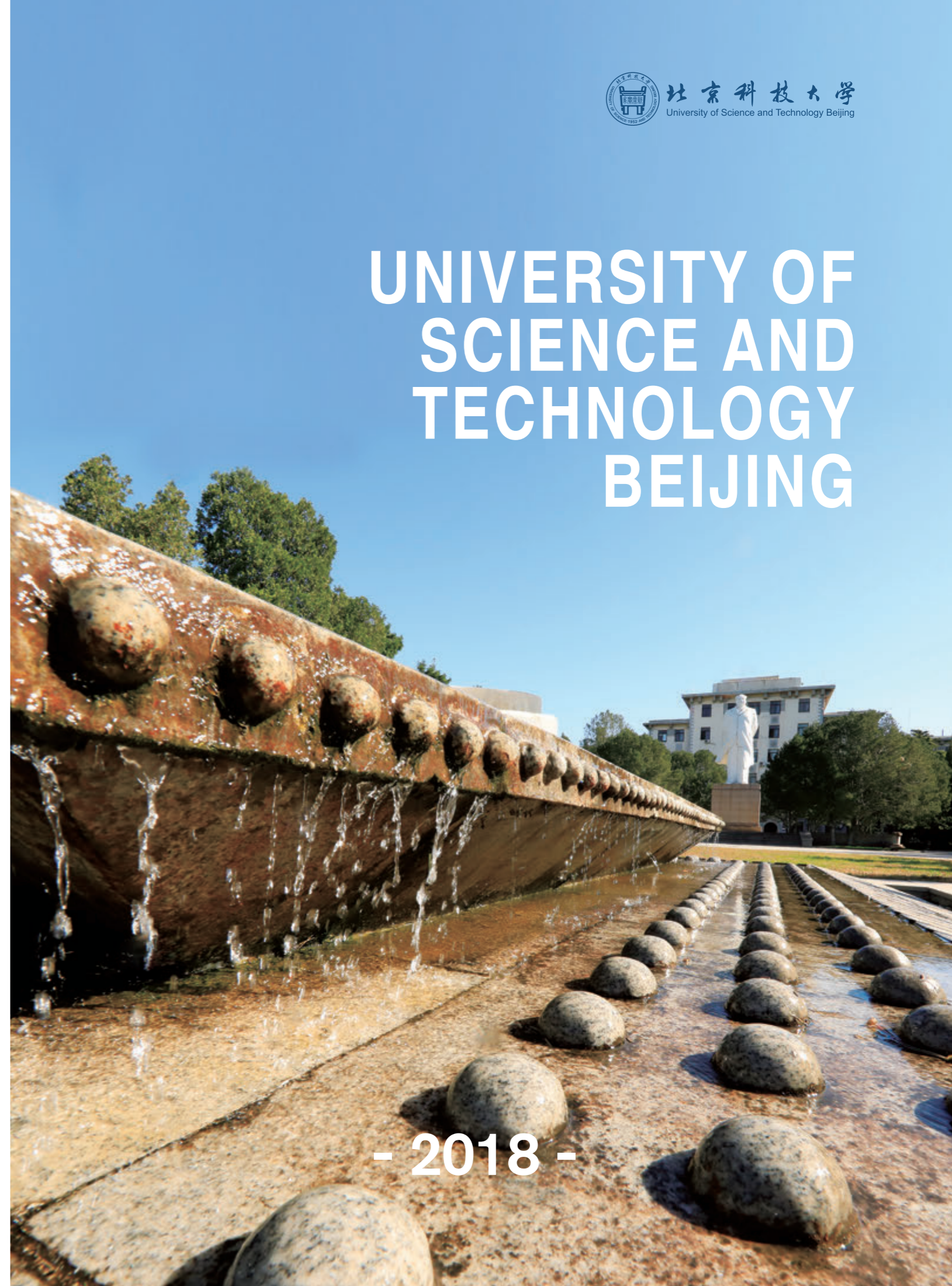


UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING



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- 2018 -

禾實鼎新



CONTENTS

01
About USTB
P 01

02
Colleges & Departments
P 05

03
**Discipline
Development**
P 07

04
Faculty
P 09

05
Talent Cultivation
P 11

07
**International & Hong Kong,
Macao and Taiwan Exchanges**
P 27

06
Research
P 21

08
Alumni Community
P 29

ABOUT USTB



Chancellor: Wu Guilong



President: Yang Renshu

The origins of the University of Science and Technology Beijing can be traced back to the first mining and metallurgy disciplines in the modern history of China founded by the Beiyang Western Academy in 1895. In 1952, the university was formed by bringing together the departments of six famous universities, including Tsinghua University and Tianjin University. It has now developed into a key university under the Ministry of Education, with the coordinated development of engineering, science, management, humanities, economics, law and other disciplines. USTB is one of the first institutions of higher education in the country to formally establish a graduate school. In May 1997, USTB joined the national "211 Project". In 2006, USTB was selected to be part of the "Platform for National Advanced Disciplines Innovation". In 2014, the "Collaborative Innovation Center of Steel Technology" led by USTB was successfully selected to be part of the national "2011 Plan". In 2017, we were selected as a "Double First-Class" university. In 2018, the State Administration of Science, Technology and Industry for National Defense joined with the Ministry of Education to supervise and assist USTB in its further development.

