清華大學药学院
School of Pharmaceutical Sciences, Tsinghua University

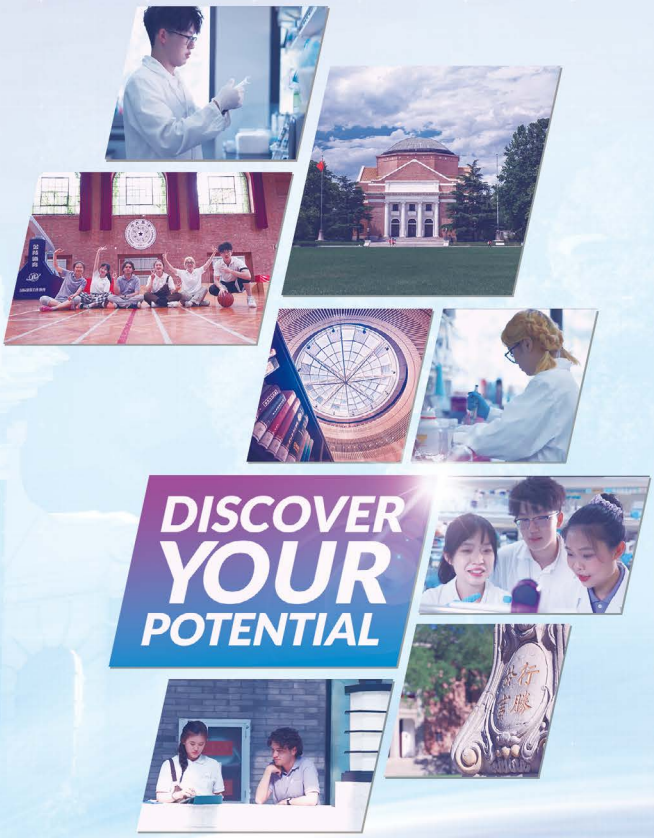
AMGEN® Foundation
Inspiring the Scientists of Tomorrow

TSINGHUA UNIVERSITY AMGEN SCHOLARS PROGRAM

2022 PROGRAM BROCHURE

June 27th - August 22nd, 2022
Tsinghua University, Beijing, China

Organizer:
School of Pharmaceutical Sciences,
Tsinghua University



AN UNDERGRADUATE SUMMER RESEARCH
PROGRAM IN SCIENCE AND BIOTECHNOLOGY

TSINGHUA UNIVERSITY
AMGEN SCHOLARS PROGRAM

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An Undergraduate Summer Research Program in Science and Biotechnology.

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1. Tsinghua University

1.1 Overview

Established in 1911, Tsinghua University is one of China's most renowned academic and research institutions and consistently ranked as a top university globally. Its profound academic legacy and outstanding research capability have made Tsinghua one of China's major powerhouses for talent development and cutting-edge work in science and technology. At present, Tsinghua has 20 schools and 58 departments with 3,485 faculties in science, engineering, law, medicine, management, education and art etc. as well as over 48,739 registered students studying on campus. Among Tsinghua's numerous outstanding alumni are renowned scholars, eminent entrepreneurs, industry pioneers and state leaders including China's current President, XI Jinping and former President, HU Jintao.

Tsinghua also aspires to create global impact by actively developing strategic partnerships and collaborations with the world's prestigious universities, organizations and business enterprises. Some recent high-profile programs include the Schwarzman College by Stephen A. Schwarzman (Blackstone), Global Innovation eXchange Institute (GIX) in Seattle US sponsored by Microsoft, the Lab for Lifelong Learning at Tsinghua University (TULLL) sponsored by the LEGO Foundation, the Tsinghua-BP Clean Energy Research and Education Center, the Global Health Drug Discovery Institute (GHDDI) co-founded by the Gates Foundation, and the IDG/McGovern Institute for Brain Research.

Trough more than one hundred years of development, as well as with its new emphasis on reform and innovation, Tsinghua University bestowed upon itself a unique confidence and strength. With a broader global vision, higher standpoint, and more effective actions, Tsinghua will advance its development as a world-class university with Chinese characters.

1.2 History

Tsinghua University was established in 1911 under the name "Tsing Hua Imperial College". The university section was founded in 1925 and undergraduates were then enrolled.

During the War of Resistance against Japanese Aggression, Tsinghua University moved to Changsha in 1937, then to Kunming in 1938, and was renamed the National Southwest Associated University. When the war ended, Tsinghua returned to its original site at Tsinghua Garden in Beijing in 1946.

