TSINGHUA UNIVERSITY

2022

Contents

Why Tsinghua

Beautiful Campus

The campus of Tsinghua University is situated in northwest Beijing on the site of the former imperial gardens of the Qing Dynasty, and is surrounded by a number of historical sites.

“The World’s Most Beautiful Campus”
— Forbes Magazine

History

Tsinghua University was established in 1911 under the name “Tsing Hua Imperial College,” initially as a preparatory school for students who would be sent by the Chinese government to study in the United States. The university section was founded in 1925 and undergraduates were then enrolled. The Academy of Chinese Learning was set up in the same year. The name “National Tsing Hua University” was adopted in 1928. The Graduate School was set up in the autumn of 1929 and several research institutes were formed in various departments.

During the War of Resistance against Japanese Aggression, National Tsing Hua University moved to Changsha in 1937 and merged with National Peking University and Nankai University to form Lin-shih-ta-hsueh or the National Changsha Temporary University. It moved to Kunming in 1938, and was renamed the National South-West Associated University. When the war ended, Tsinghua returned to its original location at Tsinghua Garden in Beijing in 1946. By then, the university had five faculties – humanities, law, science, engineering, and agriculture – and a total of 26 departments. In 1952, Tsinghua became a polytechnic university after the nationwide institute reorganization policy in higher education was implemented.

HISTORY

Since 1978, Tsinghua has gradually expanded and established more departments in the sciences, economics, management, humanities and law. In 1985, the School of Continuing Education was established. The Central Academy of Arts and Design of China merged with Tsinghua in 1999. In the last decade, the university has made advances in the refinement of academic disciplines, faculty development and research. Tsinghua is now a comprehensive research university, with 21 schools and 59 departments covering disciplines in science, engineering, literature, arts, history, medicine, and other interdisciplinary studies.

Among the top research universities in the world

16th
THE World University Rankings 2022

10th
THE World Reputation Rankings 2021

17th
QS World University Rankings 2022

6th
QS Graduate Employability Rankings 2022

1st
QS Graduate Employability Rankings 2022 in Asia

1st
US News Best Global Universities for Computer Science

1st
US News Best Global Universities for Engineering

3rd
US News Best Global Universities for Materials Science

1st
US News Best Global Universities for Chemical Engineering

3rd
US News Best Global Universities for Civil Engineering

3rd
US News Best Global Universities for Condensed Matter Physics

1st
US News Best Global Universities for Electrical and Electronic Engineering

1st
US News Best Global Universities for Energy and Fuels

2nd
US News Best Global Universities for Nanoscience and Nanotechnology

2nd
US News Best Global Universities for Physical Chemistry

A Diverse Student Body

3,424 international students from 130 countries are enrolled at Tsinghua University.

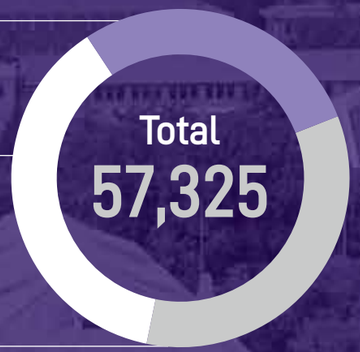
3,424
INTERNATIONAL STUDENTS

130
COUNTRIES

16,363
Undergraduates

21,587
Post-graduates (including part-time students)

19,375
Doctoral Candidates



A Global University

Tsinghua has signed exchange agreements and established partnerships with 293 universities from 50 countries.

50
COUNTRIES

293
UNIVERSITIES

Global Innovation Exchange Institute

China-Italy Design Innovation Hub

China-Africa Leadership Development Institute

Tsinghua Shenzhen International Graduate School

Schwarzman College

Tsinghua Southeast Asia Center

Tsinghua University Latin America Center

Global Strategy

Tsinghua University launched its global strategy in 2016. This comprehensive strategy reflects Tsinghua's vision to become a leading global university. Guided by this strategy, Tsinghua aims to foster innovative talents with global competence, serve China and the world through research, and strengthen its institutional competitiveness and global impact.

Since the formation of the global strategy, Tsinghua has established new global institutions dedicated to promoting international collaboration and providing students, faculty and staff with overseas opportunities to study, research and undertake internships. 2018 saw the opening of the Tsinghua University Latin America Center in Chile; the Tsinghua University Southeast Asia Center in Indonesia; and the China-Italy Design Innovation Hub in Italy, and the establishment of the China-Africa Leadership Development Institute.

Tsinghua University also initiated four University alliances, including the China-UK Humanities Alliance for Higher Education, Asian Universities Alliance (AUA), Global Alliance of Universities on Climate (GAUC), and Global MOOC and Online Education Alliance.

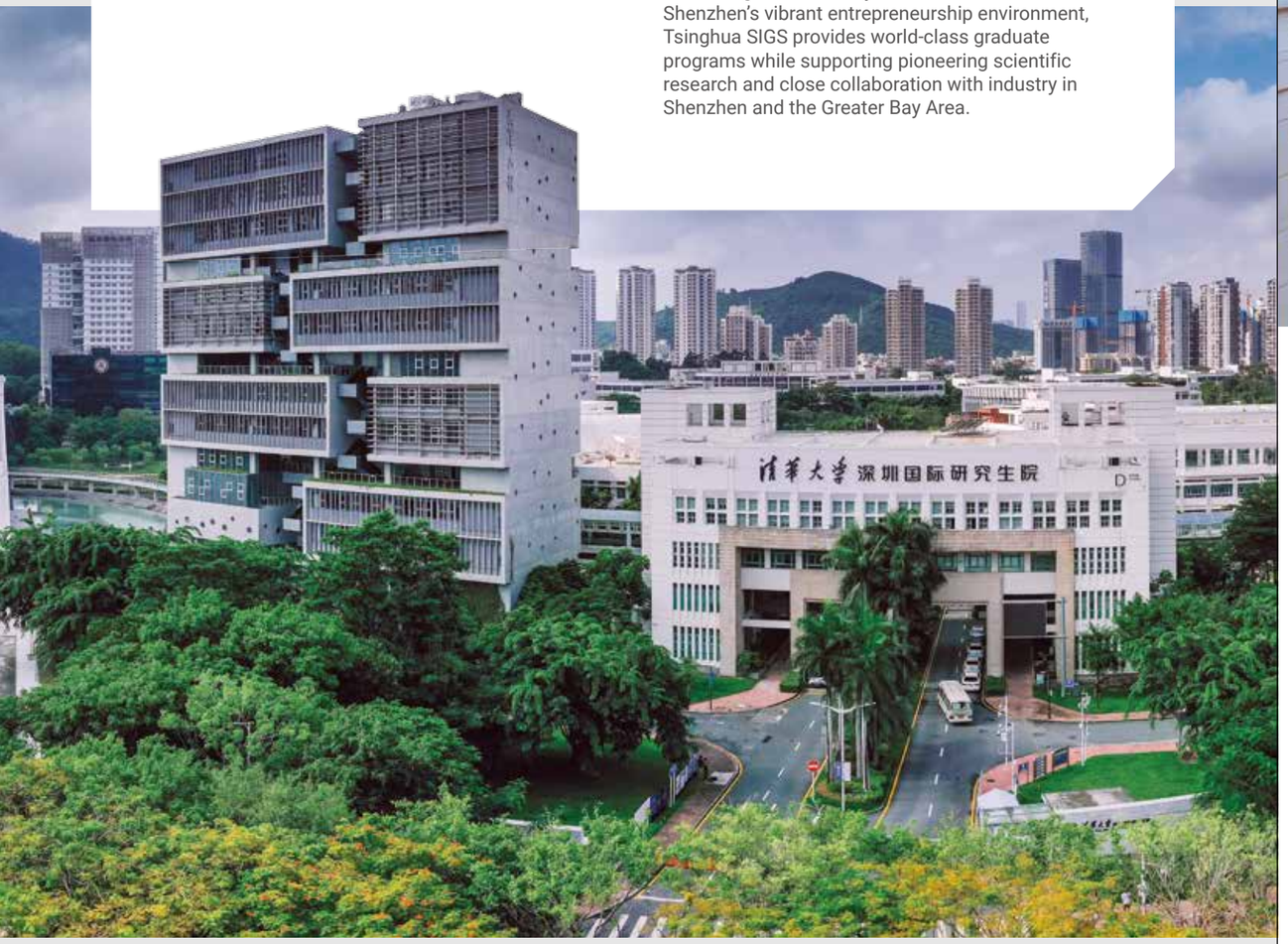
In 2018, Tsinghua founded the Center for Global Competence Development (CGCD), which aims to provide guidance, support and resources for all Tsinghua students on global competence, all the while fostering a more international campus. Through exchange programs, field trips, summer projects and conferences, Tsinghua students continue to gain overseas experience.

Tsinghua Shenzhen International Graduate School

Tsinghua Shenzhen International Graduate School (Tsinghua SIGS) was launched in March 2019. Tsinghua SIGS—Tsinghua University's sole campus located outside of Beijing—is a further expansion and integration of the Tsinghua Graduate School at Shenzhen (GSST) and the Tsinghua-Berkeley Shenzhen Institute (TBSI), which were founded in 2001 and 2014, respectively.