USTB greatly values and will forever cherish its long tradition of being "Rigorous in Learning and Research, and Venerating Practice". Over 200,000 graduates are contributing to society all over the world; most of them have become profes-

sionals and joined our national elites in the fields of politics, economics, science, engineering and education. As metallurgy and materials science are the two disciplines for which it is most renowned, USTB is also known as "the cradle of iron and steel engineers".

USTB has maintained close collaboration with nearly 130 local communities, extending the university's social responsibility and developing further opportunities for worldwide enterprises in research, academic and educational fields. It has so far entered into partnership with over 180 foreign universities and institutes from different countries in Europe, North America, and Asia.

USTB is committed to the motto "Seeking Truth and Endorsing Innovation" and is now working hard towards its goal of becoming one of the top-ranking research universities in China and an internationally renowned higher education institute with its own distinguishing characteristics. While retaining its current leading position in metallurgy and materials sciences, it is also making great efforts to develop other areas and to achieve a balanced disciplinary structure in engineering and technology, science, management, economics, social sciences, humanities and law in the near future.



History of USTB



1952

Departments from Tianjin University, Tsinghua University, Tangshan Railway Institute, Shanxi University, Beijing Institute of Technology, and Northwest Institute of Technology are reorganized to form the Beijing Institute of Iron and Steel Technology



1960

Renamed as "Beijing University of Iron and Steel Technology" and became a key national institution

1984

One of the first 22 colleges and universities in China entitled to establish graduate schools



1988

Renamed as "University of Science and Technology Beijing"

1997

Among the first group of universities chosen to be part of China's "211 Project"

2006

One of the few pilot universities selected for the "Platform for National Advanced Disciplines Innovation"

2014

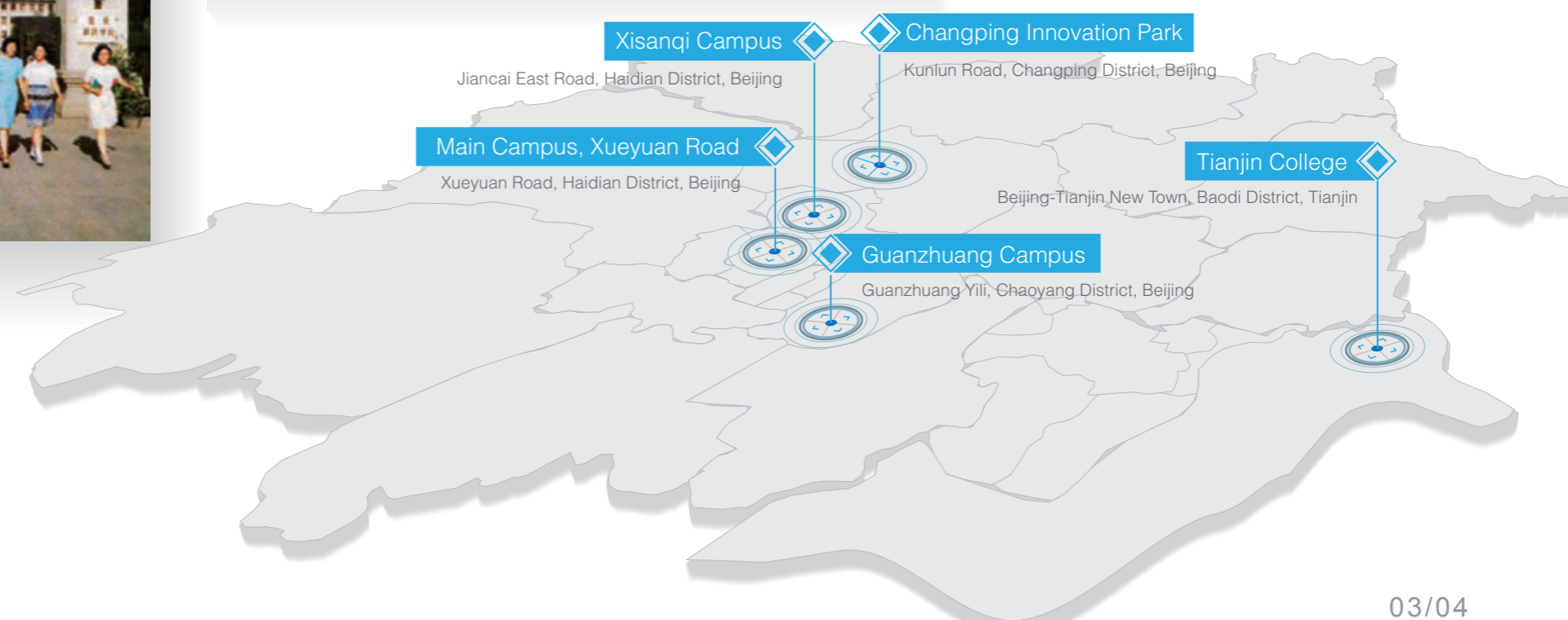
"Collaborative Innovation Center of Steel Technology" led by USTB was selected to be part of the national "2011 Plan"