Since 1978, Tsinghua has gradually expanded and established more departments in the sciences, economics, management, and the humanities. In 1985, the School of Continuing Education was established. 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 covering disciplines in science, engineering, literature, art, history, philosophy, economics, management, law, education, and medicine.

1.3 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 **Worldwide**
- 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

1.4 Research innovation

With the goal of leading global fundamental research, serving core national development needs, and connecting academic research with talent cultivation, Tsinghua University is dedicated to promoting scientific innovation and addressing global challenges.

◆ Recognition

In 2018, the faculty of Tsinghua University won 24 national awards, including one first prize of the State Natural Science Awards and three first prizes of the State Scientific and Technological Progress Awards. In addition, Tsinghua faculty won 38 prestigious international awards. Twelve Major Tsinghua Projects were approved by the National Social Science Fund of China, while a total of 142 individuals from the University were selected for prestigious programs.

◆ Innovation

Tsinghua is dedicated to comprehensively integrating innovation and entrepreneurship education into its talent training system. Tsinghua provides its students with an integrated education platform for creativity, innovation and entrepreneurship.

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

◆ Research Education

At Tsinghua, all students, including undergraduates, have rich resources and opportunities to transform their research ideas into reality. The Tsinghua "TOP OPEN" undergraduate overseas academic research program enables students to contact overseas institutes independently, based on their own academic interests, to refine their research projects and to have the university fund their research. In 2018, 420 students visited 104 overseas research universities and institutes through this program. Up to today, the university has signed university cooperation agreements with 285 universities and research institutes in 50 countries. Last year, more than 16,000 faculty and students went abroad for visits and exchanges.

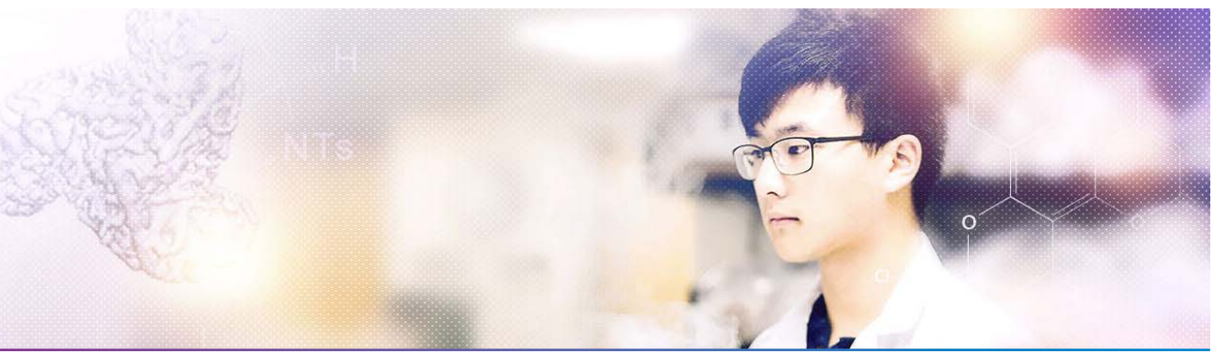
1.5 International study and program

Every summer, Tsinghua offers more than 10 international summer programs for students from across the world. Summer program courses range from subjects such as computer science, engineering, physics, green energy, law and economics. International students taking part in the summer programs can broaden their global perspective and come into direct contact with Chinese culture, society and technology.