At Tsinghua SIGS, we offer "6+1" theme areas to promote interdisciplinary research and learning: Materials Science, Data Science and Information Technology, Biopharmaceutical and Health Engineering, Ocean Engineering, Future Human Habitats, Environment and Ecology, and Innovation Management.

With Tsinghua University's advanced resources and Shenzhen's vibrant entrepreneurship environment, Tsinghua SIGS provides world-class graduate programs while supporting pioneering scientific research and close collaboration with industry in Shenzhen and the Greater Bay Area.



Schwarzman College

Designed to inspire the next generation of global leaders, Schwarzman College was officially launched in April 2013, formally established in October 2015, and enrolled its inaugural class in 2016.

Schwarzman College integrates top educational resources from around the world and actively explores new ways to foster talents and increase dialogue towards mutual understanding. The program aims to build global network of dynamic leaders who will establish stronger relationships between China and a rapidly changing world and address the most pressing challenges of the 21st century, and to be a pioneer for Chinese and global higher education innovation.

Scholars chosen annually for this highly selective program will earn a master's degree at Tsinghua University. Scholars are selected from all over the world on the basis of their demonstrated leadership and leadership potential, as well as their academic aptitude and intellectual ability. Each year, the program admits up to 200 scholars from around the world. Each scholar will receive a comprehensive scholarship.

Leadership development is woven throughout the Schwarzman Scholars program, in both its academic and co-curricular programs. The academic program is rigorous and involves several required large lecture courses on leadership, global affairs, and China (the core), along with smaller elective courses that provide an opportunity for further in-depth learning on core themes.

Global Innovation Exchange Institute (GIX)

In 2015, Tsinghua University collaborated with the University of Washington to establish its first physical presence overseas: the Global Innovation Exchange Institute (GIX), with initial foundational support from Microsoft, in Seattle, U.S.A.

To deepen students' knowledge of the development of technology solutions, the GIX Dual Degree Program integrates the Master of Science in Technology Innovation (MSTI) which includes courses in Connected Devices and Robotics from the University of Washington with the Master of Science in Engineering (Data Science and Information Technology) (MSE(DSIT)) from Tsinghua University. In 2020, a new track in Design was added to the program with collaboration from the Tsinghua University Academy of Arts and Design.

With a dual-campus curriculum, students spend the first year in Beijing, where they get connected with a thesis advisor and take courses on the Tsinghua campus, and then leave for Seattle to complete their 15-month MSTI program.

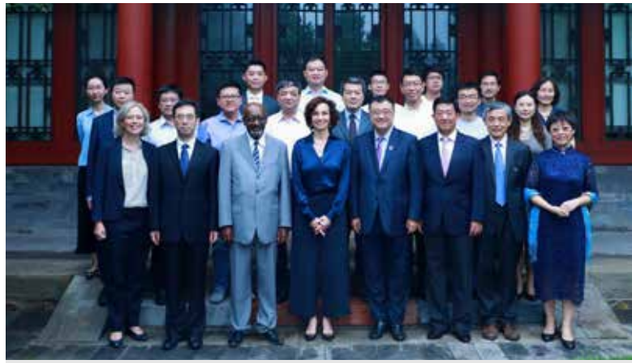
After meeting the degree requirements of both universities, students will be awarded a Master of Science in Engineering (Data Science and Information Technology) (MSE(DSIT)) or a Master of Fine Arts (Design) from Tsinghua University, and a Master of Science in Technology Innovation (MSTI) from the University of Washington.

Since its establishment, GIX has welcomed six cohorts of students from more than 20 countries and regions. The graduates have become innovators, entrepreneurs, and thought leaders, contributing to the effort of meeting the toughest challenges facing the world through innovation and global collaboration.

Featuring Re-Definition of Higher Education, GIX is a center for innovation where students, scholars and entrepreneurs around the world interact in project-based learning and interdisciplinary integration to cultivate leaders in innovation who work collaboratively to solve real-life challenges.

China-Italy Design Innovation Hub

Initiated in 2017, the China-Italy Design Innovation Hub (CIDIH) is a design and innovation platform co-established by Tsinghua University and Politecnico di Milano. The Hub and the Tsinghua Arts and Design Institute in Milan (ADIM) were officially unveiled in Milan, Italy in 2018. As the first education and research base established by Tsinghua University in Europe, the functions of the China-Italy Design Innovation Hub include education, design research, exhibition and cultural exchange. Through innovative management and operation mechanism, the hub establishes cooperation with industry and actively promotes technology transfer, contributing to the educational, scientific and cultural exchanges as well as the industrial development of China and Italy. In 2021, the China-Italy Youth Future Fashion Design Competition was launched as one of the major activities of the "China-Italy Year of Youth Innovation and Entrepreneurship", the competition aims to enhance youth exchanges and cooperation in creativity, innovation, and entrepreneurship between China and Italy, and promote the integrated development of arts, science and technology. With aesthetics as the medium, the competition has become an international platform for fashion innovation, injecting new vitality into global sustainable development.



China-Africa Leadership Development Institute

Supported by UNESCO, the China-Africa Leadership Development Institute (CALDI) was jointly established by the Institute of Education and the Office of International Affairs, Tsinghua University. CALDI is committed to training African officials, educating young Africans, developing the human resource of Chinese companies in Africa, and supporting Chinese students' internships in Africa. CALDI promotes the implementation of the Belt and Road Initiative and provides strong support for the China-Africa comprehensive strategic and cooperative partnership, fulfilling the UN 2030 Agenda for Sustainable Development.

Tsinghua Southeast Asia Center

The ground-breaking ceremony for the Tsinghua Southeast Asia Center (Tsinghua SEA) was held at Kura Kura Island in Bali, Indonesia in 2018. Being a key component of Tsinghua University's Global Strategy that focuses on educational and cultural exchange, the Tsinghua SEA emphasizes talent training, academic exchange and cooperation in Southeast Asia and around the world. It serves the needs of Indonesia and Southeast Asian countries in terms of human capital training in the face of Industry 4.0, and contributes to the Belt and Road Initiative and UN SDGs.

In 2021, the Center has made steady progress in infrastructure construction and further enhanced its status as a platform for cooperation and exchange between China, Indonesia and other Southeast Asian countries through impactful talent training programs like Happy Digital X(HDX) and a series of high-level dialogue events.

Tsinghua University Latin America Center

Tsinghua University Latin America Center was established in Santiago, capital of Chile, on December 6, 2018. It is an important move of Tsinghua University's Global Strategy and marks the establishment of its overseas layout. The Center serves as a base of networking and exchanges for the university in Latin America, and supports the university in its core task of cultivating talents. It is committed to building an integrated communication platform among Chinese and Latin American government agencies, academic, think-tanks and business communities, while endeavoring to expand cooperation in academic research, people-to-people exchanges and scientific and technological innovation between Tsinghua University and Latin American countries.

During 2021 and 2022, Tsinghua Latin America Center together with several departments and institutions in Tsinghua, actively organized with local universities in Chile, Peru and other Latin American countries, a number of international events on important topics such as the 50th anniversary of diplomatic relations between China and Peru, development of global competency for students climate change reaction, technology transfer mechanisms, science and technology and innovation, ancient civilizations and modern architecture dialogue, and interactive media technology, China's economic prospect, Digital China and Online Education Cooperation, among others.

Asian Universities Alliance

The Asian Universities Alliance (AUA), first proposed by Tsinghua University, was co-founded in Beijing on 29 April 2017, by 15 institutions of higher education from 14 countries and regions across Asia. The mission of AUA is to jointly address regional and global challenges, specifically related to higher education and economic, scientific and technological development, by strengthening collaboration among member institutions.

In the past five years, by promoting comprehensive high-level exchanges and cooperation, AUA has matured into a highly cohesive and influential international university organization. The Alliance has organized over 80 events and activities, such as presidents forums, academic conferences, student mobility programs, and university administrative meetings. In particular, a number of programs, including the AUA Scholars Award Program, AUA Staff Exchange Program, inter-library loans, and online education dialogues, have strengthened long-term multilateral cooperation. The Alliance has also published two books on Asian higher education research. These initiatives have led to innovative collaboration and cultural exchange which have enhanced the overall quality of Asian higher education and expanded the global influence of Asian universities while cultivating the next generation of Asian leaders.

Tsinghua University currently holds the AUA Presidency (2017-2023) and is the permanent host of the AUA Secretariat.

Global Alliance of Universities on Climate

The Global Alliance of Universities on Climate (GAUC) was formed during the annual meeting of the World Economic Forum in Davos, Switzerland, in January 2019. GAUC is currently comprised of 15 leading universities from 9 countries, over 6 continents.

Focusing on joint research, talent cultivation, campus action, societal implementation, and public engagement, GAUC's mission is to advance climate change solutions through research, education, and public outreach, while partnering with industry, non-profit and government organizations to promote rapid implementation from local to global scales.