2017

Selected as a national "double-first class" university to develop the History of Science and Technology, Materials Science and Engineering, Metallurgical Engineering, and Mining Engineering into internationally top ranked disciplines

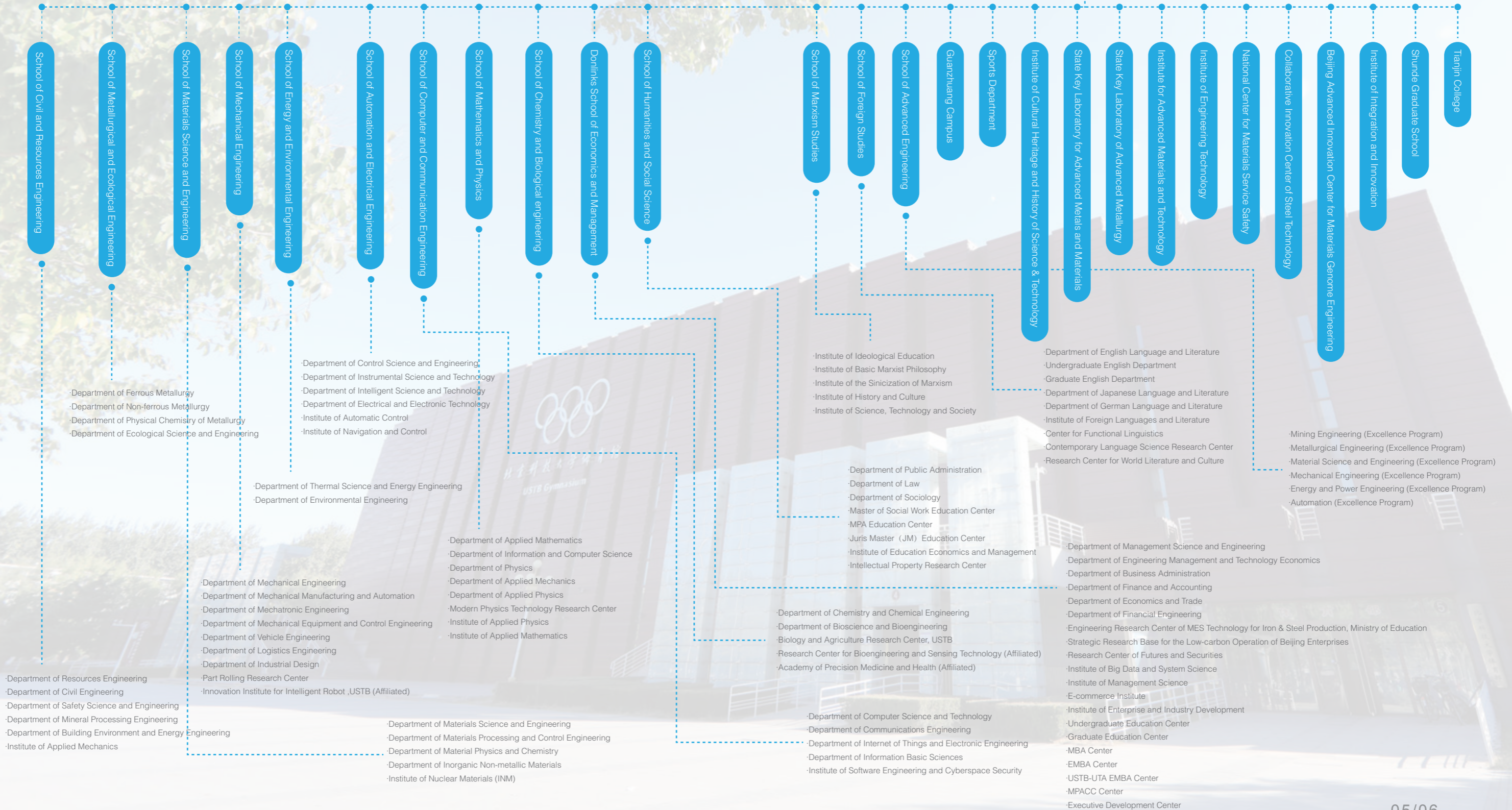
2018

The State Administration of Science, Technology and Industry for National Defense joined with the Ministry of Education to supervise and assist USTB in its further development.



COLLEGES & DEPARTMENTS

University of Science and Technology Beijing



DISCIPLINE DEVELOPMENT

USTB is one of the first batch of national first-class discipline construction universities. While putting major effort on the construction of first-class disciplines, USTB promotes the development of related disciplines and interdisciplinary disciplines, laying out the construction and development of new fields such as artificial intelligence, and promoting the establishment of a complementary faculty system, thus constituting a comprehensive structure featuring "prominent strengths, distinctive features, reasonable structure and a balanced multi-disciplinary development".

