghua University, was held in Beijing with the theme "AI Empowers the Future of Health." This two-day event brought together over 200 experts, government officials, leaders from international organizations, and industry figures from 18 countries and regions. Participants shared insights, explored emerging trends, and discussed how AI can drive innovation in public health, improve global health standards, and contribute to creating a healthier future.

Tsinghua SPPM 2024 Global Advisory Board Meeting

On November 9, 2024, Tsinghua University School of Public Policy and Management (Tsinghua SPPM) hosted its 2024 Global Advisory Board Meeting. Centered on the theme "Public Governance and Global Cooperation in the Age of Intelligence," the meeting brought together experts and leaders from diverse fields to explore the evolving role of public governance in an era of rapid transformation. As part of the meeting, the 2024 Modern Governance Forum sought to advance public governance and global cooperation by fostering international exchange and providing intellectual support and policy insights to address the challenges of an intelligence-driven world.

The 2024 Global MOOC and Online Education Conference

On December 12, the 2024 Global MOOC and Online Education Conference (GMC) was held in London, themed "Reimagining the Future of Higher Education in the Intelligence Era." Li Luming highlighted Tsinghua University's efforts to leverage Artificial Intelligence (AI) to empower education and teaching practices. The University has equipped every incoming student with an AI Growth Assistant, and since the Fall 2023 semester, over 110 courses have integrated AI-empowered teaching practices. Tsinghua has also advanced the development of AI-driven modular course groups, fostering cross-disciplinary learning, engaging in inquiry-based education, and promoting innovative, boundary-blurring studies.

WEAVING GLOBAL TIES

This year, Tsinghua University has made significant strides in expanding connections to the wider world and fostering meaningful partnerships. Driven by a commitment to academic excellence, Tsinghua has worked with leading institutions worldwide to create initiatives that benefit students, faculty, and the broader academic community. Through joint research, exchange programs, and innovation hubs, Tsinghua bridges geographic divides, fosters cross-cultural understanding, and addresses critical global challenges.

*In alphabetical order by country initials

Australia

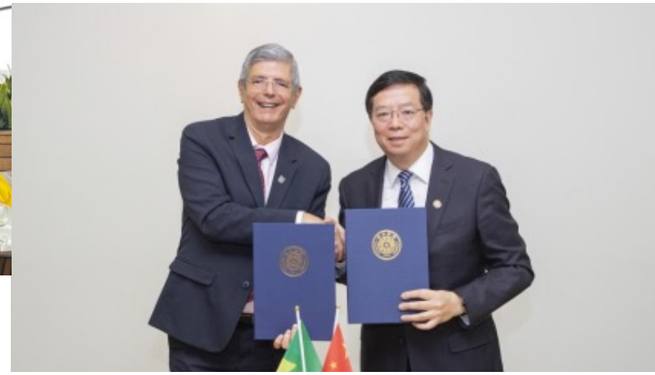
Strengthening academic ties with Australian universities

Li Luming led a delegation to Australia from November 3 to 6, strengthening academic ties and expanding collaborative engagement. The delegation visited key Australian universities, including the University of New South Wales (UNSW), the University of Sydney (USYD), the Australian National University (ANU), the University of Melbourne, and Monash University. Li had talks with UNSW Vice-Chancellor and President Attila Brungs, USYD Vice-Chancellor and President Mark Scott, ANU Vice-Chancellor and President Genevieve Bell, Duncan Maskell, Vice-Chancellor of the University of Melbourne, and Sharon Pickering, Vice-Chancellor and President of Monash University. During his visit, Li visited the Chinese Embassy in Australia, where they met the Chinese Ambassador to Australia, Xiao Qian. Li also engaged with Tsinghua alumni based in Australia.