2. School of Pharmaceutical Sciences at Tsinghua University

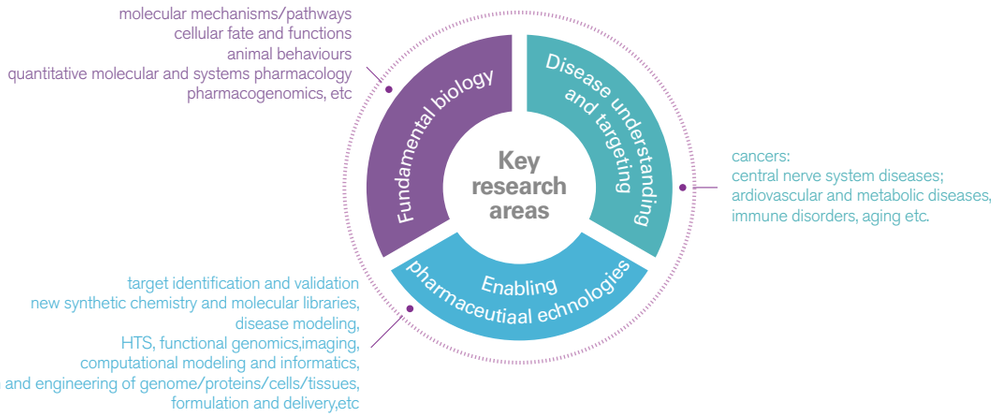
2.1 Overview

Established in 2015, Tsinghua University School of Pharmaceutical Sciences (SPS) is dedicated to educate new generations of pharmaceutical researchers and professionals, and to conduct innovative research to address the world's significant health issues. Leveraging Tsinghua's strengths in related disciplines such as chemistry, chemical engineering, material science, medical engineering and information technology, SPS is committed to advancing understanding of unsolved diseases and translating research discoveries and technological developments into novel medicines and therapeutic approaches. At SPS, we endeavor to lead innovations for China's nascent biomedical industry and make important contributions to human health on the global level.



2.2 A focus on cutting-edge biomedical research

SPS is at the forefront of pharmaceutical sciences, investigating various therapeutic approaches, including small molecules, biologics, gene therapy, cell therapy and medical devices. It seeks to drive drug discovery through major advances in emerging fundamental biology with translational potential, enabling pharmaceutical technologies, and disease understanding and targeting, all highly interdisciplinary areas.



SPS has world-class faculty engaging in innovative pharmaceutical research. 33 faculty members all possess a strong educational background and track record of innovative research in leading universities and institutes around the world. Many are recognized by the national science community with high honors. Several faculty members also bring significant industry R&D experience from previous careers at major multinational pharmaceutical companies. Moving forward, it plans to significantly expand its faculty team in the coming years in order to broaden key research areas and enhance overall research capabilities. Together, we will create vital knowledge and enabling technologies, pushing translational science into new medicine and treatments.

2.3 An endeavor to build advanced translational platforms

Translational medicine is at the core of SPS' development plans. Supported by our University and in partnership with notable organizations and corporations, we have established several key platforms to expedite the process from bench to bedside, including Pharmaceutical Technology Center and early-stage incubator and seed fund. SPS seeks to cooperate with partners to create an integrated ecosystem for global pharmaceutical innovation and, ultimately, impact human health.

A recent influential example is the Global Health Drug Discovery Institute (GHDDI), jointly founded by Tsinghua University, the Bill & Melinda Gates Foundation, and the Beijing Municipal Government. GHDDI aims to develop a transformative platform with exceptional biomedical R&D capabilities to address some of the most pressing disease challenges faced by developing countries.

2.4 A place to cultivate future pharmaceutical scientists

At SPS, we aim to prepares students to become future leaders in biomedical research and pharmaceutical R&D through excellent education. To help students build a comprehensive knowledge foundation, we focus the teaching of pharmacology, biology, chemistry, fundamental medical science, engineering, and information technology. We offer a broad-spectrum curriculum that aligns with global top universities. Our students experience a traditional classroom environment supplemented with cross-disciplinary projects, internships, study abroad, and laboratory research, to better prepare them to carry out innovative research and solve unmet biomedical challenges in the future.

In addition to providing practical coursework that requires students to conduct research in the lab starting their sophomore year, we encourage students to visit and learn from world-renowned pharmaceutical enterprises and academic institutes during the summer term, at home and abroad.

3. Amgen Foundation

The Amgen Foundation seeks to advance excellence in science education to inspire the next generation of innovators, and invest in strengthening communities where Amgen staff members live and work.

The Foundation, established in 1991, is an integral component of Amgen's commitment to dramatically improve people's lives. The Foundation is the principal channel for Amgen's corporate philanthropy. To date, the Foundation has contributed more than $300 million to local, regional and international nonprofit organizations that reflect Amgen's core values and complement the company's dedication to impacting lives in inspiring and innovative ways.

The Foundation places a strong emphasis on strengthening science education and is committed to investing in meaningful, evidence-based initiatives that make a difference at the local, national, and international levels. To that end, the Amgen Foundation has contributed nearly $150 million to advancing science education programming globally.

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4. Tsinghua Amgen Scholars Program

4.1 Amgen Scholars Program

The Amgen Scholars Program aims to open the door to research opportunities at 24 host institutions for undergraduates from any four-year college or university in a given region.

Made possible through a 16-year, $74 million commitment from the Amgen Foundation, Amgen Scholars allows undergraduates from across the globe to participate in cutting-edge research opportunities at world-class institutions. 24 premier educational and research institutions across the U.S., Europe, Asia, Australia and Canada currently host the summer program.