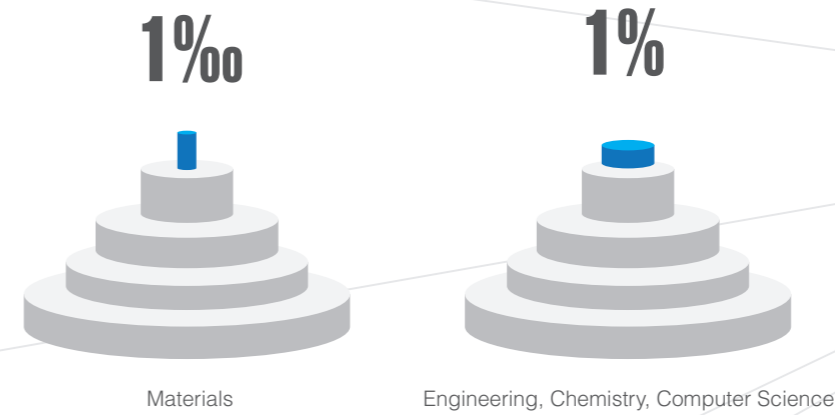


National Fourth-Round Discipline Assessment

Rank	Discipline Name	Rank	Discipline Name	Rank	
1	Metallurgical Engineering	A+	9	Computer Science and Technology	B+
2	History of Science and Technology	A+	10	Power Engineering and Engineering Thermophysics	B
3	Material Science and Engineering	A	11	Civil Engineering	B
4	Mining Engineering	B+	12	Chemistry	B
5	Safety Science and Engineering	B+	13	Foreign Language and Literature	B
6	Environmental Science and Engineering	B+	14	Management Science and Engineering	B
7	Control Science and Engineering	B+	15	Marxist Theory	B
8	Mechanical Engineering	B+	16	Business Administration	B

Top Disciplines

According to the ESI data, USTB's materials discipline has entered the world's top 1‰, while the engineering, chemistry and computer fields have steadily occupied the top 1%



National Key Disciplines

Four First-Class Disciplines

Material Science and Engineering
Metallurgical Engineering
Mining Engineering
History of Science and Technology

Two Second-Class Disciplines

Mechanical Design and Theory
Thermal Power Engineering

One National Key Cultivating Discipline

Control Theory and Control Engineering

Key Disciplines of Beijing Municipality

Three First-Class Disciplines

Mechanical Engineering
Management Science and Engineering
Power Engineering and Engineering Thermophysics

Seven Second-Class Disciplines

Education in Ideology and Politics
Engineering Mechanics
Control Theory and Control Engineering and Computer System Architecture
Geotechnical Engineering
Communication and Information Systems
Environmental Engineering

Two Cross-Disciplines

Physics of Nanomaterials and Device,
Optoelectronic Information
Materials and Devices

Undergraduate Programs

50

Accreditation of Engineering Education Programs

12

Master's Degree Authorized First-Class Disciplines/ Master's Degrees/Professional Master's Degrees

30 / 138 / 8

Doctoral Degree Authorization First-Tier Disciplines/Doctoral Degree Programs

20 / 80

Post-Doctoral Research Programs

16



FACULTY

USTB boasts a faculty that adheres to a strict code of academic conduct and ethics, insists on educating students with high ideals, good morality, and acting as a role model for students to inspire innovation, develop good character, dedicate themselves to knowledge, and support the nation. In recent years, USTB has vigorously implemented the strategy of strengthening its academic competence with talented experts specializing in a variety of fields from both home and abroad. Meantime, it has been constantly strengthening the ideological and political work of the teachers and of their ethics. We strive to build a high-level faculty based upon academic excellence and innovative professional work, with a solid structure and high vitality.

