TSINGHUA UNIVERSITY 2025

CONTENTS

Tsinghua University, with over 114 years of academic heritage, embodies a legacy of innovation and unwavering excellence. Established with a vision to drive progress and societal advancement, Tsinghua remains dedicated to nurturing a diverse community of thinkers, creators, and leaders, contributing to global peace, prosperity, and sustainable development. At Tsinghua, our assembly of innovative minds and visionaries strives to fulfill the significant needs of the country and actively builds a community with a shared future for mankind.

WHY TSINGHUA

Situated in the historic splendor of Beijing's former imperial gardens, Tsinghua University is one of the world's most beautiful campuses. Harmonizing the depth of traditional Chinese scholarship with contemporary scientific rigor, Tsinghua stands as a beacon of academic excellence and interdisciplinary innovation. Here, the ceaseless pursuit of knowledge is coupled with a profound commitment to societal transformation, making it a positive force in shaping the global future.

History

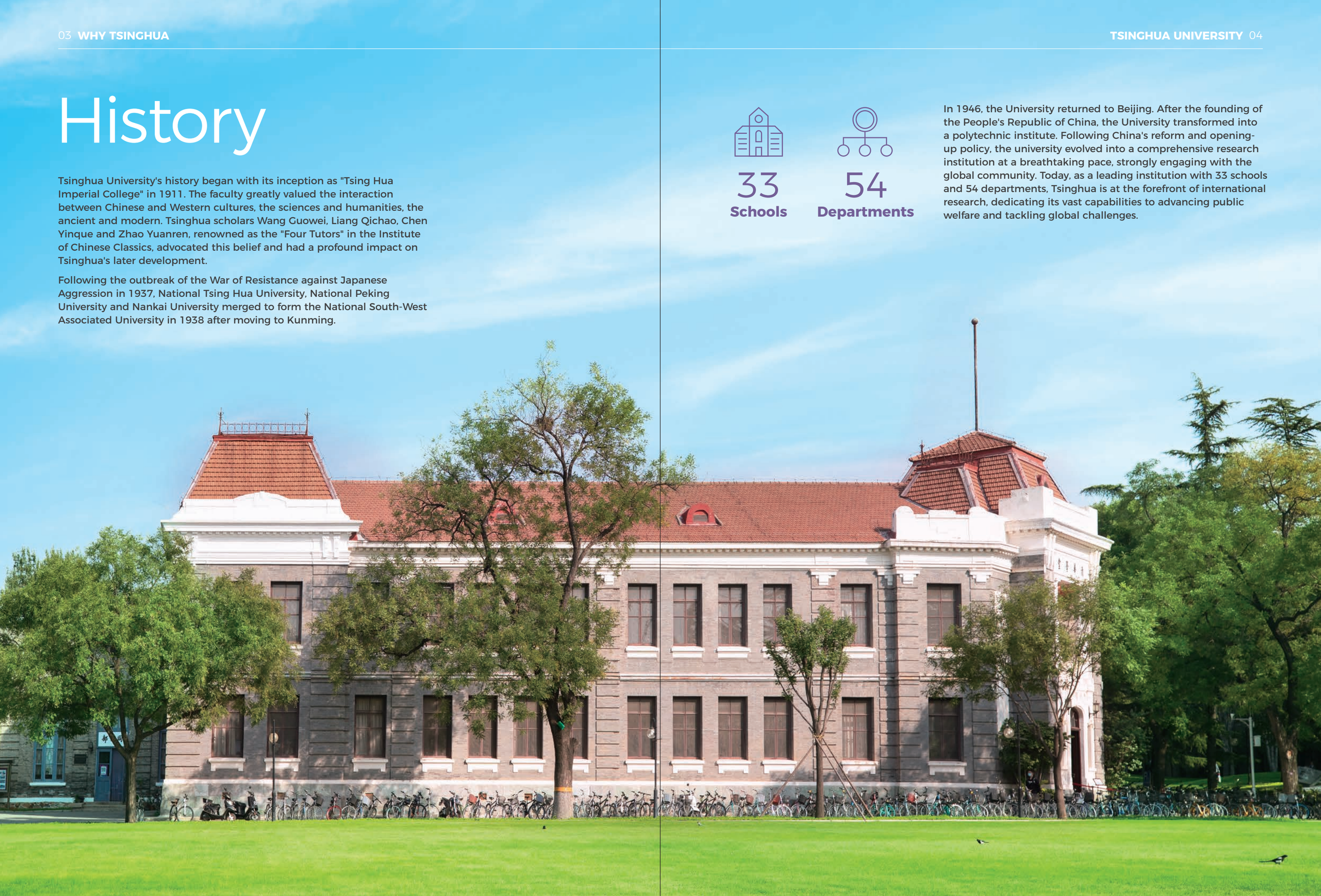
Tsinghua University's history began with its inception as "Tsing Hua Imperial College" in 1911. The faculty greatly valued the interaction between Chinese and Western cultures, the sciences and humanities, the ancient and modern. Tsinghua scholars Wang Guowei, Liang Qichao, Chen Yinque and Zhao Yuanren, renowned as the "Four Tutors" in the Institute of Chinese Classics, advocated this belief and had a profound impact on Tsinghua's later development.

Following the outbreak of the War of Resistance against Japanese Aggression in 1937, National Tsing Hua University, National Peking University and Nankai University merged to form the National South-West Associated University in 1938 after moving to Kunming.

33
Schools

54
Departments

In 1946, the University returned to Beijing. After the founding of the People's Republic of China, the University transformed into a polytechnic institute. Following China's reform and opening-up policy, the university evolved into a comprehensive research institution at a breathtaking pace, strongly engaging with the global community. Today, as a leading institution with 33 schools and 54 departments, Tsinghua is at the forefront of international research, dedicating its vast capabilities to advancing public welfare and tackling global challenges.