Undergraduate participants benefit from undertaking a research project under top faculty, being part of a cohort-based experience of seminars and networking events, and taking part in a symposium in their respective region where they meet their peers, learn about biotechnology, and hear from leading scientists.

Australia: Open to students in Australia, New Zealand, and Oceania
Europe: Open to students in Europe
United States: Open to U.S. students
Asia: Open to students worldwide
Canada: Open to Canadian students

AMGEN® Scholars Program

Host Institutions

Caltech · Columbia University Barnard · Duke University · ETH zürich · Harvard University · Institut Pasteur · Johns Hopkins University · Karolinska Institutet · 京都大学 Kyoto University · LMU · NIH National Institutes of Health · NUS National University of Singapore · Stanford University · 東京大学 The University of Tokyo · 清華大學 Tsinghua University · Berkeley · UCLA · UCSF · University of Cambridge · The University of Melbourne · University of Toronto · UT Southwestern Medical Center · Washington University in St. Louis · Yale

4.2 2022 Tsinghua Amgen Scholars Program

The Amgen Scholars Program at Tsinghua is an 8-week faculty-mentored residential summer research program to provide undergraduate students the opportunity to conduct research in a lab environment, engage in cutting-edge research experience, and learn more about biotechnology and drug discovery.

Tsinghua Amgen Scholars will join a faculty's laboratory and involve in one or more specific research projects. Each Scholar will be paired with a faculty member as his/her mentor. All faculty mentors will be selected from the School of Pharmaceutical Sciences, the School of Life Sciences and the School of Medicine at Tsinghua University. As a member of the lab, the Scholar will have the opportunity to participate in a series of academic activities, such as weekly lab meetings, group discussions, presentation training, and campus-wide seminars of interests. In addition, other non-academic gathering will be organized, such as networking events, Chinese and Beijing culture exploration, etc.

4.3 Symposium

A significant component of the summer program is a symposium hosted by the National University of Singapore where students hear firsthand from leading scientists working in industry and academia. The symposium provides students with a valuable opportunity to discuss their research, learn about drug discovery and development, and network with other Amgen Scholars from all over Asia and the world.

5. Faculty Mentors

Sheng DING, Ph.D
Stem Cell Biology and Regenerative Medicine

Yingqing LI, Ph.D
Genome Medical Technology

Haidong TANG, Ph.D
Tumor Microenvironment, Immunotherapy, Costimulatory Molecules, Antibody Engineering

Yue YANG, Ph.D
Drug Regulatory Science

Shuyi ZHANG, Ph.D
Synthetic Biology, Protein Design, Directed Evolution

Yonghui ZHANG, Ph.D
Immunotherapy, Oncology, Drug Design, Chemicobiology

6. Scholars Introduction

▪ Martin Echavarria Galindo

My name is Martin Echavarria Galindo (but feel free to call me Martin or 马迪恩 if that's more your thing). I'm originally from Colombia, although I've been living in China for quite some time. I'm currently a junior student majoring in Biology at Tsinghua University.

One of my main passions is engaging in scientific research, with some of my research interests including structural biology and rational protein design. I'm also interested in learning new languages and getting to know new cultures to effectively bridge between people from different backgrounds.

▪ Jane Gao (高云)

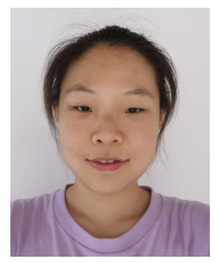
Hey! It's Jane Gao (高云) from the University of Tsinghua School of Life Sciences.

I am originally from the United States in a state called Illinois. FUN FACT: Aside from being known for Chicago City, Illinois is also known for its vast and endless corn fields! Sounds fun, right?

I try to keep active by enjoying outdoor activities such as running, tennis, and volleyball. I also enjoy reading novels and watercolor painting, which I find healing as an individual pass-time.

In this AMGEN scholars research program, my primary focus is to gain more research experience in hopes that I will have a clearer outlook on future career options. Looking forward to spending time with the other AMGEN scholar participants and teachers this year!

▪ Zefan Li (李泽凡)



Hello, everyone! I'm Zefan Li, a junior student at School of Life Sciences, Peking University. I've been doing research work in a lab at our university in the field of plant biology for a whole year. And I applied for Amgen Scholars so as to further explore my interest in life sciences as well as enrich my research experience. I look forward to opening up my eyes during this summer vacation and making friends at the same time. For my hobbies, I have a great passion for fine food, and I like baking very much. Plus, I'm fond of traveling to enjoy the beautiful scenery in different places. Hopefully, I can become friends with every one of you and have a good time together this summer!