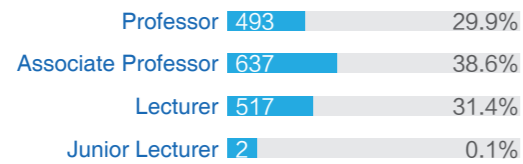
2018 Faculty Data

Number of Teachers in 2018 **1649**

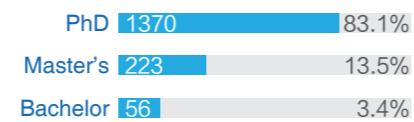


Unit: Person

Titles



Faculty Degree Held



Outstanding Talents

Unit: Person

Academician of the Chinese Academy of Sciences	3	Young Top-notch Talent of the Ten Thousand Talent Program	3
Academician of Chinese Academy of Engineering (including double appointments)	5	Outstanding Youth Science Foundation	15
Member of the State Council Academic Degrees Committee	1	Candidates for China's Ministry of Education's "Training Program for Trans-Century Excellent Talents"	5
Member of the Discipline Review Group of the State Council Academic Degrees Committee	5	Candidates for China's Ministry of Education's "Support Program for New Century Excellent Talents in Universities"	12
Chief Scientist of the National Key Basic Research Program of China (973 Program)	3	Winners in the MOE's Plan for Supporting Personnel in the 21st Century	91
Distinguished Professor of "Chang Jiang Scholars Program"	15	Winners of China Youth Science and Technology Award	5
Guest Professor of "Chang Jiang Scholars Program"	4	Beijing Distinguished Teachers	31
National Science Fund for Distinguished Young Scholar	21	Beijing Distinguished Young Teachers	4
Leading Scholars of the Ten Thousand Talent Program	7	Young Teachers Award of Fok Ying Tung Education Foundation	8
National Distinguished Teachers	2	Special Award Winners of Baosteel Education Foundation for Outstanding Teachers	5
State-level Experts Recognized for Outstanding Contributions	15	Special Award Nomination of Baosteel Education Foundation for Outstanding Teachers	2
Ministry-level Experts Recognized for Outstanding Contributions	10	Baosteel Education Foundation for Outstanding Teachers	43
Millions of Leading Engineering Talents	17		

Distinguished Faculty



Academicians



Zhou Guozhi
Academician of the Chinese Academy of Sciences



Chen Nanxian
Academician of the Chinese Academy of Sciences



Ge Changchun
Academician of the Chinese Academy of Sciences



Hu Zhenghuan
Academician of Chinese Academy of Engineering



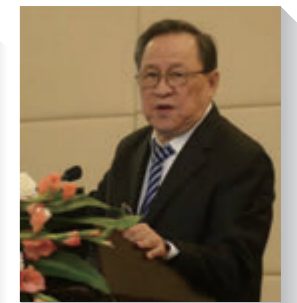
Cai Meifeng
Academician of Chinese Academy of Engineering



Xie Jianxin
Academician of Chinese Academy of Engineering



Wang Yide (Double Appointment)
Academician of Chinese Academy of Engineering



Wang Haizhou (Double Appointment)
Academician of Chinese Academy of Engineering

Famous Scholars

Distinguished Professor of the "Chang Jiang Scholars Program"	Qiao Lijie Zhang Jishan Qu Xuanhui Zhu Hongmin Xie Jianxin Jiang Jianzhuang Xing Xianran Jiang Yong Wu Aixiang Lv Zhaoping Lin Junpin Wang Yandong Long Keping Wang Ge Zhang Lifeng
Guest Professor of the "Chang Jiang Scholars Program"	Chen Longqing Zhang Zhiliang Wang Xunli Mei Jianjun
National Natural Science Fund for Distinguished Young Scholar	Qiao Lijie He Xueqiu Qu Xuanhui Xie Jianxin Zhang Yue Wu Aixiang Jiang Jianzhuang Guo Zhancheng Chen Longqing Li Qingfeng Xing Xianran Qiao Hong Wang Yandong Long Keping Lv Zhaoping Li Zhengping Jiang Yong Wang Shouguo Zhang Lifeng Jiao Shuqiang
Leading Scholars of the Ten Thousand Talent Program	Jiang Jianzhuang Lv Zhaoping Wan Xiangyuan Liu Xuefeng Li Congju Xing Yi
National Award for Distinguished Teachers	Yu Yongning Cai Meifeng

Winner of National Basic Teaching Skills Competition for Young Teachers



Chu Jixun	Fourth National Science Group Finals First Place	2018
Li Na	Third National Science Group Finals First Place	2016
Zhao Lutao	Second National Natural Science Foundation Subject Group Final First Place	2014