Among the Top Research Universities in the World

8th
Times Higher Education World Reputation Rankings 2025

12th
Times Higher Education World University Rankings 2025

16th
U.S. News & World Report 2024-2025 Best Global Universities Rankings

20th
QS World University Rankings 2025 Top global universities

Selected Top-Ranked Subjects Among Tsinghua's Broad Academic Offerings

THE World University Rankings by Subject 2025

6th Business and Economics

7th Education Studies

QS World University Rankings by Subject 2025

2nd Environmental Sciences

3rd History of Art

5th Civil and Structural Engineering

6th Materials Sciences

7th Architecture & Built Environment:

7th Chemical Engineering

7th Mechanical, Aeronautical & Manufacturing Engineering

9th Statistics & Operational Research

10th Electrical and Electronic Engineering

U.S. News & World Report 2024-2025 Best Global Universities Subject Rankings

1st
- Artificial Intelligence
- Chemical Engineering
- Chemistry
- Computer Science
- Energy and Fuels
- Engineering
- Environmental Engineering
- Environment / Ecology
- Materials Science

2nd
- Electrical and Electronic Engineering
- Green and Sustainable Science and Technology

3rd
- Condensed Matter Physics
- Nanoscience and Nanotechnology
- Physical Chemistry

4th
- Mechanical Engineering
- Water Resources

6th
- Civil Engineering

7th
- Geosciences
- Meteorology and Atmospheric Sciences
- Physics

10th
- Optics

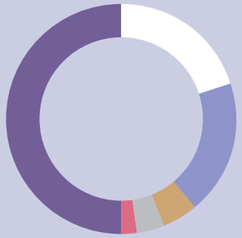
A Tapestry of Talents

16,272 **Undergraduate Students**

22,605 **Master's Students**

23,619 **Doctoral Candidates**

3,177
International Students



52% Asia
20% Europe
17% North America
5% Africa
3% Oceania
3% South America

132
Countries

"My first year at Tsinghua really opened my eyes. Studying with engineers, artists, students from tiny towns to bustling cities—taught me how different people think. Navigating these differences hasn't always been easy, but it has made me more adaptable and curious. Tsinghua's mix of voices hasn't just added "diversity" to my life—it has given me friends and ideas that constantly push me to grow."

Maxim QI

Freshman
Economics and Management

World-Renowned Faculty

Tsinghua University nurtures and advances intellectual exploration by uniting an assembly of the globe's most esteemed academics, including Nobel laureates, Fields Medalists, and Turing Award winners. With a foundation built on innovation and a tradition of academic excellence, Tsinghua offers a vibrant ecosystem where groundbreaking research and pioneering ideas flourish. We provide the necessary resources and support and foster an environment that encourages the synthesis of ideas. In doing so, we facilitate significant contributions to global knowledge.

A GLOBAL UNIVERSITY

392
Universities

53
Countries

Tsinghua University weaves a global tapestry of collaboration, establishing partnerships with 392 universities, research institutes, and international organizations spanning 53 countries at the university level.

Global Strategy 2030

Tsinghua is fulfilling its emerging leadership role through its impactful collaborations and sharing of advanced knowledge. It is pioneering the way for future behavior and innovation in the development of global higher education to better meet the significant needs of the country and build a community with a shared future for mankind.

The latest iteration of the Global Strategy shifts its focus to this decade's emerging development priorities, conveyed in three aspects to shape the future: to cultivate students with global competence, build a global faculty of excellence, and enhance the institutional capacity for further internationalization.

"What surprised me most about Tsinghua wasn't just the academic rigor—it was the immersive field trips I participated across Europe, China, and Southeast Asia. From discussing China's global image with NATO in Amsterdam to engaging in intercultural dialogues at the EU Parliament in Brussels, every experience challenged my perspectives and reshaped the way I see the world."

Evender Hsu Zi Qian
2nd-year Master's Student Global Business Journalism

Convening Global Thought Leaders

The Fourth Global Forum on the Development of Computer Science

On January 20, 2024, 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.

The Fourth Latin American and Caribbean Ambassadors Convention

On June 18, 2024, 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 for mankind.

The 12th World Peace Forum

On July 6, 2024, 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 symposium took place at Tsinghua University, co-organized by the 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, biomedicine and human enhancement, and cultural diversity and inclusion.

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."

The Fourth Global Youth Summit on Net-Zero Future

On September 12, 2024, the summit 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 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 25th Tsinghua SEM Advisory Board Meeting

Tsinghua SEM held its 25th annual Advisory Board Meeting on October 25, 2024. This year's theme is “Creating Greater Global Impact.” Led by Apple CEO Tim Cook, 22 board members composed of global business leaders and experts attended the meeting. Chinese Vice Premier Ding Xuexiang highlighted China is speeding up the implementation of a package of incremental policies, as it strives to achieve its annual economic and social development targets. Wang Qishan, China's former vice president and the honorary chairman of the advisory board, met with the representatives. The members discussed and offered constructive advice for the school's development.

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 2024 Modern Governance Forum

On November 9, 2024, the 2024 Modern Governance Forum, part of the 2024 Global Advisory Board Meeting (GAB Meeting) series for Tsinghua University's School of Public Policy and Management (Tsinghua SPPM), was held. The forum, themed “Public Governance and Global Cooperation in the Age of Intelligence,” sought to advance these domains by fostering international exchange and providing intellectual and policy insights to navigate the challenges of an intelligence-driven world. Since 2023, the forum has been a crucial innovation within the GAB Meeting series, which aims to foster the comprehensive development of Tsinghua SPPM. The series has been widely supported by global scholars, political leaders, and entrepreneurs since its establishment in 2019.

The 2024 Tsinghua International Conference on Art & Design Education

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 conference took place in Milan on Nov 16, 2024. 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 aimed to explore the innovative development of art and design education in the era of artificial intelligence.