Brazil

Opening a new chapter in exchange & cooperation

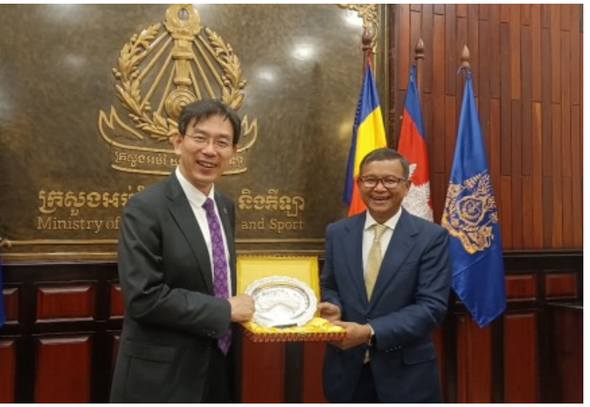
In celebration of the 50th anniversary of diplomatic relations between China and Brazil, and coinciding with President Xi's state visit to Brazil, Qiu Yong led a delegation to Brazil from November 17 to 21. The delegation engaged in fruitful exchanges with representatives from various sectors in Brazil and signed cooperation agreements. Guided by the strategic consensus reached by the two heads of state, Tsinghua University is striving to enhance cooperation with Brazil in the fields of education, research, trade, and people-to-people and cultural exchanges, contributing to building a China-Brazil community with a shared future for a more just world and a more sustainable planet. During the visit, Qiu signed an MoU with the Federal University of Rio de Janeiro for the “China-Latin America Youth Responding to Global Challenges” Program. The delegation visited the University of São Paulo and met with its rector, Carlos Gilberto Carlotti Junior. In the presence of Brazil’s Minister of Education, Camilo Sobreira de Santana, Tsinghua University signed an MoU with the Federal University of Ceará. Qiu also attended the Tsinghua University-Brazilian National Confederation of Industry (CNI) Seminar and signed an MoU with its president, Ricardo Alban. A seminar on China-Brazil Collaboration for Promoting Bio-Industry and Sustainable Development was held at the Federal University of Rio de Janeiro.

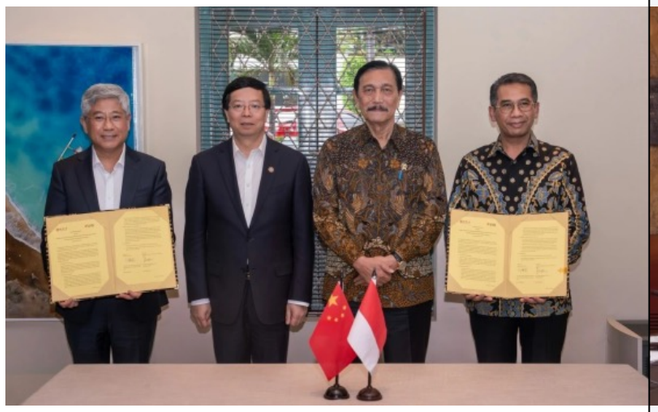


Cambodia

Promoting educational collaboration

Li Luming led a delegation to Cambodia to promote educational collaboration from November 7 to 8. Li visited the Cambodia Ministry of Education, Youth and Sport and met with Hang Chuon Naron, Deputy Prime Minister and Minister of Education, Youth and Sport and Vice-chairman of the Supreme National Economic Council (SNEC) of Cambodia. During his visit to the Royal University of Phnom Penh (RUPP), Li met with Rector Chet Chealy and renewed a Memorandum of Understanding, reaffirming their commitment to collaboration. Li also met with Tsinghua alumni living in Cambodia.





Indonesia

Further strengthen friendly exchanges and practical cooperation

Qiu Yong led a delegation to Indonesia from August 2 to 3. During his visit, Qiu met with Luhut Binsar Pandjaitan, Indonesia's coordinator for cooperation with China and coordinating minister of maritime affairs and investment. Tsinghua and the Indonesia Endowment Fund for Education signed a cooperation agreement focusing on the cultivation of master's students in finance. Qiu also met with Budi Gunadi Sadikin, health minister of Indonesia, and the two parties signed an MoU on leveraging AI to enhance the development of medicine and healthcare. Additionally, an MoU was signed between the Global MOOC and Online Education Alliance and the Indonesia Cyber Education Institute (ICE Institute), with the aim of promoting the integration of global higher education resources, innovative ideas, and advanced information technologies in Indonesia under the framework of the Alliance. Qiu met with Airlangga Hartarto, Indonesia's coordinating minister for economic affairs, and Cherie Nursalim, the co-founder of the United in Diversity Foundation and vice-chairman of GITI Group, and had talks with Mochtar Riady, founder and chairman of Lippo Group.

Italy

Participating in 2024 Milan Academic Week, fostering exchanges, innovation, and talent growth

Li Luming led a delegation to Italy from January 19 to 21 and participated in the 2024 Milan Academic Week, hosted by the China-Italy Design Innovation Hub of Tsinghua University. The delegation, including Tsinghua Vice President Wang Hongwei, engaged with local academic, research, and cultural leaders to foster humanistic exchanges, scientific innovation, and talent development. During his visit, Li attended a forum on Sino-European cross-cultural communication which was hosted by the China-Italy Design Innovation Hub and Tsinghua's School of Journalism and Communication, met with over 40 Tsinghua alumni from countries like Italy, Germany, the UK, and Switzerland at the European Tsinghua Alumni Exchange Salon, and visited Politecnico di Milano, where the two universities signed two MoUs and a student exchange agreement. Li also had discussions with Iacopo Mazzetti, head of Legacy of Milano Cortina 2026, Alberto Rocca, director of the Pinacoteca Ambrosiana, and Liu Kan, China's consul general in Milan.