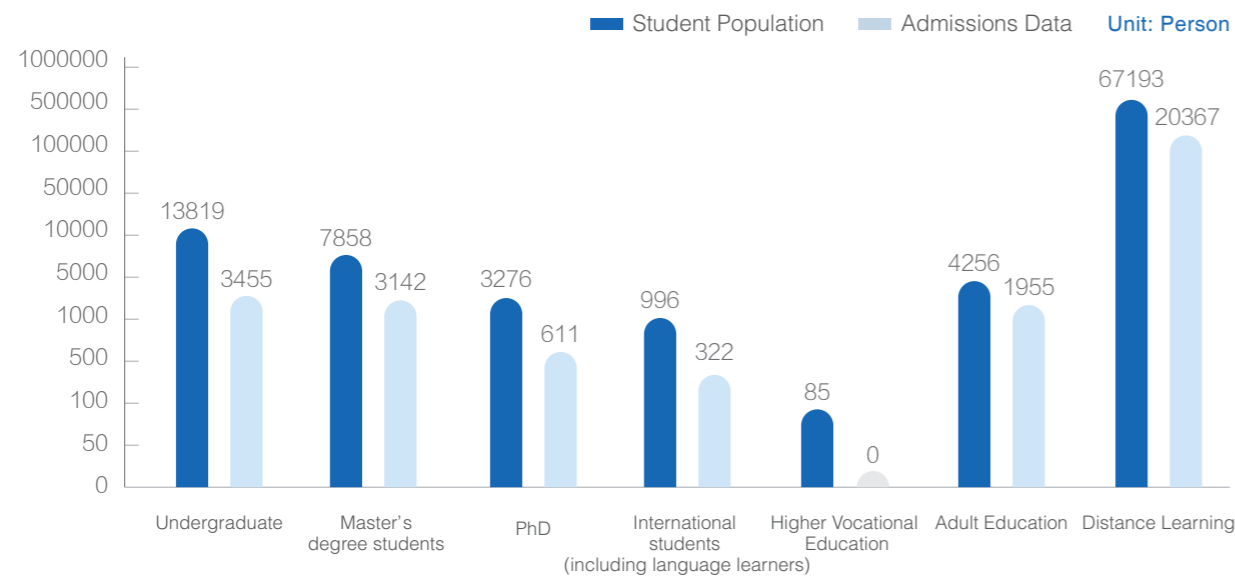
TALENT CULTIVATION

USTB adheres to its core objectives of education and talent cultivation by strengthening undergraduate education and deepening the reform of postgraduate training, and is committed to cultivating students with sound personality, a strong sense of social responsibility and solid academic background as well as strong practical abilities. We strive to imbue our students with an innovative spirit, entrepreneurial awareness and international vision.

Student Profile

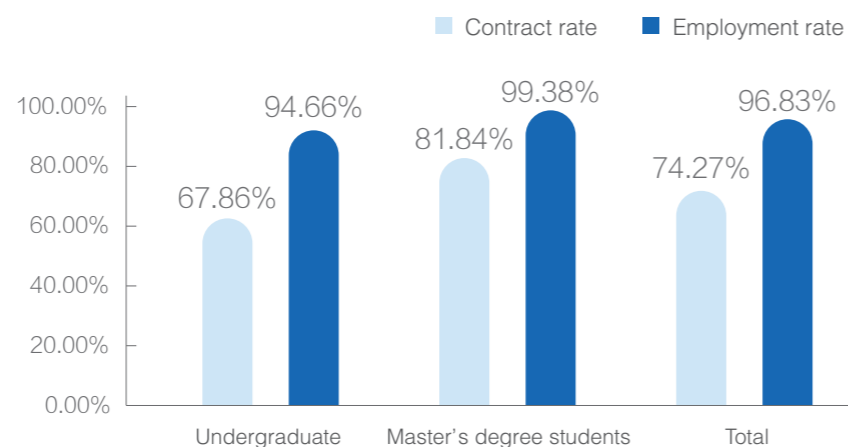
USTB has more than 25,000 full-time students. It has developed a multi-level and integrated system that provides graduate education, full-time undergraduate education, international students education, adult education, continuing education and distance education.

Student and Freshman Data of 2018



2018 Graduate Employment Data

The employment rate of USTB graduates is stable, with the proportion of graduates in key areas and industries being relatively high. USTB graduates are widely praised by their employers.



Percentage of Undergraduates Pursuing Postgraduate Education

The postgraduate study rate of USTB undergraduates is stable, and many students with excellent grades have been recommended for admission to Tsinghua University, Peking University, the Chinese Academy of Sciences and other famous institutions for further education. Students who choose to study abroad mainly go to the United States, Britain, Germany, Australia, Japan and elsewhere, at famous schools including Harvard University, MIT, Stanford University, University of Cambridge, RWTH Aachen University, Tohoku University, etc.



53.86%

2018 Percentage of Undergraduates Pursuing Postgraduate Education

Teaching and Education

Undergraduate Teaching and Education

USTB adheres to the "undergraduate-oriented" principle to be implemented in four ways: deepen the comprehensive reform in undergraduate education, implement reform of the diversified talent training model, the subjective classroom model, and the student-based management system, so as to improve the quality of undergraduate students.

○ Build a Diversified Cultivation of Talents and Professionals

In order to provide the best education to students in different fields, USTB employs a new diversified model of cooperative and collaborative education, so as to meet the needs of all those who attend our university.



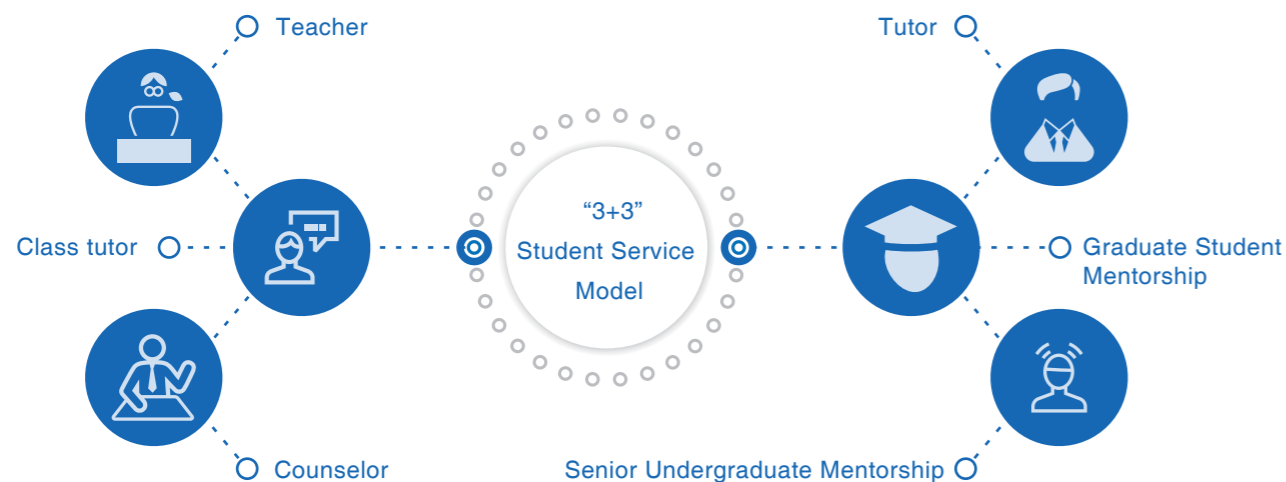
○ Promoting Evolving Methods of Classroom Teaching