International AI Cooperation and Governance Forum 2024

On December 2, 2024, the International AI Cooperation and Governance Forum 2024 took place. The forum was jointly hosted by Tsinghua University, the National University of Singapore (NUS), and The Hong Kong University of Science and Technology (HKUST). With the theme of “International Cooperation on AI Governance,” the Forum gathered over 60 world-renowned artificial intelligence (AI) experts, scholars, industry leaders, government representatives, and international organization delegates to explore the establishment of an open, inclusive, and mutually beneficial international AI governance framework.

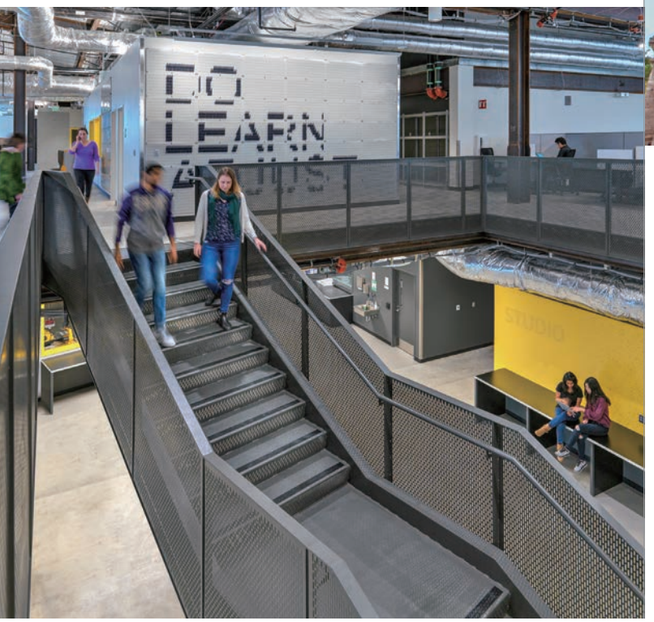
The 2024 Global MOOC and Online Education Conference

On December 12, 2024, the conference was held in London, United Kingdom, as the flagship event of the Global MOOC and Online Education Alliance (GMA). The event brought together over 340 representatives from 135 institutions across 32 countries and regions. This annual conference serves as a platform for global educators, policymakers, and industry leaders to exchange insights and strategies on the latest trends in digital education. Under the theme "Reimagining the Future of Higher Education in the Intelligence Era," the event addresses both the opportunities and challenges posed by AI. Since 2020, it has become a central hub for advancing global digital education through collaboration and best practice exchanges.

Tsinghua Worldwide

Global Innovation Exchange Institute
GIX

Launched in 2015, GIX is a groundbreaking partnership between Tsinghua University and the University of Washington, marking Tsinghua's first physical presence overseas. It offers a dual-degree program combining technology innovation and engineering, with new tracks in Design and Architecture. This initiative aims to develop tech solutions and nurture future leaders in technology and related fields.



China-Italy Design Innovation Hub
CIDIH

The CIDIH, formed by Tsinghua University and Politecnico di Milano, fosters high-end design and business incubation, aiming to elevate "Made in China" to "Designed in China" through a fusion of Chinese development and Italian creativity. Offering dual-degree masters, cooperative courses, and international projects, it seeks to develop globally competent design innovation leaders.

Tsinghua Southeast Asia Center
Tsinghua SEA

Tsinghua SEA is the University's gateway to Southeast Asia. It offers non-degree education programs to support human resource development. Aligned with the Belt and Road Initiative and the UN's 2030 Sustainable Development Goals, it aims to boost international cooperation and promote sustainable development, working towards a more harmonious and inclusive global community.

Tsinghua University Latin America Center
Tsinghua LAC

Located in Santiago's heart, the Tsinghua University Latin America Center is a key hub for fostering talent and promoting cultural and academic exchanges between Latin America and China. It aims to strengthen collaboration in research, build people-to-people connections, and advance science and technology, enhancing partnership and innovation ties between Tsinghua University and Latin American countries.

China-Africa Leadership Development Institute
CALDI

With support from UNESCO, the “China-Africa Leadership Development Institute” (CALDI) was established by Tsinghua University on June 6, 2018. CALDI is committed to enhancing cooperation between Tsinghua University and African countries in scientific research, cultural exchange, talent cultivation and innovation & Entrepreneurship, so as to promote the all-weather China-Africa community with a shared future for the new era, the Belt and Road initiative, Agenda 2063 as well as the UN Sustainable Development Goals.

Schwarzman College

In 2016, Schwarzman College welcomed its inaugural class to its highly selective program at Tsinghua University, aiming to create a global network of leaders to foster stronger ties with China and address global challenges. Annually, up to 200 scholars worldwide are admitted to pursue a master's degree, supported by a comprehensive scholarship, marking a step forward ineducational innovation.

Tsinghua Shenzhen International Graduate School
SIGS

Launched in March 2019, Tsinghua SIGS leverages Tsinghua's resources and Shenzhen'entrepreneurial spirit to offer top-tier graduate programs. It emphasizes entrepreneurial education, industry-aligned programs, and groundbreaking research, fostering innovation and job creation. With a focus on interdisciplinary international education and industry partnerships, SIGS prepares students to address global challenges as innovators.

Forging Global Alliances

Asian Universities Alliance

AUA

Initiated by Tsinghua University, the Asian Universities Alliance (AUA) enhances collaboration among its 16 member universities from 15 Asian countries and regions to address regional and global challenges in higher education, economic, and technological development. Serving as the permanent host for the AUA Secretariat and leading the first two terms of its presidency, AUA has driven key initiatives like presidents forums, academic conferences, and student mobility programs, significantly boosting innovation, cultural exchange, and leadership development across Asia and beyond.

Global Alliance of Universities on Climate

GAUC

GAUc was established in 2019 to tackle the urgent challenge of climate change, bringing together 15 universities from nine countries across six continents. This collective initiative is dedicated to advancing climate change mitigation through joint research, talent cultivation, campus action, societal implementation, and public engagement.Recognized by international climate leaders, GAUC's formation marks a significant global academic commitment to addressing environmental issues, emphasizing the urgency and global nature of the climate crisis.