Since establishment, GAUC has won recognition from global societies, across academic, civil society, and corporate platforms, as well as from international climate leaders such as UN Secretary-General António Guterres, the Executive Secretary of the United Nations Framework Convention on Climate Change Patricia Espinosa, and COP26 President Alok Sharma. The flagship projects GAUC initiated include the Pathways to Net Zero Emissions conference, the Campus Decarbonization Workshop, the Conference of the Parties (COP) Youth Delegation and the GAUC Graduate Forum. In 2021, against the backdrop of climate emergency, GAUC updated the Graduate Forum into the Global Youth Summit on Net-Zero Future (Climate x Summit). The Summit, which included 30 events, attracted over 500 submissions by global youth and more than 5.6 million viewership worldwide.

Global MOOC and Online Education Alliance

The Global MOOC and Online Education Alliance serves as a mechanism for exchange and cooperation, providing leadership of global higher education efforts to address digital education challenges and to implement practical policies in local communities and around the world. Key activities include: Joint Teaching, Capacity Building, Knowledge Sharing and Public Advocacy. The Global MOOC and Online Education Alliance is initiated by Tsinghua University, and co-founded by Cornell University, CRI (Center for Research and Interdisciplinarity), edX, Mongolian University of Science and Technology, Nanyang Technological University, Peking University, Politecnico di Milano, Rice University, RWTH Aachen University, Saint Petersburg University, Shanghai Jiao Tong University, Thai MOOC, Tsinghua University, University of Auckland, University of Chile, University of Manchester, University of Nairobi, University of Toronto, XuetangX, Zhejiang University. In 2021, the Global MOOC and Online Education Alliance initiated programs including Online Education Dialogue, Global Hybrid Classroom, Global Open Courses, etc.

China-UK Humanities Alliance for Higher Education

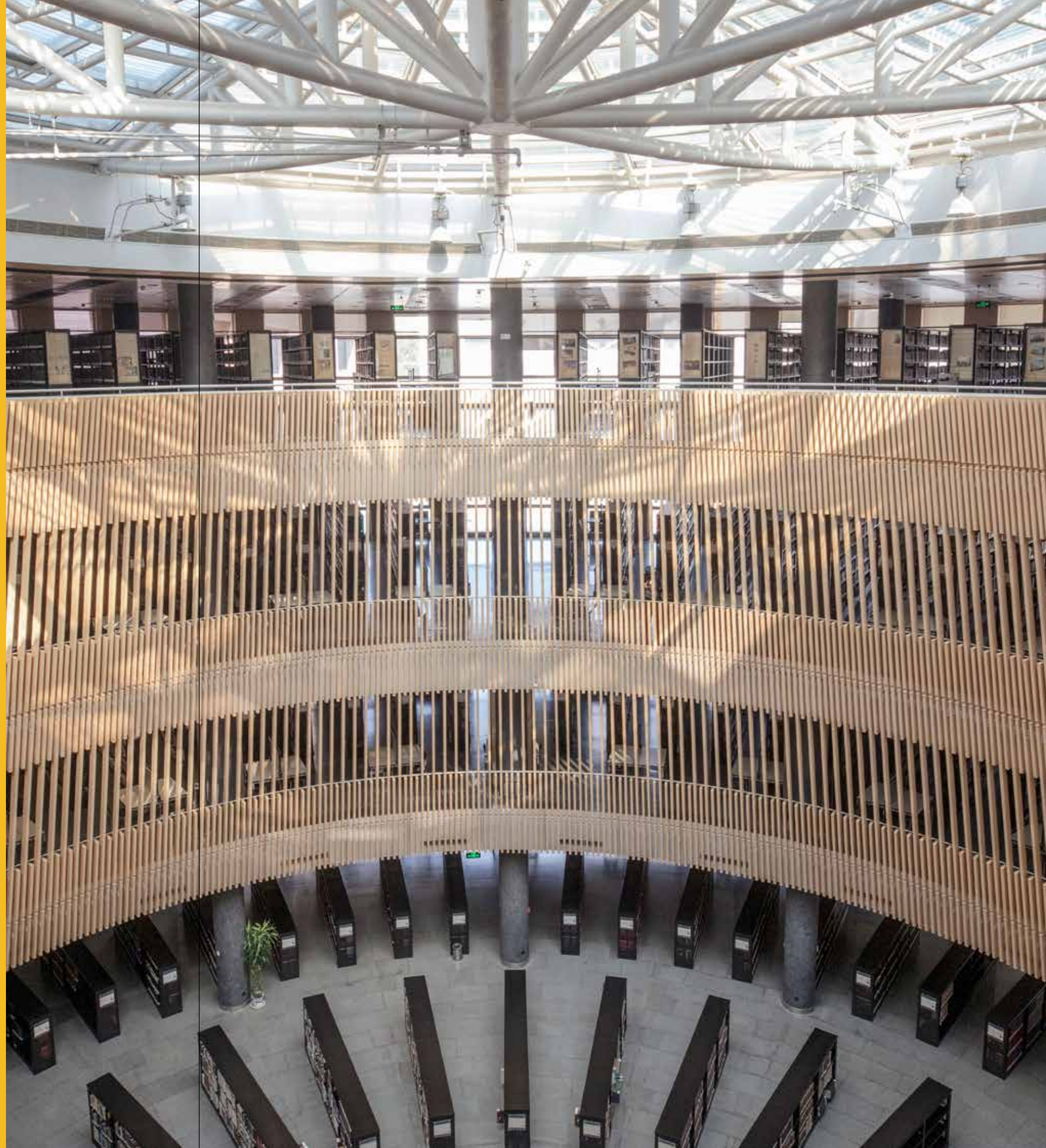
The China-UK Humanities Alliance for Higher Education is an international organization for humanities in higher education initiated by Tsinghua University, and co-founded by other 12 top-ranking institutions in China and the UK. Founding members share the common recognition that humanities exchange in international relations has ever-increasing importance in enhancing mutual understanding and trust and in promoting the progress of human civilization, and that universities have the ability to provide high-quality education, lead the humanities exchange, and prepare future leaders with a comprehensive understanding of the complex issues that define this age. Up to 2021, participating members have expanded to 17.

LATIN AMERICAN AND CARIBBEAN AMBASSADORS CONVENE AT TSINGHUA

Impact

Tsinghua University has fulfilled a key role in advancing international cooperation, as well as tackling global challenges such as climate change, carbon neutrality, online education, AI governance, among other critical global issues. In July of 2022, Tsinghua University held the 10th World Peace Forum and contributed to the World Youth Development Forum by hosting the Thematic Forum for Climate Action and Green Development. Recent engagement initiatives also include “Prospering Together——Latin American and Caribbean Ambassadors Convene at Tsinghua” supported by the Latin America Center, the “Global Youth Summit on Net-Zero Future (Climate x Summit)” held by the Global Alliance of Universities on Climate (GAUC), the professional education program “Happy Digital X: Cities, Systems, Products and Services (HDX)” promoted by the Southeast Asia Center, which showcased the progress and impact of Tsinghua University’s global strategy.

Studying at Tsinghua



Schools and Departments

Academy of Arts & 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 & Design
Department of Painting
Department of Sculpture
Department of Textile & Fashion Design
Department of Visual Communication

Department of Chemical Engineering
Department of Electrical Engineering
Department of Engineering Physics
Institute of Nuclear and New Energy Technology

School of Aerospace Engineering
Department of Aeronautics & 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 Environment
Department of Environmental Engineering
Department of Environmental Science
Department of Environmental Planning and Management

PBC School of Finance

School of Humanities
Department of Chinese Language and Literature
Department of Foreign Languages and Literatures
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 Industry Training Center
School of Vehicle and Mobility

School of Medicine
Department of Basic Medical Sciences
Department of Biomedical Engineering
School of Clinical Medicine

School of Pharmaceutical Sciences
School of Public Policy & Management

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 Psychology
Department of Sociology
Institute of Economics

Vanke School of Public Health

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 Brain and Intelligence
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

Global Innovation Exchange Institute
Institute of Education
Qiuzhen College
Rixin College
Schwarzman College
Shenzhen International Graduate School
Tanwei College
Weiyang College
Xingjian College
Xinya College
Zhili College

Undergraduate Education

The undergraduate program at Tsinghua University was founded in 1925. Presently, the university has 88 undergraduate majors covering science, engineering, literature, arts, history, philosophy, economics, management, law, and medicine, as well as 40 minors. Each year, approximately 3,400 Bachelor's degrees are awarded.

Tsinghua's undergraduate education adheres to a three-dimensional approach including the shaping of values, cultivation of skills and imparting knowledge, aiming at nurturing students' skills of critical thinking, problem solving, effective communication and global competence.

By grouping disciplinary majors into different major tracks and establishing a comprehensive liberal arts education system that covers humanities, arts, social sciences, and technology, Tsinghua's undergraduate education has put the liberal arts education as the core foundation and organically combined it with academic knowledge and professional skills learning.

Against the backdrop of globalization, the undergraduate education at Tsinghua University is committed to cultivating students with a sense of mission and in the pursuit of excellence, to nurture an all-rounded character with innovative thinking abilities, a global perspective and a strong sense of social responsibility.