In recent years USTB has worked to address curriculum construction as the core, giving full play to the important role of classroom teaching in cultivating students' quality and ability. This has been accomplished by starting research-based teaching model class, all-English teaching model courses, core courses for Competence Education and the construction of MOOC. The utmost goal is to promote the transformation of the classroom teaching model campus-wide.



○ Implementation of Undergraduate mentor System

USTB implements an undergraduate mentor system, having built a "3+3" service model. This system aims to realize the "one drop, two rise, and three fulfillment" goal (that is, reduce the rate of students' failing their exams, raise the rate of graduating students' further study and employment, and improve the satisfaction of students, parents, teachers, USTB and society).



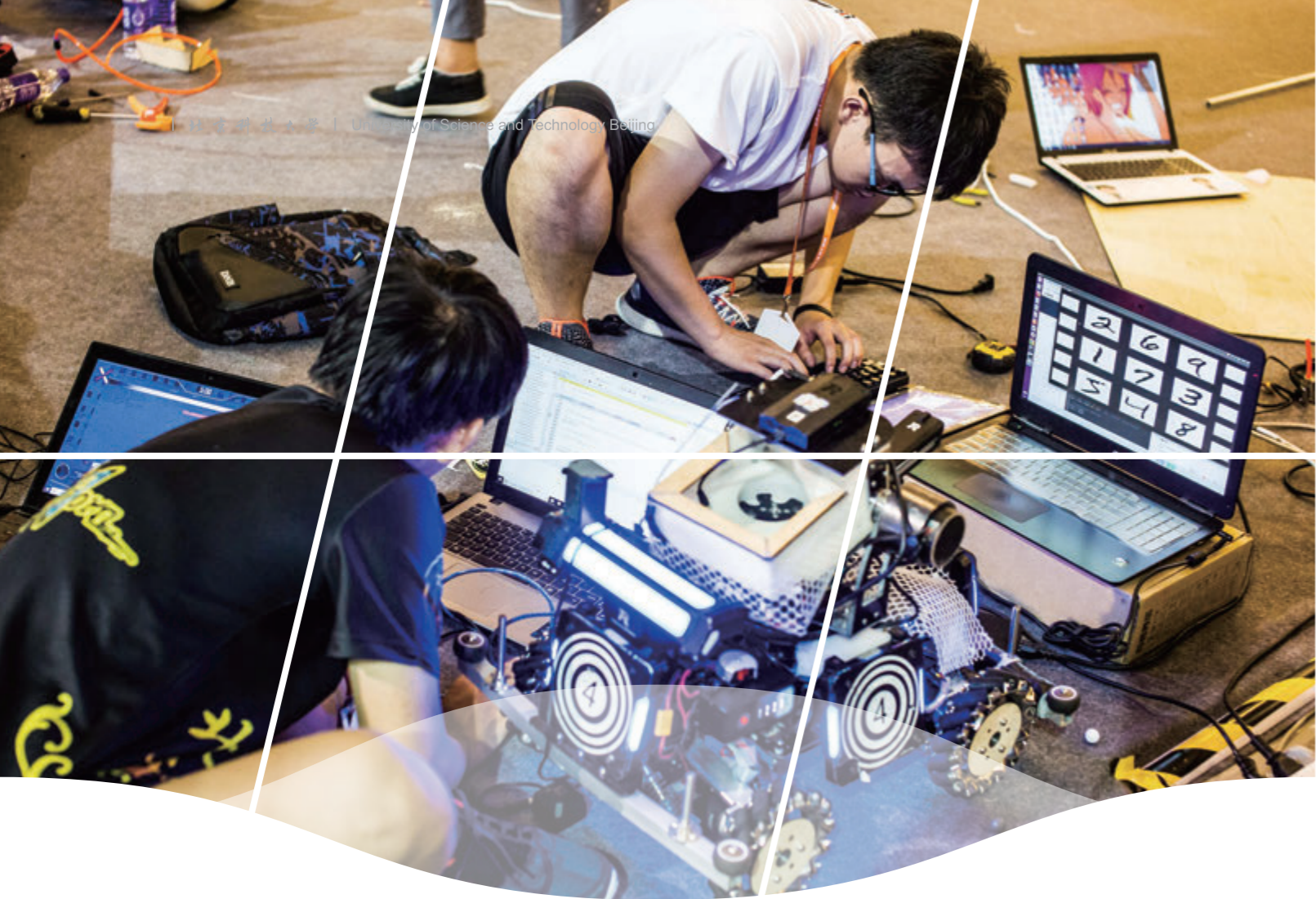
Cultivation of Postgraduate Talents

Following the tradition of being dedicated to practice and promoting the integration of Industry–Academia–Research, USTB has made great efforts to promote postgraduate classification training reform. We have also established a multi-level, multi-form postgraduate recruitment and training system including full-time academic degree, full-time professional degree, part-time professional degree, senior management MBA (EMBA), Hong Kong, Macao and Taiwan graduate students etc. In this way, the quality of cultivated talents has been continuously improved.