The Global MOOC and Online Education Alliance

GMA

GMA, officially launched in 2020 during the Global MOOC Conference cohosted by Tsinghua and UNESCO IITE, focuses on enhancing the quality of online and digital education on a global scale. Aimed at promoting lifelong learning opportunities for all, the alliance aligns with the United Nations Sustainable Development Goal 4. It seeks to address digital education challenges, fostering international cooperation and exchanges in educational technologies and innovation. The alliance has become a pivotal platform for building a diverse community of universities and online education platforms worldwide. In December 2021, all members unanimously agreed to rename the alliance from the Global MOOC Alliance to the Global MOOC and Online Education Alliance, in order to better serve its expanding scope and diverse activities.

UK-China Humanities Alliance for Higher Education

Spearheaded by Tsinghua, the UK-China Humanities Alliance for Higher Education stands as a testament to the growing significance of humanities in international education and relations. This coalition acknowledges the pivotal role of humanities in deepening mutual understanding and trust and in advancing human civilization by driving humanities discourse and equipping future leaders with a nuanced grasp of today's intricate global challenges. Since its establishment, the alliance has grown to include 18 member institutions, reflecting its expanding influence and commitment to fostering global intellectual exchange.

NEW EDUCATIONAL FRONTIERS

Tsinghua is dedicated to meeting the evolving needs of a dynamic world, establishing new schools and departments to address emerging challenges. With contributions from globally renowned scholars, we remain committed 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

Tsinghua University established the Department of Psychological and Cognitive Sciences in April 2024, 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) in April 2024. 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, 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 College of AI

Tsinghua University announced the establishment of its new College of AI in April 2024. 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".

Tsinghua founds Department of Statistics and Data Science

Tsinghua University founded the Department of Statistics and Data Science in July 2024. 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 establishes School of Education

In April 2025, Tsinghua University established its School of Education. In an era marked by profound global shifts and rapid technological advancements, the establishment of the School of Education directly responds to the urgent need to build a leading country in education. The school aims to nurture world-class educators and visionary leaders who possess a deep sense of national responsibility, global perspective, professional expertise, and innovative thinking. It aims to become a global hub for pioneering educational research and intellectual leadership, contributing to high-quality educational development.

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 in November 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.

RESEARCH & INNOVATION

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.

Laboratories

Tsinghua University has taken a significant step towards fostering innovative and cross-disciplinary research by establishing 9 interdisciplinary institutes. These centers span a diverse array of fields such as unmanned systems, internet of vehicles, flexible electronics, brain and intelligence, big data, artificial intelligence, and medical engineering, pushing the boundaries of traditional academic disciplines and spearheading advancements in emerging areas of technology and science.

Recognition

Tsinghua University faculty continues to excel on both national and international stages. At the 2023 National Science and Technology Award Conference on June 24, 2024, Academician Xue Qikun received the State Preeminent Science and Technology Award—China's highest distinction in science and technology. Tsinghua secured nine awards at the conference, including two first prizes and seven second prizes, leading all Chinese universities. In 2024 alone, Tsinghua faculty earned global distinction, receiving 57 international awards.

Innovation and Entrepreneurship Education

At Tsinghua, we are driven by the conviction that every student harbors the potential for groundbreaking innovation. Our mission extends beyond education — it is about knowledge transfer, ability cultivation, and value shaping. To this end, Tsinghua has developed a robust ecosystem that integrates these principles into our comprehensive talent development strategy, fully supporting our students in areas of creativity, innovation, and entrepreneurship.

The Student Future Innovation Group inspires creativity: it encourages students to forge cross-grade, interdisciplinary teams and spearhead their unique innovation projects.

The iCenter serves technological innovation: it is the world's most expansive campus "maker" space.

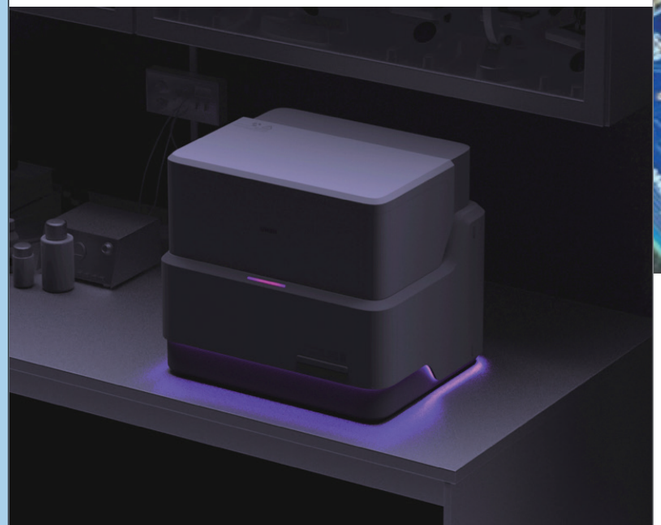
Art and Technology Innovation (ATI) Base serves design innovation: it is a CreaTech fusion incubator that leads the creative industry with future aesthetics.

The chuangplus, x-lab, and i-Space support entrepreneurship: they connect startups with essential market resources and offer access to expert mentorship from seasoned professionals beyond the campus boundaries.

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.