Italy

Tsinghua advances global collaboration in arts and design

Qiu Yong led a delegation to Italy to attend the 2024 Tsinghua International Conference on Art & Design Education (ICADE 2024), and visited the China-Italy Design Innovation Hub of Tsinghua University on November 16. Hosted by Tsinghua University and organized by the Academy of Arts & Design, the Tsinghua Arts and Design Institute in Milan, and the China-Italy Design Innovation Hub, the ICADE 2024 opened in Milan on Nov 16. With the theme of "New Dimensions: Imagination Beyond the Horizon," the two-day conference offered a comprehensive and vivid display of the latest achievements in Chinese art and design education. Bringing together over 150 experts and scholars from more than 50 art and design institutions across 14 countries, the event aims to explore innovative development of art and design education in the era of artificial intelligence.

Japan

Japanese Prime Minister Fumio Kishida meets with Qiu Yong

Qiu Yong led a delegation to Japan and met with representatives from Japan's political, business, and academic fields from July 27 to August 1. Japanese Prime Minister Fumio Kishida met with the delegation led by Qiu Yong at the prime minister's office. During his visit, Qiu also met with Natsuo Yamaguchi, Leader of Japan's Komeito Party, Shuhei Kishimoto, Wakayama prefecture governor, Kōichi Shiota, Kagoshima prefecture governor and Yuriko Koike, Toyko governor, and attended an exchange meeting between Tsinghua and the Japan Business Federation (Keidanren). To promote the Sino-Japanese educational cooperation and academic exchanges, Tsinghua reached agreements with several Japanese universities during this visit. These included a student exchange agreement with the University of Tokyo, the establishment of a World Peace and Development Research Center with Soka University, the co-establishment of an academic exchange center with Chuo University, and the joint hosting of the Koyasan Forum with Koyasan University. An MoU was also signed with Kagoshima University to further expand pragmatic cooperation between Tsinghua and Japanese universities. Qiu also attended the opening ceremony of the Arts and Crafts Artworks Exhibition of the Academy of Arts and Design, Tsinghua University, in Wakayama Prefecture.

New Zealand

Strengthening educational cooperation

Li Luming led a delegation to New Zealand from November 1 to 2. He visited the University of Auckland and met with Vice-Chancellor Dawn Freshwater. They signed a Memorandum of Understanding and a student exchange agreement. During his visit, Li Luming, Dawn Freshwater, and Qinghai University President Shi Yuanchun held in-depth discussions on trilateral cooperation and signed a Memorandum of Understanding for a new round of collaborations. Li visited the Maurice Wilkins Centre, where he held in-depth discussions with Professor Rod Dunbar, scientific director of the Center. Li visited the Chinese Consulate-General in Auckland, where he held discussions with Acting Consul General Lei Zhen, and delivered a keynote report titled "Building a Leading Country in Education and International Cooperation". Li also met with Tsinghua alumni representatives in New Zealand.

Singapore

Enhancing Tsinghua-Singapore cooperation, fostering a comprehensive and forward-looking China-Singapore partnership

A delegation led by Qiu Yong visited Singapore from January 25 to 27. This visit aimed to deepen cooperation between Tsinghua and Singapore in the fields of education, technology, humanities, medicine, and public health. Another objective was to contribute to the development of a comprehensive and forward-looking partnership between China and Singapore. During his visit, Qiu met with National University of Singapore President Tan Eng Chye. The two universities signed a strategic agreement on research cooperation. Qiu also visited the SingHealth for research and discussion, met with Singapore's Minister for Education Chan Chun Sing, visited the Port of COSCO-PSA Terminal for research, engaged in discussions with Tsinghua alumni, and met with representatives of Tsinghua University's Institute for Hospital Management students who are interning in Singapore.

Switzerland

Participating in the World Economic Forum Annual Meeting 2024 in Davos

Li Luming led a delegation to Switzerland from January 14 to 18, and participated in the World Economic Forum Annual Meeting 2024 in Davos. The visit focused on dialogues regarding pressing global issues and advancing international cooperation in higher education, with Wang Hongwei attending select events. Li Luming met with Klaus Schwab, the founder of the World Economic Forum, attended the Global University Leaders Forum, held discussions with company leaders, and visited several Swiss universities, such as the Swiss Federal Institute of Technology Zurich, University of Zurich, and Università della Svizzera italiana. Li also toured the studio of Mario Botta, the architect behind the design of Tsinghua University's Humanities and Social Sciences Library and the Tsinghua University Art Museum, and engaged with Tsinghua alumni.