▪ Ruijie Tan (谭睿洁)

My name is Tan Ruijie, from the School of Pharmacy, Fudan University. In daily life, my biggest hobby is playing badminton, and I also like to do volunteer activities. Due to my love for pharmacy and my interest in regulatory science, I applied for the Amgen Scholars Program. It's a great honor and delight to be selected, and I look forward to gaining more knowledge and friendship here.

▪ Shaofeng Xu (徐邵峰)

I am Shaofeng Xu (Travis). It is my great pleasure to attend this Amgen scholarship and many thanks for offering a place for me. I am currently doing biochemical engineering undergraduate degree in University College London. During my course in campus, I am highly interested in the application of stem cells to regenerative medicine. Thus, in this summer, I hope I could develop a stronger understanding about this area by doing some lab research to improve practical skills as well. Meanwhile, I also like doing sports like basketball, watching various TV shows and playing guitar in my spare time, very looking forwards to make friends to everyone.

▪ Qing Zhang (张晴)

I'm Qing Zhang from Pharmaceutical Science, Zhejiang University. Entering in lab when I was a sophomore and finished my SRTP program focusing on the the Resistance Mechanism of the third generation of EGFR-TKI Osimertinib in pro Zhu'lab which is subordinated to the Institute of Pharmacology and Toxicology. During the process in the search for the potential mechanisms of our findings about drug A coeffective with Osimertinib, I found great link between immunology and tumor pharmacology, thus I turned to this specific field after knotting my SRTP program. Studying in one of the labs in institute of Pharmaceutics to have an edge knowledge of advanced drug delivery system targeting DCs in tumor immunology and conducted literature review in support of pro You. Based on my previous research experience and the popularity of tumor immunotherapy, I hope to go further in this field, but Our college of pharmaceutical sciences have done less work specializing in tumor immunotherapy and we don't have a professional lab working on thus specific field until recently. That's why I came here and honorably have pro Tang haidong as my instructor. Also it's an incredible opportunity to work in Tsinghua, top university in my dream, to experience different academical and cultural atmosphere between my undergraduate university and Tsinghua university.

7. Life on Campus

7.1 Library

The Tsinghua University Library was established in 1912, and is now composed of the Main Library (also called Old Library) and six branch libraries including the Humanities and Social Sciences Library, the Art Library, the Finance Library, the Law Library, the Economics & Management Library and the Architecture Library. The Library system owns more than five million books and other printed material and has a comprehensive digital system to ensure convenient access to resources anytime, anywhere.

Opening Hours in Summer Vacations:

For Main Library (Old Library) : **7:30-22:30** From Monday to Sunday

For Yifu Library (New Library) : **9:00-17:00** From Monday to Sunday

For Mochtar Riady Library (North Library): **9:00-17:00** From Monday to Sunday

Website: http://eng.lib.tsinghua.edu.cn/default.html

** For holidays and vacations, please refer to the special notice.*

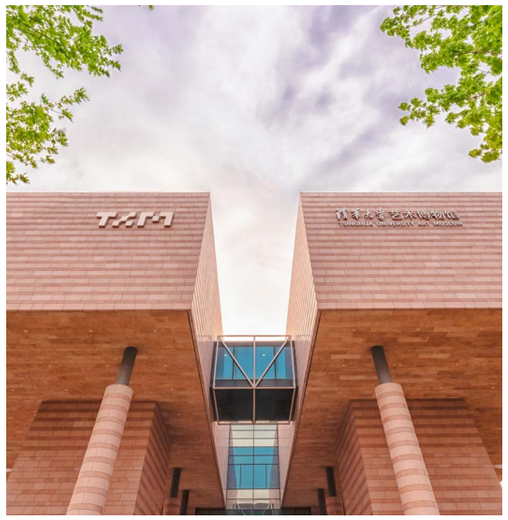
7.2 Art Museum

Officially opened in 2016, the Tsinghua Art Museum is the largest university museum in China and has attracted more than one 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 13,000 art objects, including six major categories: painting and calligraphy, embroidery, porcelain, furniture, bronzeware and diverse artwork.