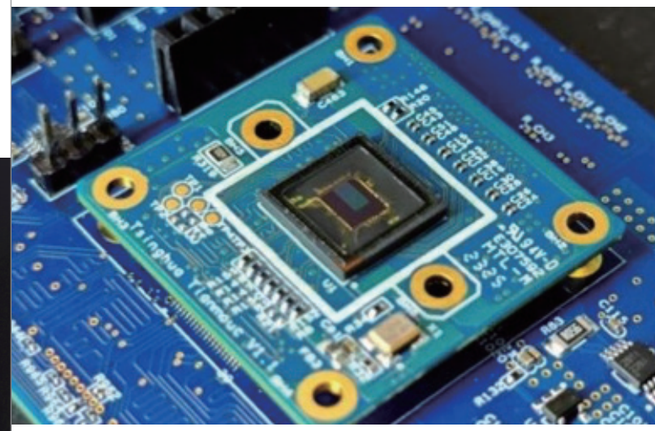
The interdisciplinary research team utilized RUSH3D to conduct pioneering observations, such as tracking the interaction of nearly 100,000 neurons in multiple brain regions and capturing immune cell dynamics during disease processes. These insights could revolutionize medical research by enhancing our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

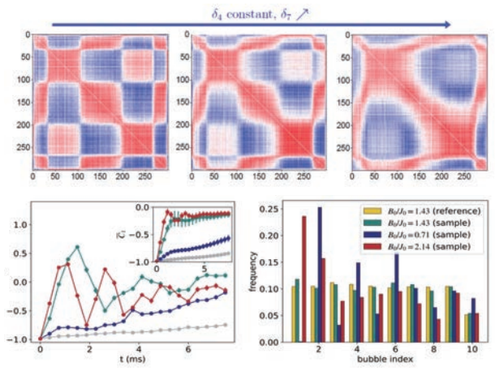


Tsinghua's cutting-edge vision chip brings human eye-like perception to machine

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.

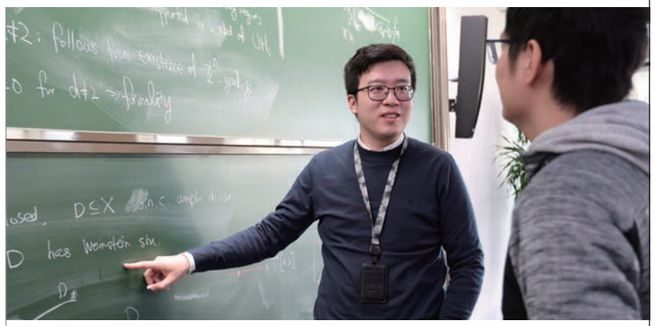




Professor Duan Luming's group achieves largest-scale ion trap quantum simulation

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.



New classification theorem for Lagrangian fillings achieves breakthrough in symplectic geometry

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 Slips (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.

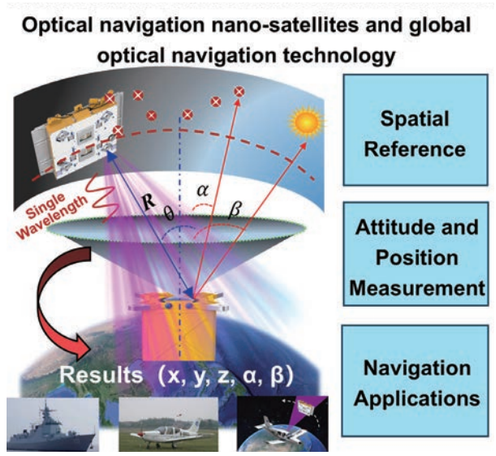
TSN aims to establish an open platform for research and education in space information networks. By enhancing foundational research infrastructure and cultivating specialized engineering talent, the project advances innovations in science and education. Leveraging Tsinghua University's strengths in disciplines 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 Korean version of *The Rise of Modern Chinese Thought* published

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.



Tsinghua Optical Navigation Satellite Constellation successfully launched

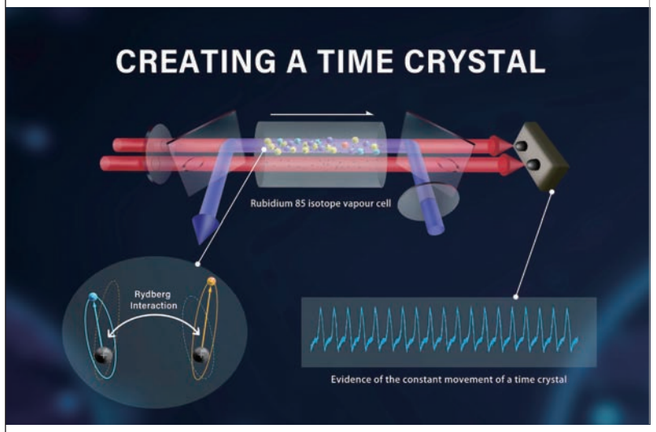
Professor Xing Fei's team from the State Key Laboratory of Precision Space-time Information Sensing Technology has pioneered global navigation principles and methods based on satellite optical signals. On June 6, 2024, the Tsinghua optical navigation double satellites NanoSat-3A/B were launched from 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.

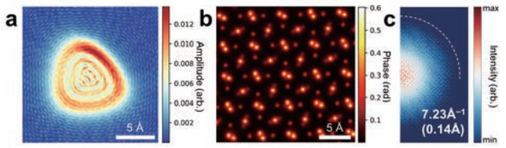


Tsinghua University breaks through the information limit of microscopic imaging

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."