Thailand

Deepening cooperation between Tsinghua and Thailand, contributing to the building of a more stable, prosperous and sustainable China-Thailand community with a shared future

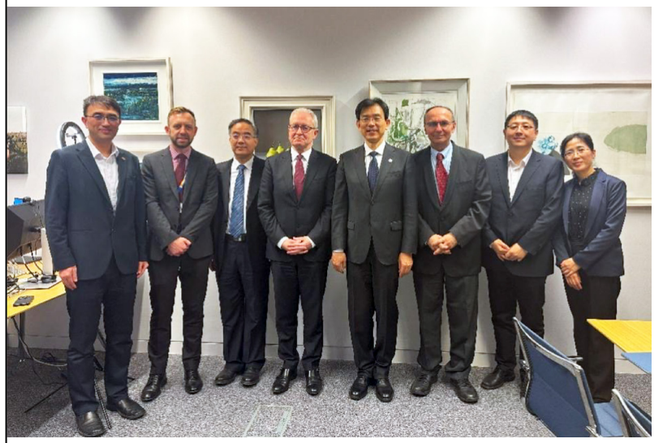
Qiu Yong led a delegation to Thailand from January 30 to February 3. Following an important consensus reached between the leaders of both countries, the visit aimed to deepen cooperation between Tsinghua and Thailand in education, science and technology, humanities, and other fields, contributing to the building of a more stable, prosperous, and sustainable China-Thailand community with a shared future. Qiu met Her Royal Highness Princess Maha Chakri Sirindhorn, the Princess of Thailand. He also visited Thailand Ministry of Higher Education, Science, Research and Innovation, exchanging views with Minister Supamas Isarabhakdi, held talks with President Kazuo Yamamoto of the Asian Institute of Technology (AIT), met with Dhanin Chearavanont, the senior chairman of the Charlene Pokphand Group Company, Ltd. and Chairman Soopakij Chearavanont, exchanged views with Han Zhiqiang, Chinese Ambassador to Thailand, conducted a survey of the construction site of the China-Thailand Railway, a flagship project of the Belt and Road Initiative, and met representatives of Tsinghua alumni in Thailand.

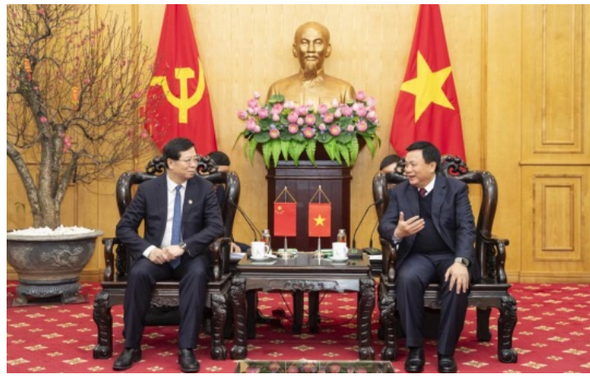
UK

Deepening collaboration with UK institutions

Qiu Yong led a delegation to the United Kingdom from November 13 to 15. The visit focused on strengthening collaboration with leading UK universities and advancing partnerships in education, science, and humanities. During the trip, Qiu attended the Annual Conference of the UK-China Humanities Alliance for Higher Education and engaged in discussions with leaders from the University of Cambridge, University College London (UCL), London School of Economics and Political Science (LSE), and the University of Exeter. Themed “Worlds and Worldviews,” this year’s conference of the UK-China Humanities Alliance for Higher Education explored Comparative and World Literature, Arts and Humanities Education from Different Positionalities, and Environmental Humanities, including notions of planetarity and different ontologies.

Li Luming led a delegation to the United Kingdom from December 11 to 14. The trip aimed to deepen cooperation and exchanges between Tsinghua University and its cooperative partners in the UK. The delegation attended the 2024 Global MOOC and Online Education Conference (GMC), the China-UK Universities Roundtable and the Launch of the UK Young Envoys Scholarship Programme, and the AUPC-LERU Presidents’ Dialogue, and visited Queen Mary University of London, Imperial College London, and the University of Surrey. Additionally, they visited the Chinese Embassy in the UK and engaged with Tsinghua alumni in the UK.