Tsinghua changed me a lot since the beginning. I think Tsinghua is really a place of opportunities and just like China. My story with China and Tsinghua is far from over. I will continue my fate with China and share my Tsinghua story. Coming to Tsinghua has been the best decision I made in my entire life!

Nik Gu

School of Social Sciences

Graduate Education

Graduate education at Tsinghua dates back to the 1920s. As the top research university in China, the graduate education at Tsinghua features multidisciplinary and individualized education suitable for students from a broad range of backgrounds; an excellent research platform, and plenty of research funding and resources, enabling students to access specialized academic training; world-class faculty with overseas experiences, adequate number of high-quality curricula delivered in English, and active partnerships with reputable universities of the world; unique practical courses and opportunities for international students to gain professional knowledge and improve their industry skills through internships.

Tsinghua University currently offers 30 English-taught graduate degree programs, including 20 programs in science and engineering and 10 in humanities and social sciences. In partnership with top institutions worldwide, 52 joint degree programs have been established.

At Tsinghua University, there are about 600 graduate courses taught in English available to all students. In order to enhance the international students' understanding of China, the "China introduction" course group has been developed, covering history, culture, art, philosophy, politics, economics, science and technology, law, society, environment, among other topics.

Each year, over 1,000 international students from over 100 nations are admitted to pursue Master's or Doctoral degrees at Tsinghua.

Tsinghua changed me completely. I became much more confident and open during the past few years that I spent here. I'm more motivated in my academic life, and I also discovered one of my greatest passions: Peking opera. So it's safe to say Tsinghua opened up a whole new world to me, and I am more than grateful for that. Studying here is one of the main reasons I would like to stay in China after I graduate.

Anna Lujza Honecz (Lulu)

School of Humanities

Continuing Education

The School of Continuing Education of Tsinghua University is the first of its kind in continuing educational institutes in China. It is also the only China-based UNESCO chair in Continuing Engineering Education. Through a fostering relationship and an open dialogue with the top international universities, the School of Continuing Education provides a high-level education based on an experienced international teaching faculty. Integrating the teaching strategies and skill sets of both East and West, the School instills in students a strong sense of global perspective and an open mind by providing the most up-to-date knowledge, and by preparing students with global competence.

The School offers a series of international cooperative education curricula, both outbound and inbound, including international courses on a variety of subjects and an international customized curriculum.

Global Competence Development

Tsinghua is committed to equipping students with global competency - one important goal of Tsinghua's global strategy. In 2018, with a mission to support global competence development for all students, and to facilitate this development as an integral component of undergraduate and graduate education, Tsinghua founded the Center for Global Competence Development (CGCD).

The Center provides campus-wide transformative learning experiences with a global focus, leads cutting-edge research and development in the field of global education, facilitates cross-cultural engagement opportunities for all students and faculty members, and promotes a global competency-based cross-cultural understanding on campus and beyond. With guidance, support and resources provided by the Center, Tsinghua students are better equipped to become the global leaders of tomorrow.

Hybrid Teaching: from Tsinghua to the Outside World

Since the regular prevention and control of COVID-19 in 2022:

More than **2/3** of Tsinghua University's courses are given through hybrid teaching

151 "Clone Classes" are open to domestic sister universities

covering approximately **20,000** teachers and students

98 on-campus courses are open to students from overseas universities through Global Hybrid Classroom

covering more than **680** persons who have earned credits

18 global open courses are open to learners all over the world

covering more than **7.3 million** people till now.

Online Education

More than 2/3 of Tsinghua's courses have been given through hybrid teaching. The university has launched the "Weiyang Project" based on hybrid teaching, where students can select courses and attend them online. As of August 2022, a total of more than 530 courses have been part of the Project. Till March 2022, the proportion of Chinese university teachers using MOOCs to carry out hybrid teaching of online and offline has gone from 34.8% before the pandemic up to 84.2%.

During the outbreak of COVID-19 in the spring semester of 2020, Tsinghua launched "Clone Class" to allow external learners to join Tsinghua classes online in real time based on the "Rain Classroom". 153 "Clone Classes" have been open for domestic universities to share the courses of Tsinghua University simultaneously. Since the New Normal of the epidemic prevention, the shared courses have served approximately 20,000 teachers and students in China.

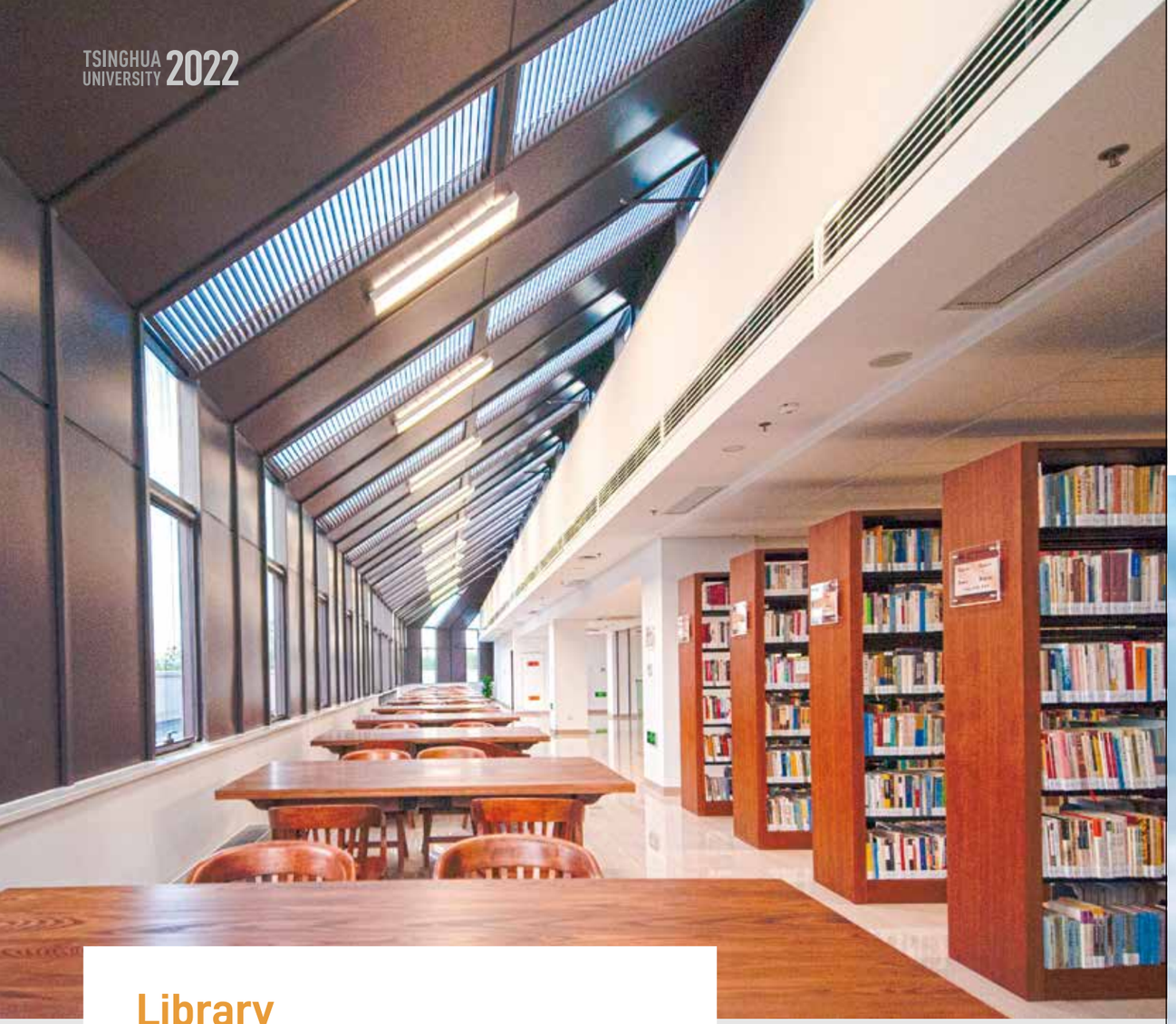
Tsinghua launched Global Hybrid Classroom since the spring semester of 2021. Up to now, we have opened 98 global hybrid classes to overseas universities, and more than 680 students from 14 universities have taken our courses. More than 100 students from Tsinghua have attended the courses offered by 7 overseas universities. In Global Hybrid Classroom, learners from both Tsinghua and overseas universities can earn credits.

On the basis of Global Hybrid Classroom, Tsinghua University further launched 10 Global Hybrid Classroom Programs in 2022. By integrating the curriculum resources into a system, it will attract more students to further study Tsinghua courses, and provide students with a more international and diversified high-quality learning experience.

Since the fall semester of 2021, Tsinghua has launched 18 global open courses based on hybrid teaching. Learners can learn part or all of the course content based on their own interests and participate and interact online in real time. Till now, we have attracted 7.3 million learners worldwide.

Founded in 2013, XuetangX, China's first MOOC platform, has attracted 95.11 million learners from 183 countries and regions around the world who have learned more than 5,100 courses covering science and engineering, agricultural medicine, economics, law, art and other disciplines for free. The launch of the online English version of XuetangX and the innovative attempt of clone classes based on Rain Classroom have laid a solid foundation and provided a strong technical guarantee for Tsinghua's hybrid teaching to reach out from the University to the outside world.