STUDY AT TSINGHUA

Schools and Departments

Academy of Arts and Design
Department of Art History
Department of Arts & Crafts
Department of Ceramic Design
Department of Environmental Art Design
Department of Industrial Design
Department of Information Art and Design
Department of Painting
Department of Sculpture
Department of Textile and Fashion Design
Department of Visual Communication Design

College of AI
Department of Chemical Engineering
Department of Electrical Engineering
Department of Engineering Physics
Department of Foreign Languages and Literatures
Department of Psychological and Cognitive Sciences
Department of Statistics and Data Science
Global Innovation Exchange Institute
Institute of Nuclear and New Energy Technology
Schwarzman College
Shenzhen International Graduate School

School of Aerospace Engineering
Department of Aeronautics and Astronautics Engineering
Department of Engineering Mechanics

School of Architecture
Department of Architecture
Department of Building Science
Department of Landscape Architecture
Department of Urban Planning and Design

School of Civil Engineering
Department of Civil Engineering
Department of Construction Management
Department of Hydraulic Engineering

School of Economics and Management
Department of Accounting
Department of Economics
Department of Finance
Department of Innovation, Entrepreneurship and Strategy
Department of Leadership and Organization Management
Department of Management Science and Engineering
Department of Marketing

School of Education

School of Environment
Department of Environmental Engineering
Department of Environmental Science and Health
Department of Environmental Sustainable System Management

PBC School of Finance

School of Humanities
Department of Chinese Language and Literature
Department of History
Department of the History of Science
Department of Philosophy

School of Information Science and Technology
Beijing National Research Center for Information Science and Technology
Department of Automation
Department of Computer Science and Technology
Department of Electronic Engineering
Institute for Network Sciences and Cyberspace
School of Software
School of Integrated Circuits

School of Journalism and Communication
School of Law
School of Life Sciences
School of Marxism
School of Materials Science and Engineering

School of Mechanical Engineering
Department of Energy and Power Engineering
Department of Industrial Engineering
Department of Mechanical Engineering
Department of Precision Instrument
Fundamental Industrial Training Center
School of Vehicle and Mobility

School of Public Policy and Management
School of Safety Science

School of Sciences
Department of Astronomy
Department of Chemistry
Department of Earth System Science
Department of Mathematical Sciences
Department of Physics

School of Social Sciences
Department of International Relations
Department of Political Science
Department of Sociology
Institute of Economics

Tsinghua Medicine
School of Basic Medical Sciences
School of Biomedical Engineering
School of Clinical Medicine
School of Pharmaceutical Sciences
School of Healthcare Management

Vanke School of Public Health

Dushi College
Qiuzhen College
Rixin College
Tanwei College
Weixian College
Weiyang College
Xingjian College
Xinya College
Xiuzhong College
Zhili College
Zhishan College

Institute for Advanced Study
Institute for AI Industry Research
Institute for Aero Engine
Institute for Carbon Neutrality
Institute for International and Area Studies
Institute for Interdisciplinary Information Sciences
Institute of Multidisciplinary Biomedical Research
Laboratory of Low Carbon Energy
The Future Laboratory
Yau Mathematical Sciences Center

Center for Arts Education
Division of Sports Science and Physical Education
Language Centre
Research and Conservation Center for Unearthed Texts
Teaching Center of Mathematics

Undergraduate Education

At the core of Tsinghua University's undergraduate education is a unique three-pronged approach that integrates the shaping of values, the cultivating of skills, and the imparting of knowledge. Emphasizing a comprehensive liberal arts curriculum, Tsinghua fosters intellectual depth across humanities, arts, social sciences, and technology. This holistic model equips students with innovative thinking, a global outlook, and a profound sense of social responsibility.

To prepare students for future challenges, Tsinghua has established 11 innovative colleges that embrace a truly student-centered educational approach, combining specialized professional training with academic flexibility. Central to our educational ethos is the cultivation of each student's individual potential, allowing them to shape their academic paths through flexible major selections and interdisciplinary exploration. This dynamic environment is further enriched by close student-faculty connections, fostering a community that collaborates and thrives together.

Tsinghua also offers the Global Talents in Science and Engineering Program, a fully English-taught undergraduate program that cultivates future leaders with international perspectives and global impact.

My professor is what makes the Chinese Foreign Policy class truly special, turning late-night lectures into something I genuinely enjoy. His character, his flexibility, tolerance, and respect for students, as well as his encouragement of students to share their logic-based opinions are what I admire most.

Nirvana Kov
Freshman
International Relations

93
Undergraduate Majors

3,561
Undergraduate Courses Offered in 2024

Graduate Education

Tsinghua's graduate programs exemplify innovation and academic rigor, deeply rooted in our rich history of pushing the boundaries of knowledge. The University offers an unparalleled research environment, backed by substantial funding and resources, ensuring students receive focused academic mentorship. Tsinghua's faculty, renowned for their international expertise, together with a comprehensive suite of high-caliber English-taught courses and robust global university partnerships, create a rich educational tapestry. Through immersive projects and interdisciplinary coursework, students cultivate professional capabilities and gain critical industry insight, setting a benchmark for excellence in graduate education worldwide.

To broaden international graduate students' comprehension of China, a specialized suite of courses titled "Understanding China" has been developed. This collection includes 25 courses that delve into various facets of Chinese society, including culture, ideology, architecture, the environment, energy, governance, and social dynamics. Aimed at providing a multifaceted perspective of China, these offerings strive to deepen students' insights into China's distinctive role on the global stage.

"Every conversation—whether in class, over coffee, or during campus events—has challenged me to think deeper and broader. The community here is both intellectually driven and deeply supportive, bringing together global perspectives and shared dreams for a better world. For someone passionate about Global South cooperation and cross-cultural understanding, Tsinghua offers more than an education—it offers a truly global home."

Vitor Moura

2nd-year Master's Student
International Relations

35
Master's and Doctoral programs entirely in English

3,336
Graduate courses offered in 2024

174
Professional practice base

Continuing Education

At Tsinghua, we believe that learning is a lifelong journey. Our Continuing Education programs are crafted to extend Tsinghua's rich academic heritage and transformative educational experiences beyond the traditional campus boundaries. Integrating the teaching strategies and skill sets of both East and West, programs are designed to meet the evolving needs of a diverse global community. We offer cutting-edge courses and certificate programs designed for lifelong learners seeking to advance their careers or explore new fields.

328+
Global hybrid classroom courses

147,000,000+
XuetangX learners

22,800,000+
Global participants in China's perspective on global development initiative

Online Education

Tsinghua University is at the forefront of educational innovation, championing online education to forge a more open, integrative, and resilient academic landscape.