Vietnam

Enhancing cooperation in education, technology, and humanities for a shared China-Vietnam future

Qiu Yong led a delegation to Vietnam from January 27 to 30, aiming to strengthen cooperation in education, technology, and humanities, contributing to the China-Vietnam community with a shared future. Qiu visited the Ho Chi Minh National Academy of Politics, where he met with Nguyen Xuan Thang, a member of the Political Bureau of the Central Committee of the Communist Party of Vietnam, president of the academy, and chairman of the Central Theoretical Council. He also visited the century-old Vietnam National University and met with its president Le Quan. He visited Vietnam's Ministry of Education and Training, holding talks with Minister Nguyen Kim Son and Deputy Minister Nguyen Van Phuc, met with leaders of the Posts and Telecommunications Institute of Technology and the Diplomatic Academy of Vietnam, discussing the expansion of cooperation areas, and met with Tsinghua alumni from Vietnam.

Beijing

Thai Princess Sirindhorn appointed Honorary Professor

Her Royal Highness Princess Maha Chakri Sirindhorn of the Kingdom of Thailand visited Tsinghua University on April 6. During her visit, a meeting was held with Qiu Yong. Princess Sirindhorn was appointed as an honorary professor of Tsinghua on the same day and engaged in discussions with representatives of Tsinghua students. Princess Sirindhorn also visited the thematic exhibition of Tsinghua University's Achievements Serving Agricultural and Rural Development. Following the ceremony, Princess Sirindhorn attended a sharing session among Tsinghua students and engaged in discussions with them.

Beijing

Tsinghua and Finnish universities strengthen ties with new education pact

President Cai-Göran Alexander Stubb of the Republic of Finland visited Tsinghua University and participated in the signing of a Memorandum of Understanding between the University and the China-Network of Finnish Universities of Applied Sciences (UAS) on October 29. This agreement marks a step forward in Sino-Finnish academic collaboration. President Stubb spoke at the China-Finland Applied Sciences and Engineering Education Seminar following the signing. During his visit, extensive discussions with Li Luming focused on the crucial role of international exchanges, with both leaders advocating increased student and faculty exchanges between the two countries.

Beijing

Qiu Yong holds talks with Indonesian president

Qiu Yong held talks with Indonesian President Prabowo Subianto on November 10. They discussed further strengthening friendly exchanges and practical cooperation, promoting high-quality Belt and Road cooperation, and building a China-Indonesia community with a shared future.

As a significant outcome of the cooperation between Tsinghua University and Indonesia, the Tsinghua Southeast Asia Center has commenced operations on Kura Kura Island in Bali since 2023. The center aims to promote talent training, and facilitate cultural and academic exchanges in Indonesia and the Southeast Asian region.