In 2020, 17 universities and 3 online education institutions from 14 countries on 6 continents worldwide founded the Global MOOC and Online Education Alliance, aiming to respond to the opportunities and challenges brought by the smart Internet era to global education amid COVID-19. The Alliance's Secretariat is at Tsinghua University. For more than a year, the Alliance has launched a series of practices and explorations in cooperative teaching, capacity building, knowledge sharing and public outreach.



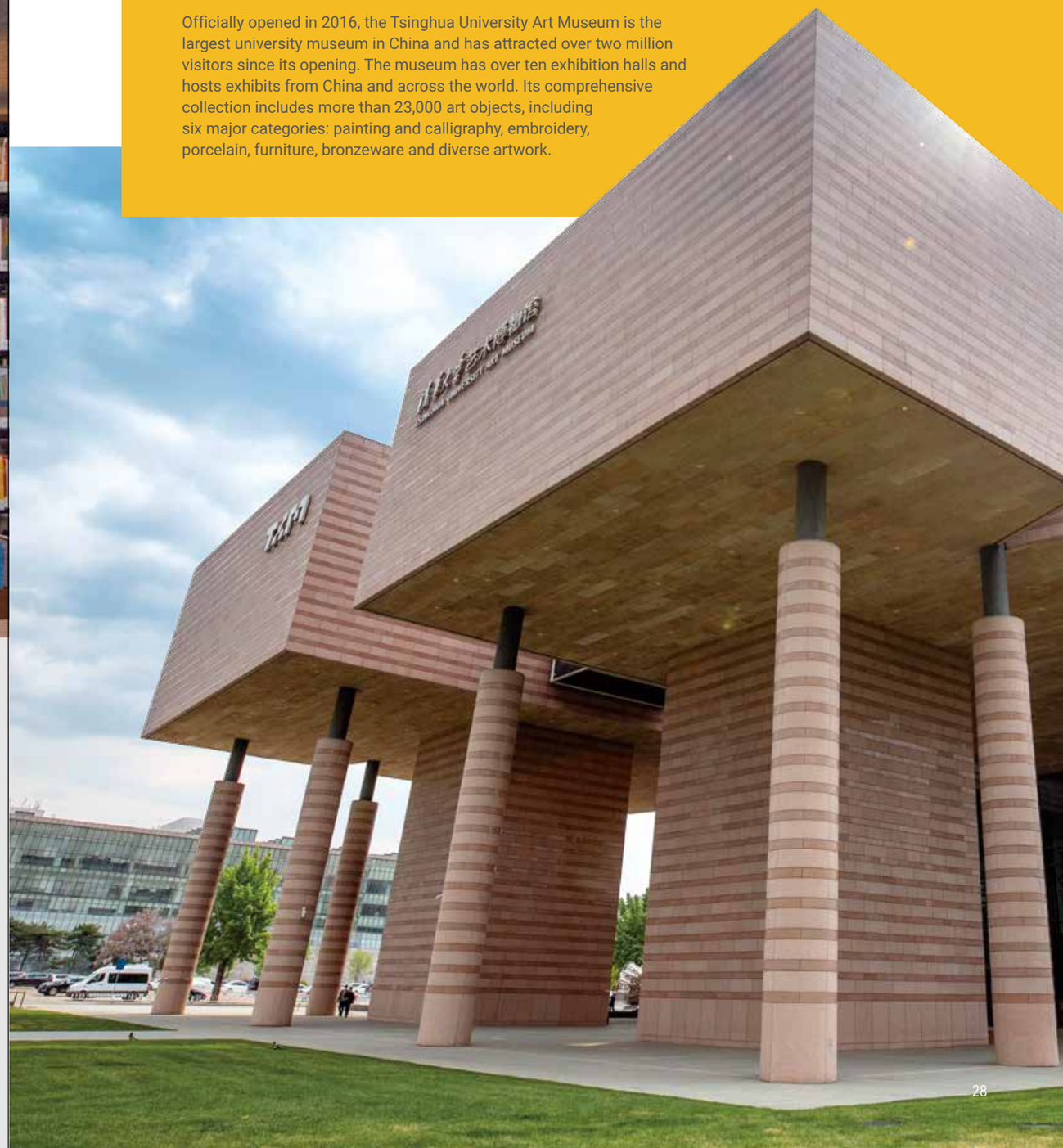
Library

The Tsinghua University Library was established in 1912, and is now composed of the Main Library and six branch libraries including the Humanities and Social Sciences Library, the Arts Library, the Finance Library, the Law Library, the Economics & Management Library and the Architecture Library.

The Library system owns more than five million six hundred and five thousand books and other printed material and has a comprehensive digital system to ensure convenient access to resources anytime, anywhere.

Art Museum

Officially opened in 2016, the Tsinghua University Art Museum is the largest university museum in China and has attracted over two million visitors since its opening. The museum has over ten exhibition halls and hosts exhibits from China and across the world. Its comprehensive collection includes more than 23,000 art objects, including six major categories: painting and calligraphy, embroidery, porcelain, furniture, bronzeware and diverse artwork.



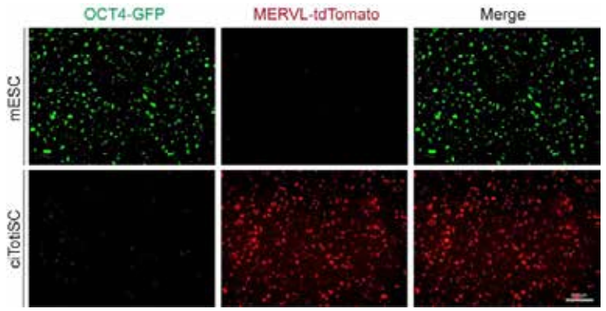
Research & Innovation

With the goal of conducting fundamental global research on high-impact societal issues, serving core national development needs, and connecting academic research with talent cultivation, Tsinghua University is dedicated to promoting scientific innovation and resolving global challenges.

Scientists take the first step to master an all-powerful cell type in the beginning of life

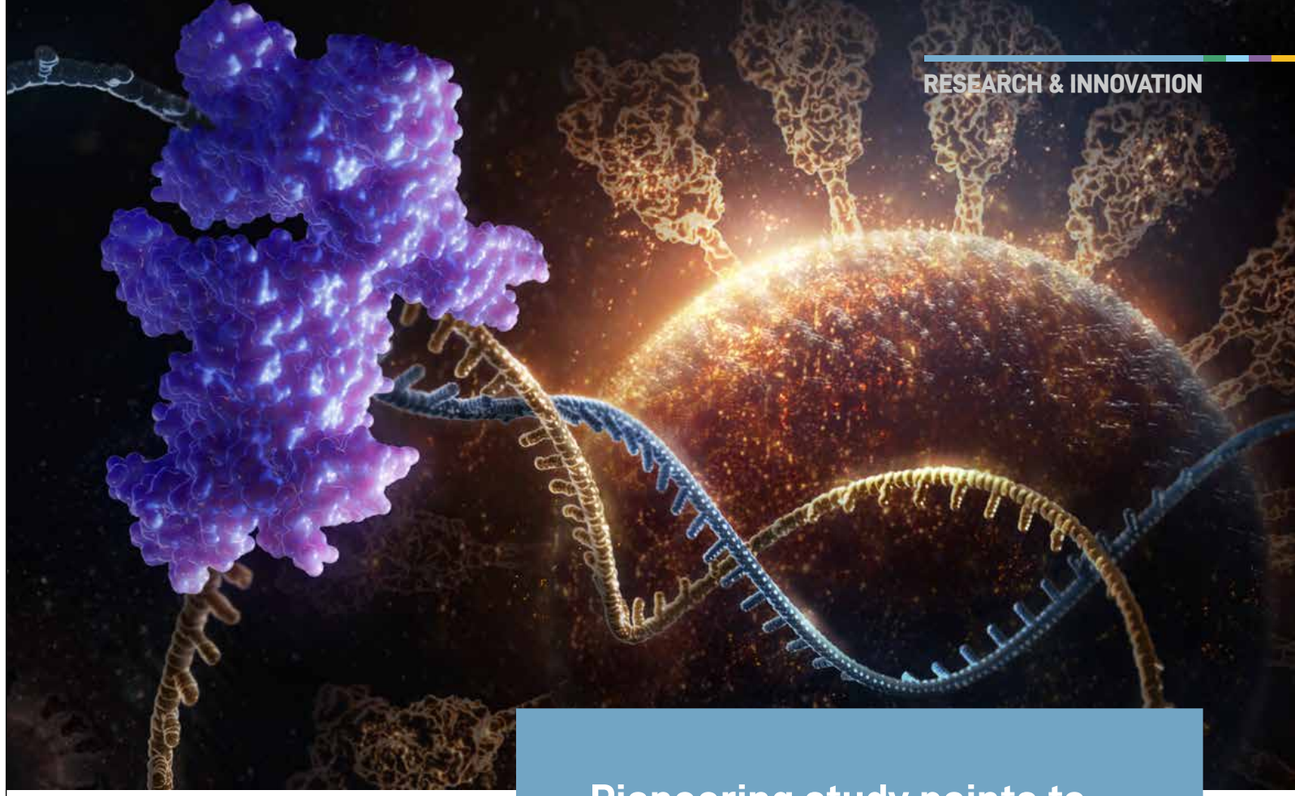
Sheng Ding and his team at Tsinghua University School of Pharmaceutical Sciences publish innovative work in *Nature*.