Tsinghua integrated AI teaching assistants into over 200 courses, employing advanced language models to tailor learning experiences across diverse disciplines, aiming to enhance students' understanding of complex concepts and provide a more personalized learning experience. Tsinghua equipped every first-year student with an intelligent student assistant “Xiaoda,” addressed over 136,000 questions for more than 3,300 students.

Founded in 2013, XuetangX, China’s first MOOC platform, has attracted 147 million learners from 183 countries and regions around the world who have taken more than 9,800 courses for free.

The Global Hybrid Classroom at Tsinghua offering students from around the globe the opportunity to participate in over 328 of Tsinghua's online courses, creating a globally interconnected educational ecosystem.

China’s Perspective on Global Development Initiative, which attracted over 22.8 million global participants to date, provides indepth insights into China's societal, economic, cultural, and technological progress.

Resources

Library

Tsinghua University Library stands out for its unique combination of historical treasures like oracle bones, and modern digital resources. It is housed within its Main Library and six specialized branch libraries, all supported by an advanced information infrastructure to enhance global academic engagement.

Pierrick BOUGAULT

1st-year PhD Student
Industrial Engineering

“The academic environment is meticulously designed to support learning, with excellent facilities like libraries and classrooms that foster a productive study atmosphere. This holistic experience has significantly shaped my academic journey.”

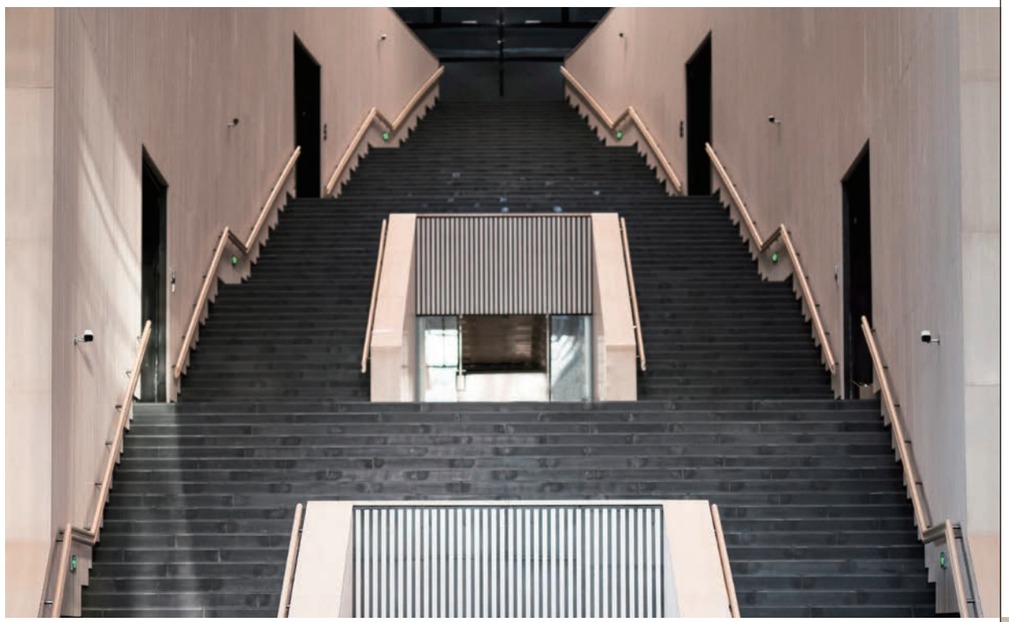
6,123,900+
Physical collections

222,500+
Ancient thread-bound books

9,670,400+
E-books

949
Databases

MUSEUMS



Art Museum

As a respected art venue, the Tsinghua University Art Museum captivates with its extensive collection, from ancient porcelain to modern embroidery, attracting over 3.95 million visitors. In recent years, it featured groundbreaking exhibits such as “The Craft of Metalwork,” delving into Eurasian metallurgy, “Stilled Melody,” resonating with contemporary ceramic art, and “African Art: A New Rediscovery” demonstrating the richness of African culture. Showcasing exquisite exhibitions from across time and cultures, it invites all to explore the beauty and wonder of the art world, embodying its mission to bridge the past with the present and the domestic with the global in a celebration of artistic magnificence.

Science Museum

The Tsinghua University Science Museum is a dynamic space that brings to life the groundbreaking scientific discoveries and technological innovations that have shaped human history. As China’s first comprehensive university museum dedicated to scientific collections, it not only showcases significant scientific artifacts but also highlights the remarkable contributions of Tsinghua University’s researchers in science and engineering.

With a combination of historical objects, interactive displays and multimedia exhibits, the museum offers both online and offline experiences, providing an engaging platform for science communication. It also hosts public educational activities, fostering curiosity and inspiring new generations to explore the frontiers of knowledge.

As a new landmark on the Tsinghua campus, the museum is set to become a center for promoting scientific awareness and stimulating technological innovation. By immersing visitors in the history of science, it aims to ignite a passion for discovery and contribute to the advancement of scientific and technological progress.