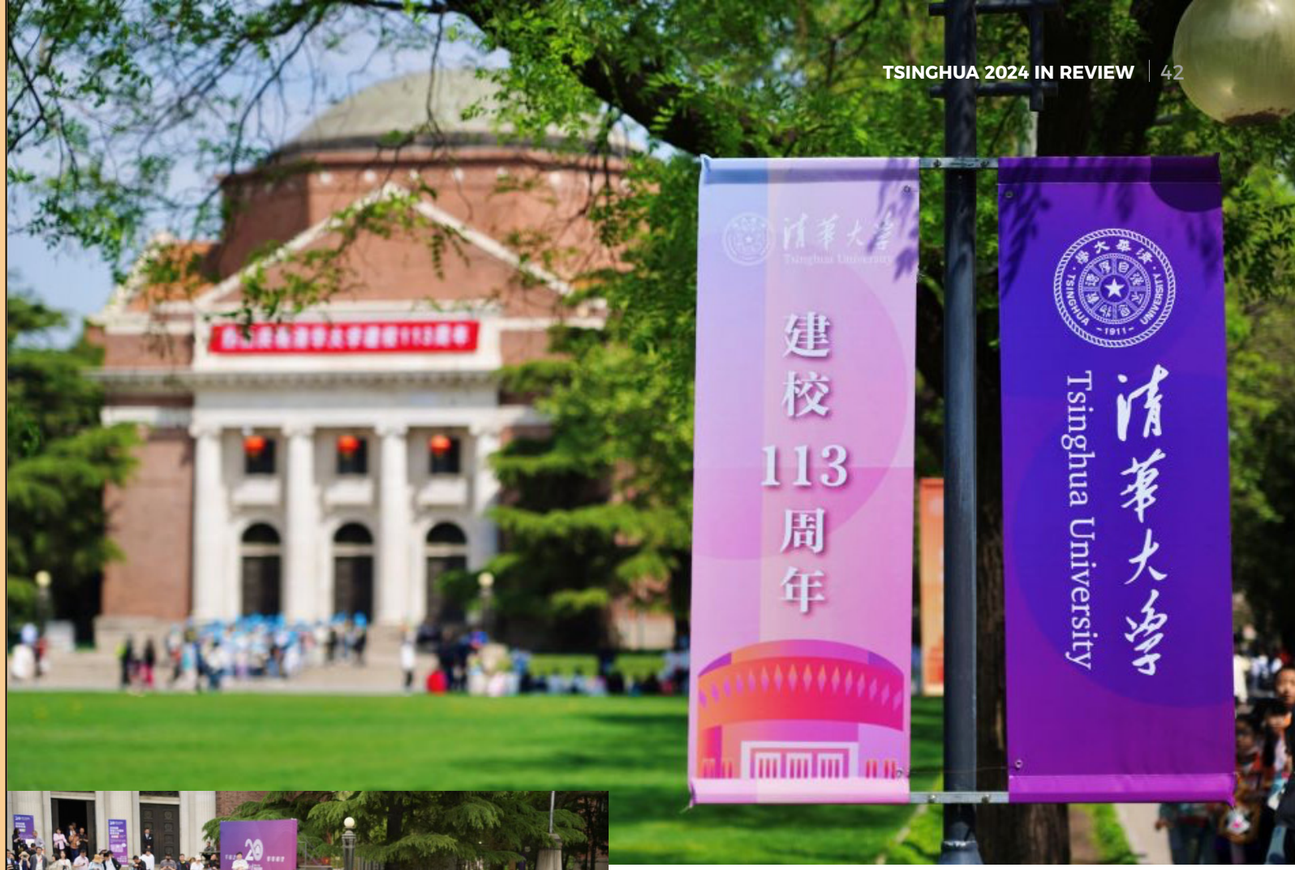
Shanghai

Tsinghua University confers honorary professorship on Malaysian PM

Malaysian Prime Minister Anwar Ibrahim was appointed as an honorary professor at Tsinghua University on November 5 in Shanghai. Qiu Yong presented Anwar with the honorary professorship certificate. Under Anwar's leadership, Malaysia has successfully implemented a series of structural reforms that have strengthened domestic economic growth and improved the standard of living for its citizens. At the same time, he has been an advocate for peace, dialogue, and cooperation on the international stage, making tireless efforts to promote peace and development at both regional and global levels. Tsinghua University's decision to confer upon Anwar the title of honorary professor recognizes the outstanding contributions he has made to the development of Malaysia and the international community, as well as his significant global influence in the political, economic, and cultural fields.

A THRIVING AND UNITED COMMUNITY

Tsinghua's 2024 was a year of unity and achievement. From festivals that showcased creativity and diversity to championship victories that inspired pride, these moments strengthened the bonds among students, faculty, and alumni. Together, they cultivated a vibrant sense of belonging, fostered collective pride, and deepened connections within the Tsinghua community.



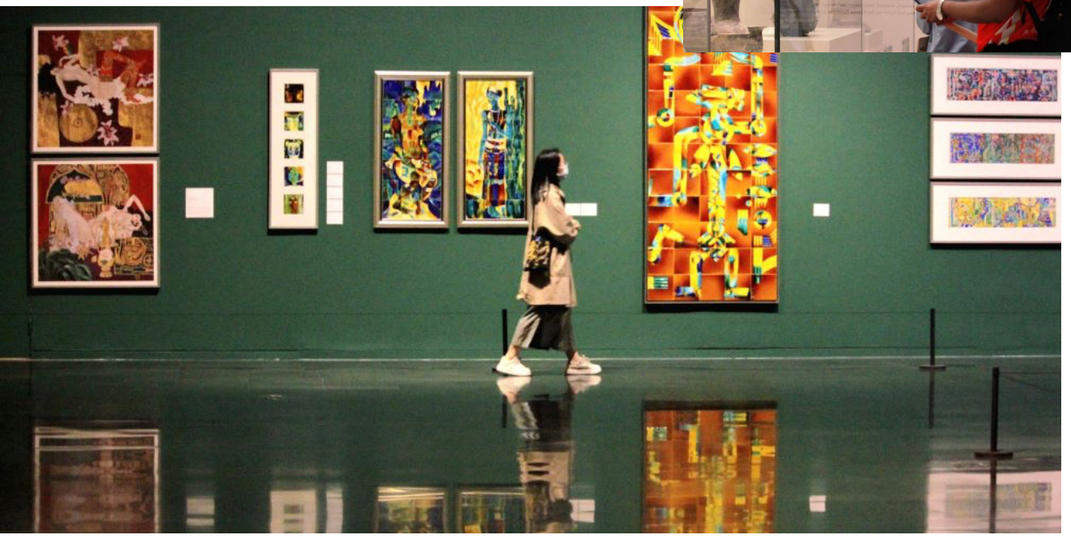
Tsinghua celebrates 113th anniversary

Tsinghua University celebrated its 113th anniversary on April 28, hosting alumni from around the world for a weekend of reunions and many festivities.