From cloning to regeneration, how to find alternative paths to create or rejuvenate life has been one of the big questions for biologists. It is this question that is behind the work of generations of scientists who went on to win Nobel Prizes. It is also this question that drives the recent research led by Sheng Ding at Tsinghua University, School of Pharmaceutical Sciences, now published in the top scientific journal Nature magazine.



In the current study, Ding and colleagues have identified a drug cocktail that induces an all-powerful stem cell type at will, a cell type that can turn into an entire organism on its own. The researchers are also able to maintain the resulting cells' differentiation potential in the lab, allowing a stable system for later researchers to demystify the creation of life.

This alternative path – obtaining a clean slate of life's earliest raw materials from more mature cells, instead of new sperms and eggs – can have a wide range of implications. "Such an alternate to nature's way of creating the beginning of life is a holy grail of biology", Ding says.



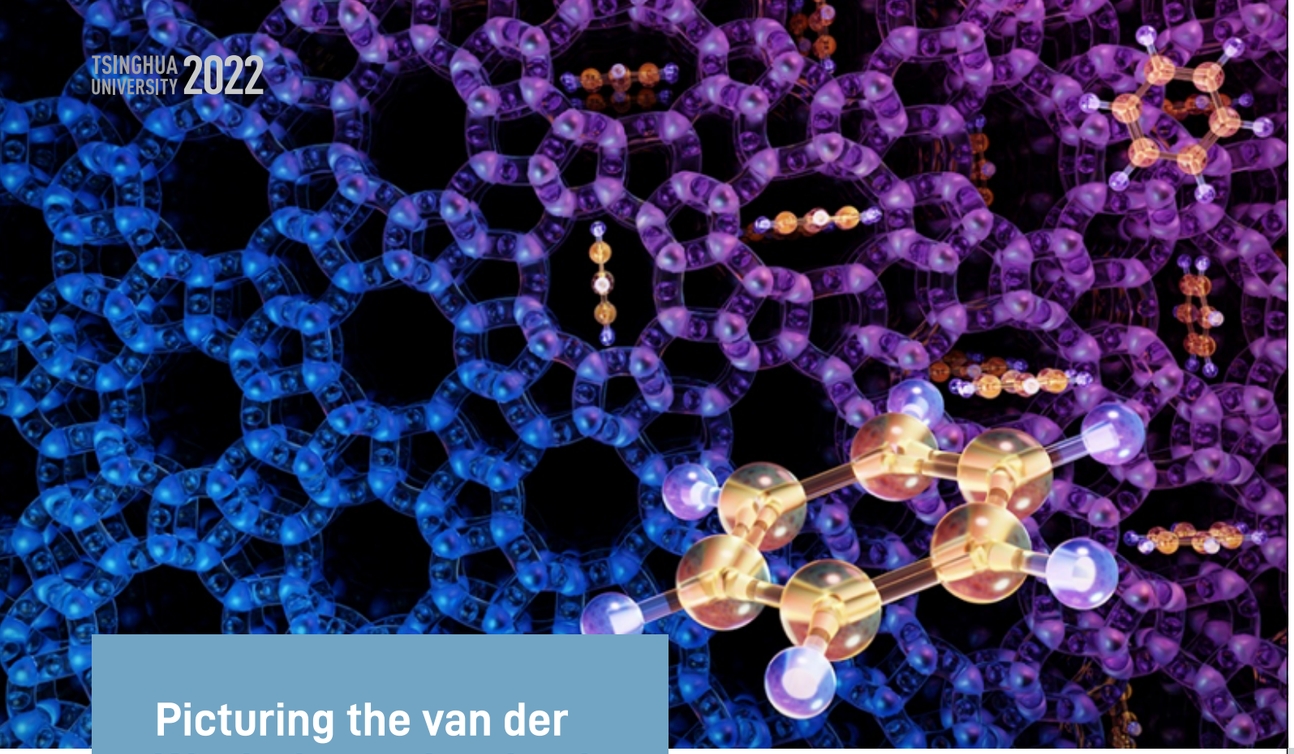
Pioneering study points to novel COVID-19 drug target

Researchers led by Zihe Rao and Zhiyong Lou have used a cryo-electron microscope to image the complex of proteins that comes together inside infected cells of COVID-19 patients, enabling the virus to transcribe RNA copies of the virus gene sequence and replicate. What they have discovered may offer insights into thwarting the virus.

The pandemic has been prolonged by the emergence of many new SARS-CoV-2 variants, often with mutations in the 'spike' protein the virus uses to enter cells. As many COVID-19 vaccines are targeted at the spike protein, these mutations have helped some variants evade the immunity conferred by vaccines.

Much less prone to mutation, however, is the Replication-Transcription Complex – the set of viral proteins that come together during replication to allow SARS-CoV-2 to proliferate.

"The catalytic residues of Replication-Transcription Complex proteins are almost identical, or at least very similar, among different SARS-CoV-2 variants," says Lou. "Which suggests the potential to develop broad-spectrum antiviral drugs that target the replication process."



Picturing the van der Waals forces involved in emissions reduction

In a follow up study in 2022, Wei Fei's team used a benzene molecule (yellow and lilac) as a probe to better understand the structural flexibility of zeolite catalyst ZSM-5's pores (the blue and purple represent ZSM-5's crystal structure, with the black circles representing the pores).

His team used an aromatic hydrocarbon, para-xylene, as a molecular pointer. The para-xylene molecule contains two opposite methyl groups that make a long axis across the channel," explains Wei. These will 'point' to the atoms around it with the lowest energy.

In the study, the para-xylene molecules were absorbed in to the straight channels that make up some of the porosity of an aluminosilicate mineral. The mineral, a zeolite catalyst known as ZSM-5, is widely used in processes for the petrochemical industry as well as automotive and industrial emissions reduction. "MFI-type zeolites, such as ZSM-5, have straight channels that can only accommodate a single para-xylene molecule at a time," says Wei. Previous studies had shown that the long molecular axes of the pointer would end up almost parallel to the straight channel, unless there were other host-guest interactions at play.

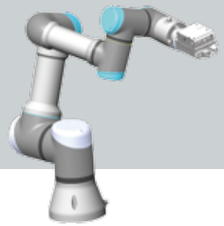
Robotic lab on wheels offers safe, fast and accurate COVID-19 testing

A new laboratory-on-wheels developed by Tsinghua University scientists allows for fast-turn around and highly-accurate COVID-19 testing, without the stress and risk of people with suspected coronavirus infections having to travel and wait long for a diagnosis.

Equipped with oropharyngeal (middle throat) swap sampling robots, a new type of virus inactivation device, integrated microfluidic nucleic acid analyzers and a 5G communication system for automated result reporting, the small-footprint mobile testing van can deliver results in under 45 minutes, with almost 100% accuracy and minimal human involvement.

At this point in the COVID-19 pandemic, the coronavirus is largely under control in China and in parts of the world that adopted aggressive containment measures, notes Jing Cheng, who headed the development of technology at Tsinghua. But outbreaks still flare up occasionally, demanding quick, accurate local testing responses - which is where the COVID-19 Mobile Laboratory comes in.

COVID-19 TESTING

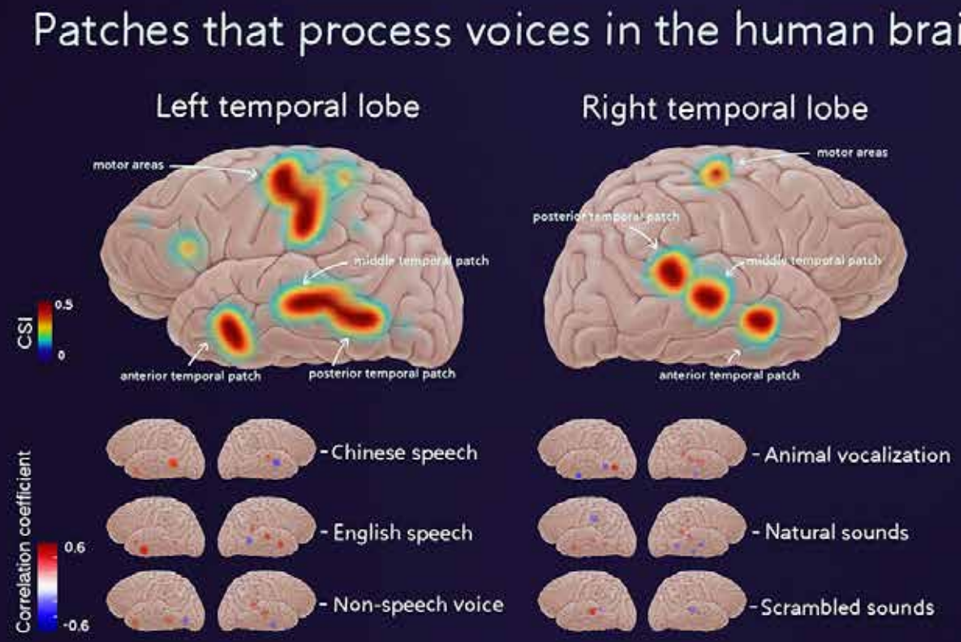


Robot arm

Quick inactivation device

Microfluidic chip

Microfluidic nucleic acid analyzer



Brain patches linked to nuanced voice interpretation

People have a remarkable ability to perceive different information from voice alone, such as a speaker's identity, meaning, and emotional state, says Xiaoqin Wang, a professor of biomedical engineering at Tsinghua University and the head of Tsinghua Laboratory of Brain and Intelligence. "When we pick up the phone, we often know who's calling after hearing only a few words."