Opening Hours: **9:00-17:00** (No entry after 16:30)

Tuesday to Sunday; closed Mondays
(Except for statutory holidays)

Website: http://www.artmuseum.tsinghua.edu.cn/en/



7.3 Gymnasium

The Tsinghua physical education base on the principle of Education as priority, access to all, pursue of Excellence. Tsinghua has not only inherited from the achievements of last decades but also integrated with emerging viewpoints and methods resulting form changes of mentality and values. Sport is nowadays an essential component of Tsinghua education as well as one element of national strength.

Stadium and Playground
East Athletic Field, West Stadium, Zijing Athletic Field
Open Hours: Access all day

Gymnasium
Open Hours: 06:30-22:00

Outdoor Swimming Pool
Open Hours: 06:30-22:00

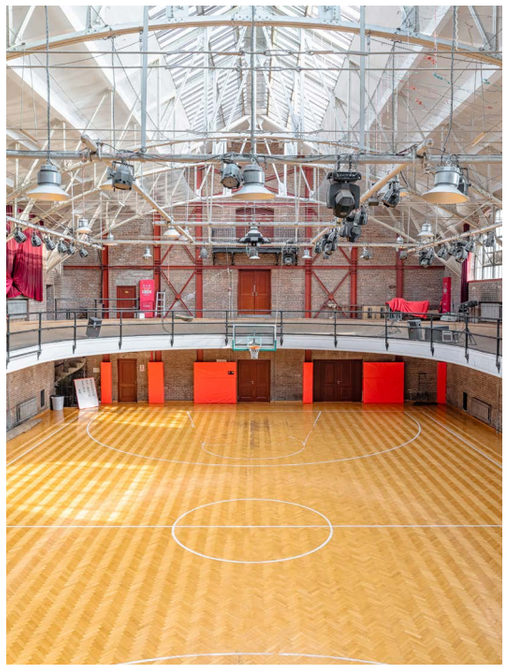
Natatorium
Open Hours: 06:30-22:00

Badminton Hall
Open Hours: 06:30-22:00

Table Tennis Gym
Open Hours: 06:30-22:00

Tennis Court
Open Hours: 08:00-22:00

Website: http://www.thsports.tsinghua.edu.cn/publish/sportsen/index.html



7.4 Transport

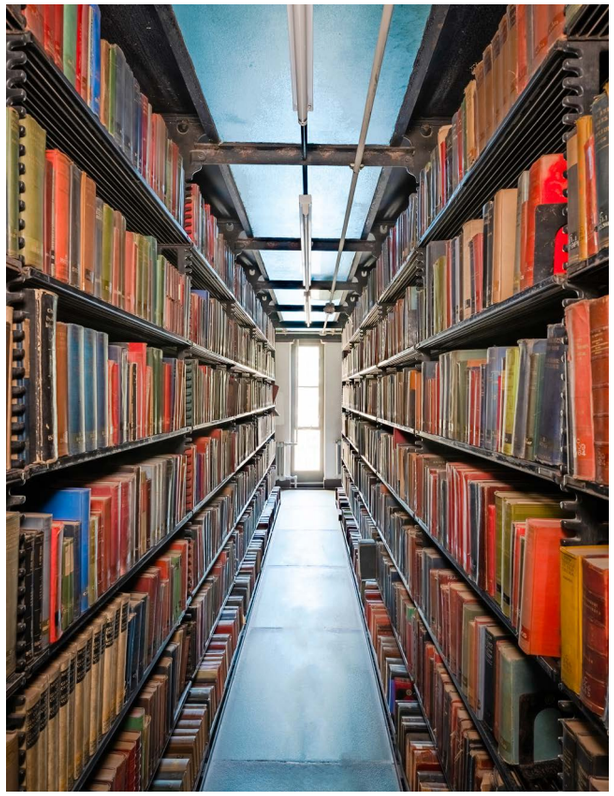
◆ *Campus shuttle bus*

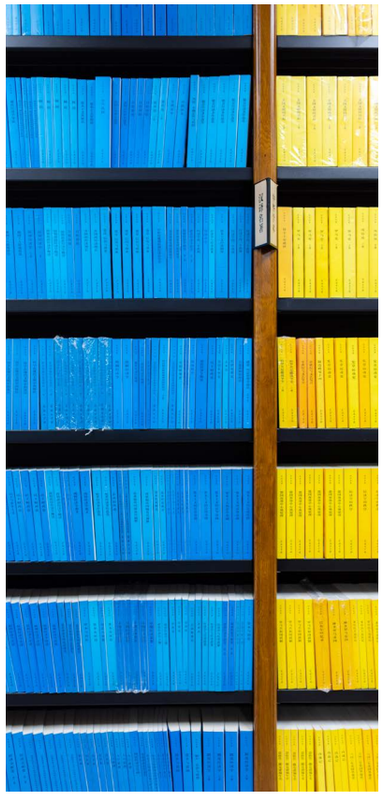
Timetable: **7:40, 9:20, 13:00, 14:50** (Only on workdays)

You can check "清华校园巴士" applet on Wechat to see the timetable.