The celebrations featured a series of academic forums and seminars where insights and advances from various fields were shared. Departments hosted respective commemorative assemblies. The celebration also included artistic experiences, photography displays, and arts and historical exhibitions. Alumni and guests enjoyed musical concerts, garden fairs, dance events, and an anniversary carnival, creating a vibrant atmosphere for reconnection and celebration.

One of the events during the weekend was the 113-lap relay race, a unique tradition that celebrates Tsinghua's spirit of endurance and teamwork, aligned with the slogan 'No Sports, No Tsinghua.' Additionally, friendly sports matches among alumni fostered camaraderie and competitive spirit.

The weekend also saw the opening of the 'Ma Yuehan Cup' student track and field matches, a highlight of Tsinghua's sporting calendar. Facilities such as the gymnasiums, laboratories, the School of Life Sciences' Specimen Museum, and the Old Library were open to visitors.



Delegation of mainland university students, teachers wraps up Taiwan visit

A delegation of 40 students and teachers from seven Chinese mainland universities on December 5 wrapped up their nine-day visit to Taiwan.

They set off for Taiwan on November 27 and visited universities, historical sites, scenic spots, as well as sports, sci-tech and cultural venues on the island, widely engaging with locals throughout the trip.

The delegation made the trip at the invitation of the Taiwan-based Ma Ying-jeou Culture and Education Foundation and was led by Qiu Yong.

Speaking at the farewell dinner on December 4, Qiu commented on how the mainland students and teachers felt both the deep rapport between compatriots on the two sides of the Taiwan Strait, and the unique charm of the island.

He called for more opportunities for young people on both sides of the Strait to learn from each other, further efforts to strengthen the spiritual bond connecting mainland and Taiwan compatriots through Chinese cultural traditions, and enhanced cross-Strait educational cooperation.

"In the course of the great rejuvenation of the Chinese nation, compatriots on either side of the Strait cannot be absent," Qiu said.

Source: Xinhua

Tsinghua Team claims their 15th consecutive championship title

The Tsinghua Track and Field Team won its 15th consecutive crown in the 62nd Capital Universities Track and Field Games held at Peking University on May 11 and from May 16 to 19.

After five days of fierce competition, they won 25 gold, 20 silver, and nine bronze medals, securing the top positions on the men's team with 232 points, on the women's team with 275 points, and clinching the group championship with total points of 507. The team was also granted the honor of the Sportsmanship Award.

The Capital Universities Track and Field Games is the largest student sports event in Beijing. The Tsinghua Track and Field Team has topped the group points standings 41 times, notably clinching the Group A overall team championship 29 times in the past 30 competitions.

Tsinghua University triumphs at ISC 2024 Student Cluster Competition

The student supercomputing team from Tsinghua University showcased exceptional computing skills to win the overall championship at the ISC 2024 Student Cluster Competition. The finals, which concluded in the afternoon of May 15 in Hamburg, Germany, saw Tsinghua's team also achieve the Highest LINPACK Benchmark Score award.

The victory marks Tsinghua University's 17th win across the three major international student supercomputing competitions, solidifying its reputation in the field. Notably, this is the 7th time Tsinghua has emerged victorious since the inception of the ISC Student Cluster Competition in 2012.

Under the constraints of a 6-kilowatt power limit, each team was tasked with constructing their own server cluster. The rigorous competition tested their systems across various representative benchmarks (including LINPACK, HPCG, HPCC) and scientific computing applications such as Neko, Conquest, and RegCM. A mystery application, the lattice Boltzmann method simulation OpenLB, was also part of the challenge.

In a standout achievement, Tsinghua University achieved first place in the LINPACK benchmark with an impressive score of 337 TFLOPS.

The ISC24 Student Cluster Competition, hosted by the HPC-AI Advisory Council, is one of the three most prestigious international student supercomputing contests, along with the ASC Student Supercomputer Challenge and the SC Student Cluster Competition. This year's live final featured eight teams from seven countries. The winning Tsinghua team comprised six undergraduates: Runqing Zhang, Jingbo Shan, Xingye Yuan, and Kai Yang from Zhili College, Zhiyu Xue from the Department of Computer Science and Technology, and Jiaqi Pan from the Institute for Interdisciplinary Information Sciences. The instructors are lecturer Wentao Han, professor Jidong Zhai, and postdoctoral fellow Yuyang Jin of the Department of Computer Science and Technology. Ph.D. students Shengqi Chen and Mingshu Zhai from the Institute of High Performance Computing of the Department of Computer Science and Technology provided technical support for the training.