However, the question of how our brains extract and process such information is one that has eluded neuroscientists for years. Finding the answer, Wang says, could help us better understand why some people aren't good at interpreting social cues.

In a paper published last December in the Proceedings of the National Academy of Sciences, Wang and his collaborators describe how they found specialized regions within the brain that are responsible for processing the voices we hear.

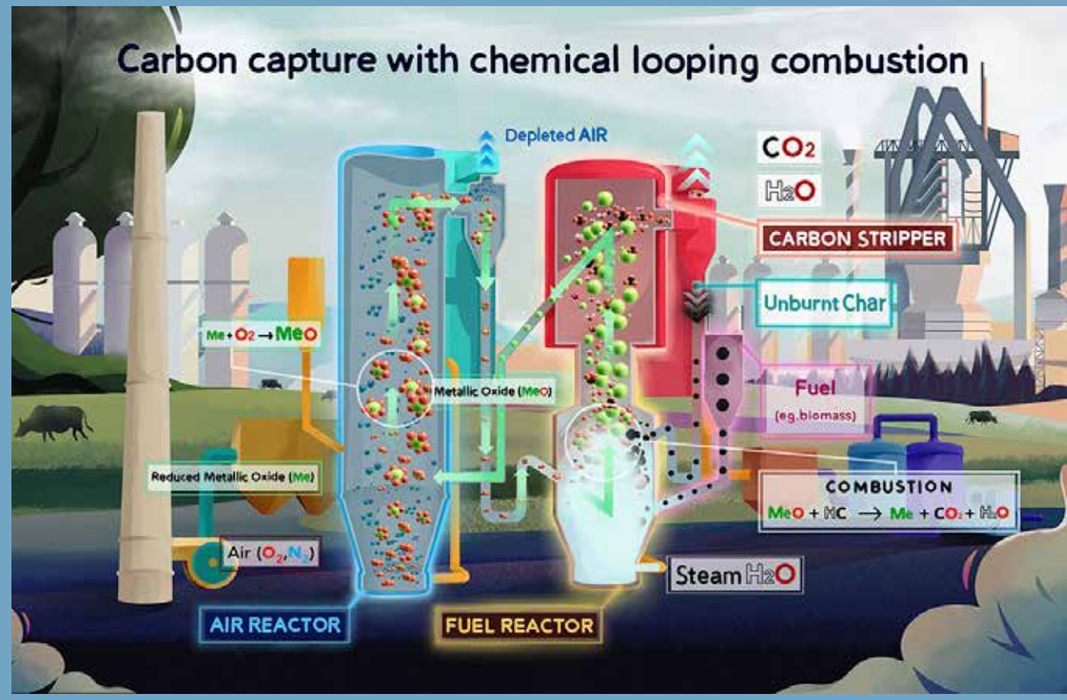
The regions — which they call 'voice patches' — are located in the superior temporal gyrus (STG) of the temporal lobe, the part of the brain that sits just above ear level and is associated with sensory processing. There are three patches in a row in each hemisphere.

Boosting carbon capture potential at power stations

Technology for capturing carbon dioxide and storing it permanently underground is expected to be vital in strategies to restrict global temperature rises, according to an April 2022 report released by the United Nations Intergovernmental Panel on Climate Change. Chemical looping combustion (CLC) is recognized as one of the most innovative CO2 capture technologies because of low energy penality. An important step in this direction is a new industrial means of producing an affordable solid metal oxide – a perovskite oxygen carrier material developed by a Tsinghua team.

Efficient production of the oxygen carrier should enable the power generation industry to incorporate an emerging, highly efficient carbon capture technology into its combustion processes, explains Zhenshan Li, who leads the Tsinghua team.

CLC relies on adding solid oxygen carriers, rather than oxygen gas, during the combustion process, explains Li. "The solid oxygen carrier is then able to more efficiently generate gaseous oxygen in the fuel reactor environment," he says.



Zhenshan Li's team have developed an affordable way to produce an efficient metal oxide-based oxygen carrier. This advance, he says, should enable chemical looping combustion to be incorporated into power generation systems, significantly reducing the amount of CO2 emitted.

Recognition

The 2020 National Science and Technology Award Conference was held at the Great Hall of the People in Beijing on November 3, 2021. Academician Wang Dazhong of Tsinghua University received the 2020 State Preeminent Science and Technology Award, China's most prestigious science and technology award, for his outstanding contribution to scientific and technological innovation.

During the Year 2020-2021, the faculty of Tsinghua University won 16 national awards, including one State Preeminent Science and Technology Award, three State Natural Science Awards, two State Technology Invention Awards, and ten State Scientific and Technological Progress Awards. In addition, Tsinghua faculty won 53 international awards.

16 National Awards

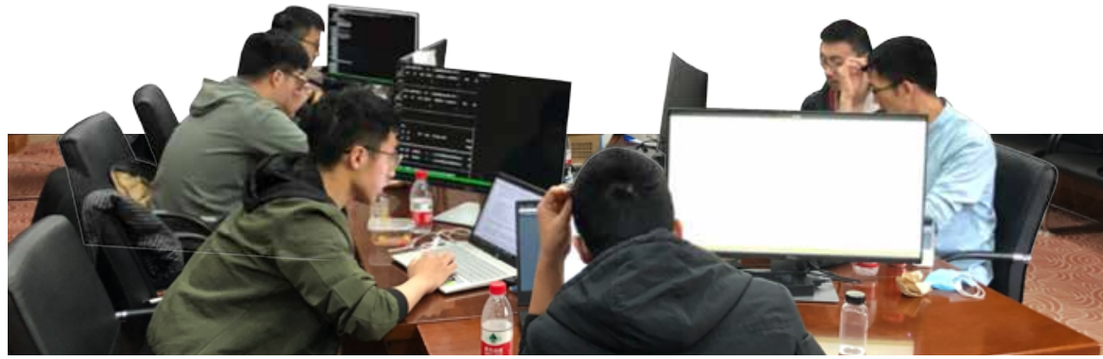
53 International Awards

1 State Preeminent Science and Technology Award

3 State Natural Science Awards

2 State Technology Invention Awards

10 State Scientific and Technological Progress Awards



Innovation and Entrepreneurship Education

At Tsinghua, we believe that every student has innovative DNA in them. Adhering to the mission of knowledge transfer, ability cultivation, and value shaping, Tsinghua has built a comprehensive ecosystem to integrate innovation and entrepreneurship education into the talent training system, offering full support, covering students' expenditure of creativity, innovation, and entrepreneurship.

- The Student Future Innovation Group inspires creativity: it encourages students to build teams across different disciplines and grades, while initiating their own innovation projects.
- The iCenter serves technological innovation: it is the largest campus "maker" space in the world.
- The chuangplus and x-lab support entrepreneurship: they help startups gain market resources and help them seek professional guidance from off-campus tutors.

Laboratories

To promote cross-disciplinary and cutting-edge research, Tsinghua University established ten interdisciplinary institutes in various areas, including unmanned systems, the internet of vehicles, flexible electronics, brain and intelligence, big data, artificial intelligence, and medical engineering multidisciplinary studies.

1 National Research Center

13 State Key Laboratories

11 National Engineering Laboratories

16 Key Laboratories of the Ministry of Education

111 Collaborative Research Centers

Life at Tsinghua

Student life at Tsinghua extends far beyond academic courses. The university offers a vast array of clubs and societies, as well as sports and performing arts activities to foster students' all-round personal development.

Sports

The motto “No Sports, No Tsinghua“ reflects the exceptional athletic tradition at Tsinghua.

The university established its first sports team in 1912. In 2021, Tsinghua had more than 1,300 student athletes in 54 different sports teams, and won 139 gold medals in international and domestic events. There are also more than 56 students’ sports clubs.

The Division of Sports Science and Physical Education provides nearly 60 different sports courses for students. In addition, the Ma Yuehan Cup, named after Ma Yuehan - a renowned Tsinghua Professor in Sports Science - is a highlight in the annual Tsinghua sports calendar. It is comprised of more than 40 sports.

At the Tokyo 2020 Olympics (postponed to 2021 due to the COVID-19 pandemic), Tsinghua University student Yang Qian won the first gold medal of the Tokyo Olympics and set a new Olympic record in the women's 10m air rifle final.