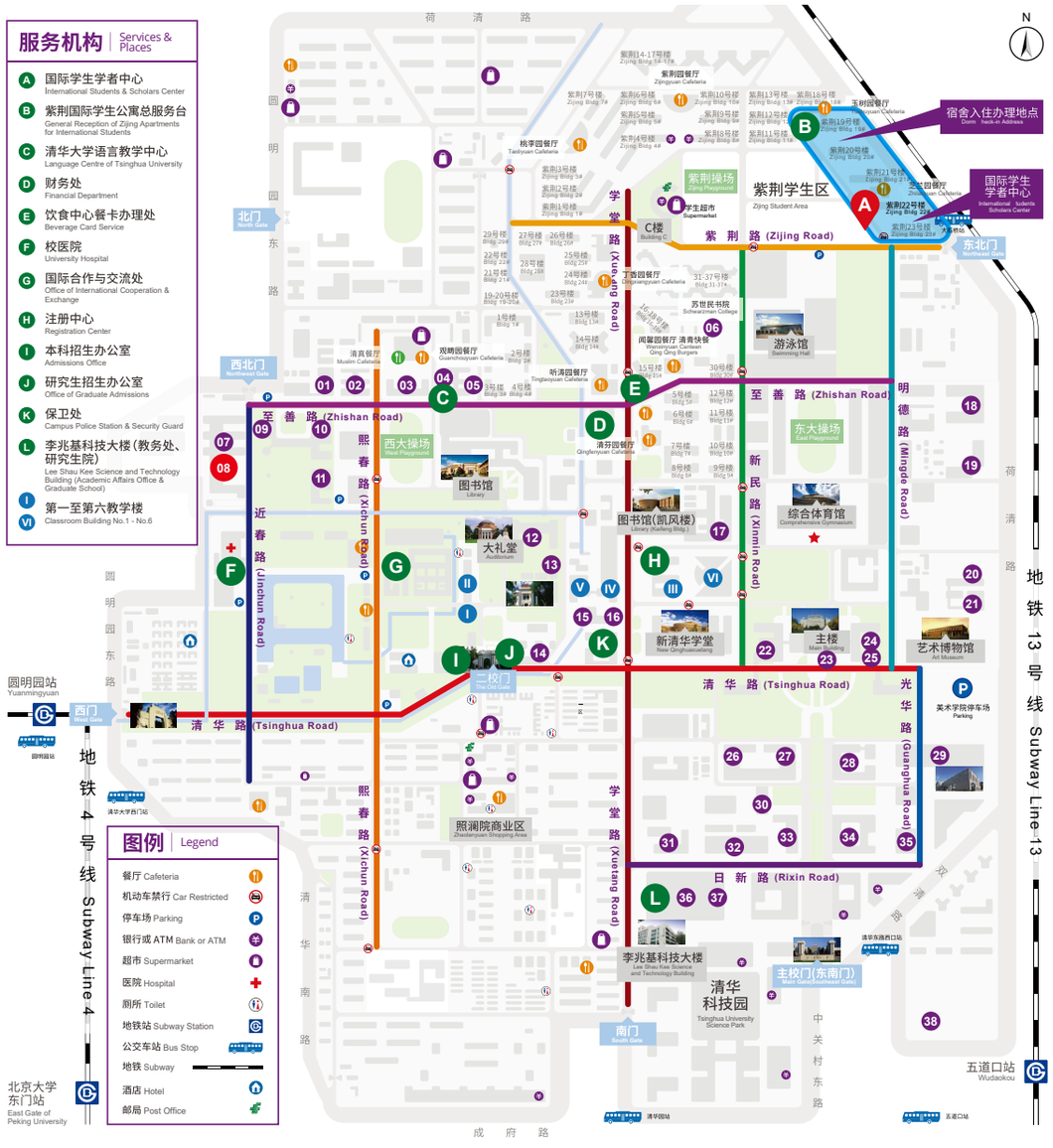
◆ *Subway Stations nearby*

- **Yuanmingyuan Park Station:** *Line 4, near the West Gate, 15-20 mins to walk to the School of Pharmaceutical Sciences (Medical Science Building)*
- **Tsinghua East Road Xikou Station:** *Line 15, near the East Gate, 15-20 mins to walk to the Tsinghua Zijing International Students Apartment*
- **Wudaokou Station:** *Line 13, near the Main Entrance, 15-20 mins to walk*