Tsinghua University men's basketball claims 26th CUBAL National Championship

Tsinghua University defeated Taiyuan University of Technology 86-81 on June 30 in the men's basketball final of the 26th CUBAL, securing the national championship title.

Tsinghua University wins overall championship at SC24 Student Cluster Competition

The Tsinghua University Student Supercomputing Team has claimed the overall championship title at SC24 Student Cluster Competition held in Atlanta, the United States. This achievement marks the team's 18th victory across the three major international student supercomputing competitions.

The SC24 finals brought together 11 teams from seven countries and regions to compete in a rigorous 47-hour challenge. Teams were tasked with designing and assembling custom computing clusters under a strict 4.5 kW power limit. The competition evaluated their performance across benchmarks (LINPACK, MLPerf, and NPB), scientific applications like the Icosahedral Nonhydrostatic (ICON) Weather and Climate Model and Nanoscale Molecular Dynamics (NAMD) simulation, as well as a reproducibility challenge on dataflow lifecycle analysis. A mystery application of cat recognition challenge added another layer of complexity to the event.

The winning team consisted of six undergraduate students: Yang Kai from Zhili College, as well as Li Yifan, Xue Zhiyu, Yang Yuqing, Wang Yucheng and Shi Chengyu from the Department of Computer Science and Technology. Technical support was provided by doctoral students Chen Shengqi, Zhai Mingshu, Zhang Runqing, and Shan Jingbo from the Department of Computer Science and Technology. The team was guided by faculty members Dr. Han Wentao, Dr. Jin Yuyang, and Professor Zhai Jidong, with additional support from Tsinghua's Zhuiguang Innovation Program for student research and development.

The SC Student Cluster Competition, alongside the ISC Student Cluster Competition and the ASC Student Supercomputer Challenge, is considered one of the three most authoritative global supercomputing competitions.

Global Village 2024: celebrating unity and cultural diversity at Tsinghua

Global Village 2024 ignited the 12th Tsinghua University International Cultural Festival at Zijing Playground, with approximately 5000 attendees celebrating cultural diversity. The event featured performances, exhibitions, and interactive experiences that showcased global cultures, promoting mutual understanding and connection among participants. With ambassadors from countries like Bulgaria and Singapore, the festival highlighted traditional and modern elements from nearly 50 nations across three main zones: Exhibition Booths, Main Stage, and Interactive Booths. Highlights included multinational dance and music performances, traditional games, and culinary delights, all underscoring the theme of unity in diversity.

TEDxTHU 2024: uniting visionaries to explore resilience at Tsinghua University

On December 5, TEDxTHU 2024 was held at Tsinghua University's Multifunctional Hall in the Mong Man Wai building, where Vice Provost Professor Wong Tien Yin opened the event themed "Resilience." Reflecting Tsinghua's goal of fostering an open, integrative, and resilient university, speakers from diverse fields including communication, public health, and aerospace, shared insights on global challenges and innovations. This TEDx event underscored the University's commitment to leading discussions on pressing contemporary issues and showcasing forward-thinking solutions.

Macao Cultural Day at Tsinghua University

Tsinghua University celebrated the 25th Anniversary of Macao's return to the motherland with a vibrant Macao Cultural Day, immersing participants in Macao's rich heritage through cuisine, interactive games, and creative workshops. Students and faculty explored Macao's tradition and modernity through a variety of activities, including a trivia challenge, racing simulators, and artistic workshops like sugar painting and mosaic coaster design. The highlight was a relay film created by Macao students, depicting the blend of traditional culture, modern life, and Portuguese aesthetics, effectively enriching the University community's cultural understanding and appreciation of Macao.

A symphony of cultures: highlights from Tsinghua Gala Night 2025

The 2025 Tsinghua University International Students and Scholars' Gala Night, held on November 29 at the New Tsinghua Auditorium, was a vibrant celebration of global diversity, featuring over 300 performers from more than 40 countries. Themed "Embracing Global Diversity, Celebrating Future Harmony," the event showcased a rich tapestry of performances, including traditional dances and modern expressions that highlighted cultural heritage and artistic innovation. The evening culminated in a high-energy finale that left a lasting impression of unity and shared cultural pride among the international community.

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