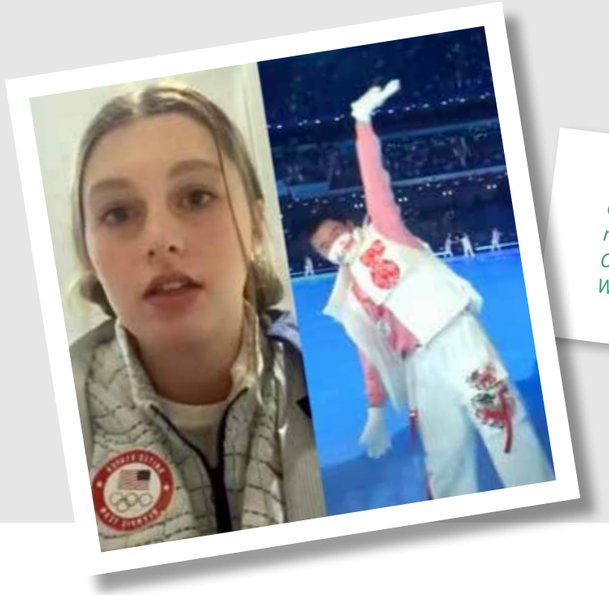
Tsinghua University actively participated in the preparation of the Beijing 2022 Olympic and Paralympic Winter Games, through the organization of more than 1,400 volunteers, offering support for the performances at the opening and closing ceremony, venue services, COVID-19 Liaison officers (CLO) coordination, anti-doping and city voluntary services.

TOKYO 2020

Clubs & Societies

At Tsinghua, students can choose from more than 250 clubs and societies covering main areas including culture, arts, sports, science and innovation, and public welfare.

BEIJING 2022

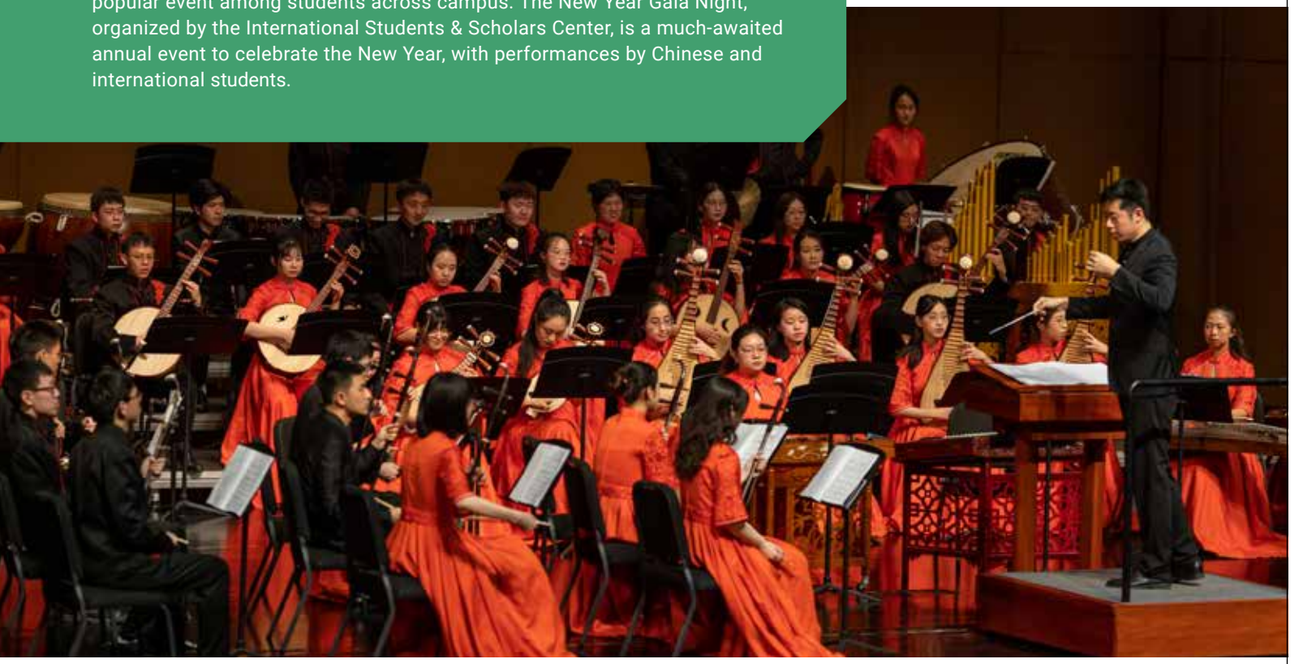


US snowboarder Tessa Maud, a first-time Olympian, shared in her vlog that she was deeply moved by the heartfelt greeting from Tsinghua Olympics volunteer Sun Zeyu at the Beijing 2022 Winter Olympics opening ceremony.

Performing Arts

The performing arts constitute another important aspect of student life at Tsinghua. The Center for Arts Education was established in 1993 and currently offers more than 180 performing arts courses for all students of the University.

The Tsinghua Singing Competition, held annually in December, is a very popular event among students across campus. The New Year Gala Night, organized by the International Students & Scholars Center, is a much-awaited annual event to celebrate the New Year, with performances by Chinese and international students.



Living on Campus

Life is very convenient and enjoyable on the Tsinghua campus. The campus' dozens of large canteens provide the Tsinghua community with an array of different cuisines. The dormitory area is well equipped with facilities, including sports fields, supermarkets and coffee shops. Across the campus you can find all services for your daily needs, including banks and the hospital. Tsinghua has many sporting facilities, among which there is an Olympic standard swimming pool.

International Students & Scholars Center

The International Students & Scholars Center (ISSC) supports and serves international students and scholars throughout their Tsinghua experience. The center is a hub of information and resources for the international community, including for immigration and visas, residency, university services, campus life and cultural activities. ISSC aims to foster an inspired and dynamic international community to help every international student and scholar thrive at Tsinghua. The ISSC staff are dedicated to ensuring that the international community is supported, nurtured and represented at Tsinghua.

Center for Faculty Development

Established in 2017, the Center for Faculty Development (CFD) is operated by the Human Resources Office and serves as a comprehensive hub for training, consulting and research aimed at promoting the professional development of Tsinghua faculty.

With the mission of leading, accompanying and supporting Tsinghua faculty, the CFD conducts various kinds of activities, such as training courses, workshops, seminars, and salons, surrounding the themes of "ethics, education, academic research and leadership." By offering a platform for Tsinghua faculty to interact and exchange ideas with their counterparts, the CFD is dedicated to strengthening teaching capabilities and promoting the organic alliance of faculty growth and Tsinghua's development.

Tsinghua Alumni

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 a more important role in global development.

Outstanding alumni include the Nobel Prize winners Yang Chen-Ning and Tsung-Dao Lee; statesmen such as President Xi Jinping, former President Hu Jintao, former Premier Zhu Rongji, and former Chairman of the Standing Committee of the National People's Congress Wu Bangguo, as well as many well-renowned scientists and entrepreneurs.

Tsinghua Alumni Association

The Tsinghua Alumni Association was founded in June 1913. Currently, it has 87 regional associations in China and 56 branch associations in different countries, including the United States, Canada, the United Kingdom, France, Germany, Australia, New Zealand, Japan, Singapore, Thailand, Malaysia, Cambodia, South Korea, Switzerland, the Netherlands, Spain, Italy, and Austria.

I entered Tsinghua University, as I wanted to take advantage of the intellectually challenging academic environment of the top university in China, to advance my Chinese language and to learn more about the people, history and culture of China. When I was leaving Tsinghua University, not only I have gotten everything I came for, but much more: a better understanding of who I am and what I aspire to be in the future.

Enoch Wong

Graduate from Class of 2019
Schwarzman College

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.

Tsinghua University Admissions Office
Tel: +86-10-62783100
Email: admissions@tsinghua.edu.cn
Website: http://www.join-tsinghua.edu.cn

Tsinghua University Graduate Admissions Office
Tel: +86-10-62781380
Email: grad@tsinghua.edu.cn
Website: https://yz.tsinghua.edu.cn/

Non-Degree Programs, Academic Affairs Office
Exchange/Visiting Program
Tel: +86-10-62773508
Email: exchange@tsinghua.edu.cn / visiting@tsinghua.edu.cn
Chinese Language Program
Tel: +86-10-62771368
Email: chinese@tsinghua.edu.cn

Graduate Scholarship and Grants Management Office
Tel: +86-10-62789660
Email: finaid@tsinghua.edu.cn

Shuimu Tsinghua Scholar

To attract excellent scholars, Tsinghua has launched the Shuimu Tsinghua Scholar Program, a postdoctoral program that aims to support young scholars in their academic career and educate leading researchers across 50 fields. In 2022, 200 outstanding scholars are expected to join the program.

To learn more of the program, please visit:
https://postdoctor.tsinghua.edu.cn/info/zxtz/1777

清華大學
Tsinghua University

Global Communication Office
Phone: +86-10-62783289
E-mail: overseas@tsinghua.edu.cn
Website: www.tsinghua.edu.cn