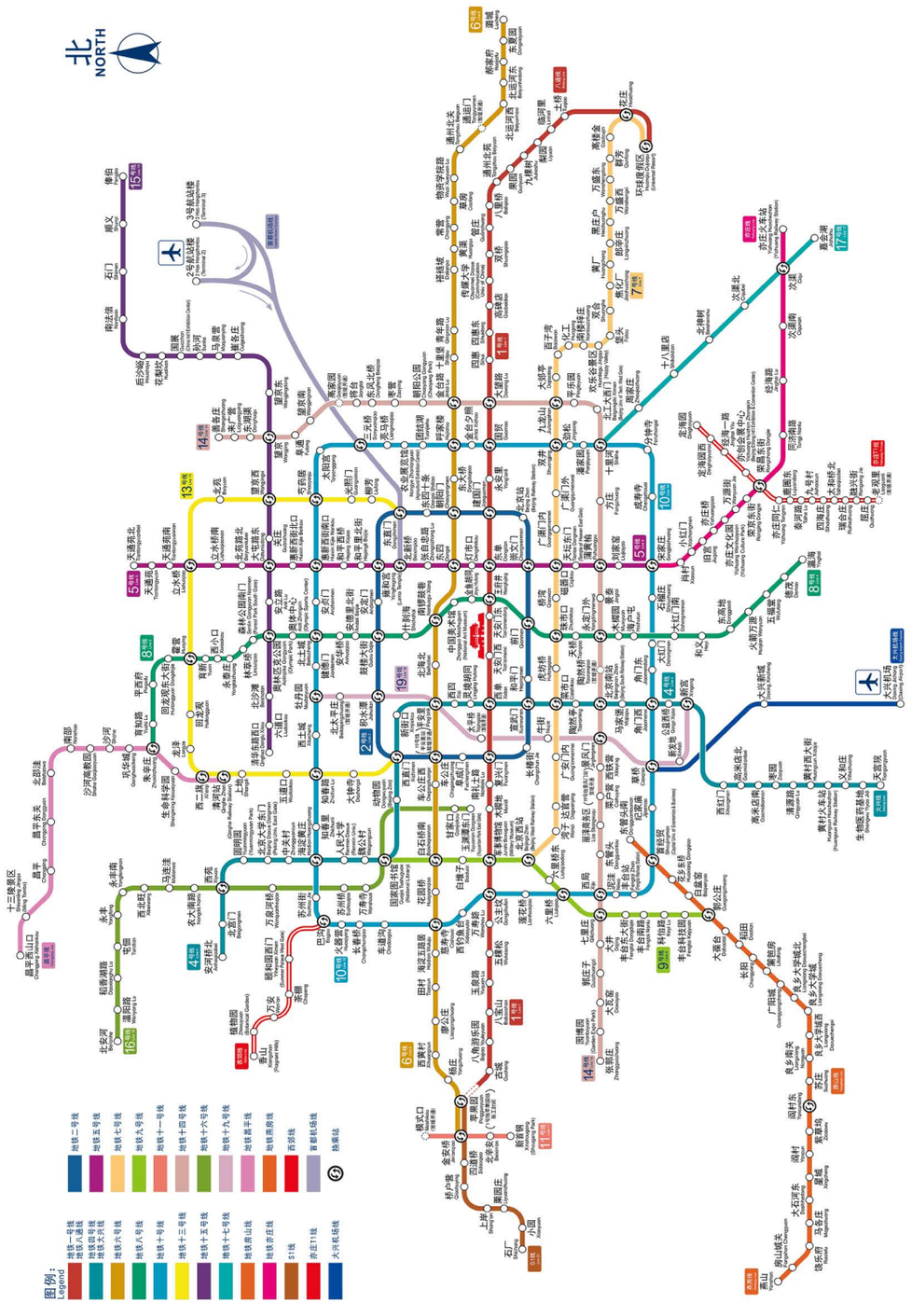




7.5 Map of Tsinghua University



7.6 Beijing Rail Transit Lines



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