LIFE AT TSINGHUA

Arts

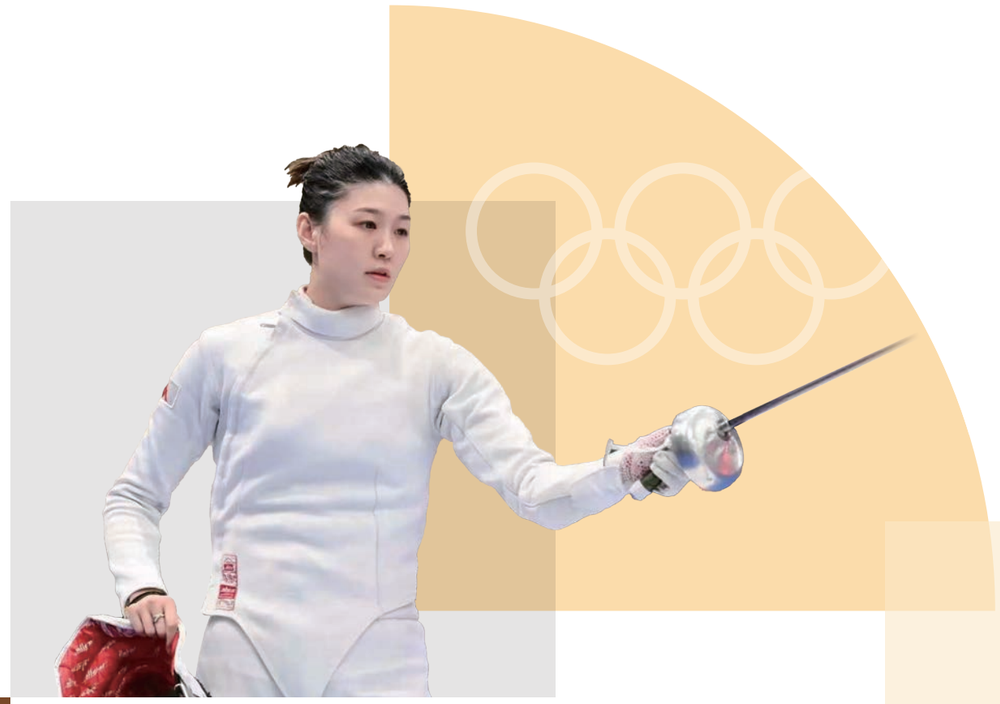
At Tsinghua, the celebration of the arts extends beyond the classroom into a realm of extensive opportunities for creative expression. The Center for Arts Education offers more than 170 arts courses. This vibrant ecosystem supports creative minds in honing their craft, offering spaces for presentation and performance that invite students to exhibit their work and engage in meaningful dialogue around both historical and contemporary visual cultures. This vibrant artistic community offers ample opportunities to exhibit work, perform, and immerse in the arts, fostering a rich environment for creative exploration.

28,000 m^2
Performance spaces

100+
Performances introduced annually

800+
Cultural, artistic, and major events held annually, both on and off campus

100,000+
Attendees annually at events



Sports

"No Sports, No Tsinghua" encapsulates Tsinghua University's deep commitment to athletics, reflected in its impressive lineup of 61 sports teams, an expansive offering of more than 60 different sports courses, and more than 1,500 student athletes. This dynamic program, rooted in the Division of Sports Science and Physical Education since 1912, promotes a legacy of competitive spirit and sportsmanship. Tsinghua's athletic tradition celebrates physical achievement and the relentless pursuit of excellence. The Ma Yuehan Cup, a highlight of the annual sports calendar, is a testament to this enduring spirit. This tradition of athletic distinction found powerful expression on the global stage at the Paris 2024 Olympic Games, where four Tsinghua athletes competed among the world's best.

230,000 m^2
Dedicated to sports facilities

44+
Types sports facilities available

Living

Living at Tsinghua transcends ordinary accommodation, emphasizing community, comfort, and an enriching student experience. The residence buildings, equipped with modern amenities like air conditioning, hot showers, Wi-Fi, and communal spaces for study and leisure. Tsinghua ensures its living spaces not only provide comfort but also nurture a sense of belonging and community, enabling students to thrive academically, creatively, and socially.

65
Dormitory buildings

30,000+
Students accommodated

Dining

Tsinghua's dining experience celebrates the rich culinary diversity of China and the world, serving a feast of flavors that span continents across its myriad dining venues. From canteen-style comfort foods to gourmet international experiences, Tsinghua's dining landscape is a mosaic of global cuisines, thoughtfully designed to satisfy every palate. Emphasizing variety and inclusivity, the University meets every dietary need and preference, while maintaining a commitment to sustainable dining practices.

17
Canteens

50,000+
Individuals served daily

Supports and Services

Tsinghua University's holistic approach to education is reflected in its wide array of support services and centers dedicated to ensuring students' success both academically and personally. From career guidance to global competence development and psychological counseling, Tsinghua offers a robust support network. The on-campus hospital further underscores Tsinghua's commitment to the well-being of its community, providing comprehensive healthcare services for everyone.

Outstanding Alumni

Tsinghua University alumni are strong performers across a range of different industries and sectors. They have endeavored to make significant contributions to China's economy, culture, science and technology and play an important role in global development.

Outstanding alumni include the Nobel Prize winners Chen Ning Yang and Tsung-Dao Lee; statesmen such as President Xi Jinping, former President Hu Jintao, as well as many well-renowned scientists and entrepreneurs.

Tsinghua Alumni Association

The Tsinghua Alumni Association was founded in June 1913. Currently, there are 83 regional associations in China and 59 branch associations around the world. They organize many events and activities that connect our alumni from all walks of life, building a close-knit Tsinghua community despite physical distances.

TSINGHUA ALUMNI

JOIN TSINGHUA

Tsinghua's comprehensive admissions process aims to recruit the most talented students and has a diversified scholarship system offering full or partial funding for undergraduate, graduate, and visiting students.

Undergraduate Admissions

+86-10-62783100
admissions@tsinghua.edu.cn
http://www.join-tsinghua.edu.cn

Graduate Admissions

+86-10-62781380
grad@tsinghua.edu.cn
https://yz.tsinghua.edu.cn/en/

Non-Degree Program

Exchange / Visiting Program
+86-10-62773508
exchange@tsinghua.edu.cn
visiting@tsinghua.edu.cn
Chinese Language Program
+86-10-62771368
chinese@tsinghua.edu.cn

Shuimu Tsinghua Scholar

Tsinghua University's commitment to fostering academic excellence is epitomized by the launch of the Shuimu Tsinghua Scholar Program. This postdoctoral initiative is tailored to nurture young scholars, supporting their academic endeavors and aiming to develop leaders in research across more than 50 fields.

For more information on the program, please visit:
https://postdoctor.tsinghua.edu.cn/info/zxtz/2174

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