PhD Supervisor	Excellent Doctoral Theses	2018 PhD Publications	Award Coverage
495	8 National Excellent Doctoral Dissertations 15 Nominations for 100 Excellent Doctoral Dissertations in China Program 13 Excellent Doctoral Dissertations in Beijing	816 SCI 350 EI 3.65 Average PhD Candidate Publications	100%

Cumulative Teaching and Educational Achievements

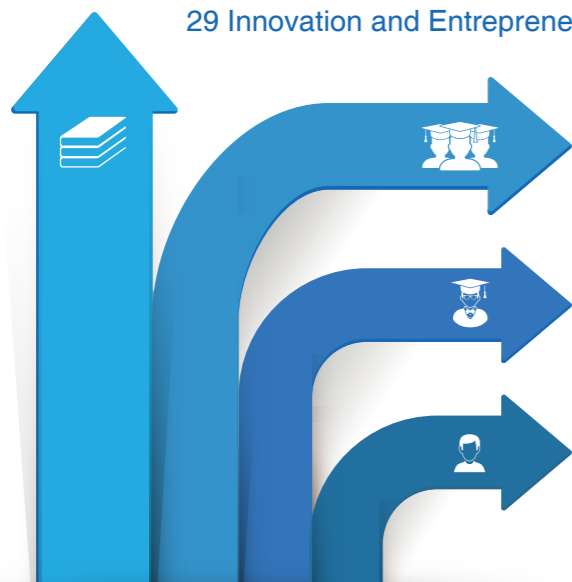
National Characteristic Specialties	10	Beijing Characteristic Specialties	9
National Experimental Teaching Center of Excellence	2	Beijing Experimental Teaching Centers of Excellence	8
National Experimental Zone for Talents Training Model Innovation	1	Beijing Innovative Experimental District for Talent Education	1
National Teaching Achievement Awards	8	Beijing Exemplary Bases for Innovative Practices	3
State-Level Teaching Teams	2	Beijing External Training Bases	5
State-Level Excellent Courses	8	Provincial and Ministerial Teaching Achievements Awards	66
State-Level Excellent Open Courses	5	Beijing Outstanding Teaching Teams	9
State-Level Excellent Online Courses	4	Beijing Excellent Courses	24
National Bilingual Teaching Model Course	6	Beijing Excellent Textbooks	48
National-Level MOOCs (Massive Open Online Courses)	2	Beijing Teaching Awards	33
State-Level Excellent Quality Textbook	1	Beijing Young Teacher Awards	4
State-Level planned Textbooks (including pending project approval)	59	Beijing Education Reform Project	36
National Award for Distinguished Teachers	2	Beijing Higher Education Teaching Demonstration Base	3
State-Level Education Reform Project	10	Beijing Student Quality Education Base	1
State-Level Virtual Experimental Training Center	2		



Innovation and Entrepreneurship Education

With the goal of cultivating students' innovative and entrepreneurial spirit as well as practical ability, USTB strives to make these elements the internal driving forces for students' development. By integrating innovation and entrepreneurship education into the whole process of talent cultivation, USTB has formed an Innovation and Entrepreneurship Education system featured by "comprehensive coverage, sequential progress, special creation and integration, intensive practice training" and is approved as "National Typical Experienced University with In-depth Characteristics of Innovation and Entrepreneurship Education Reform".

29 Innovation and Entrepreneurial Courses



Activities for nearly 10,000 students

Brand Activities: Cradle Cup Competition, Start-up Experience Day, Shell Angel Camp, etc.

Undergraduate Science and Technology Innovation Project

Instructors: 639
Project teams: 597
(national level: 74, municipal level: 88)

Student Entrepreneurship Team

Incubation and entrepreneurship teams: 18
Total Financing: 10+ Million Yuan

2018 Awards in Student Competitions

- 2018 "Creating Youth" National College Students Entrepreneurship Competition (including special competitions)
Gold Award: 2, Silver Award: 2, Bronze Award: 4
- China Aeromodelling Design Challenge in 2018
Gold Award: 1, Silver Award: 3, Bronze Award: 2
- 43rd ACM International Collegiate Programming Contest (Asian Regional)
Third Prize: 1
- 2018 National Higher Education of Mining Engineering Practical Work Contest
First Prize: 1, Second Prize: 3, Third Prize: 5
- 2018 ROBOCON
First Prize: 1
- ROBOMASTER: 2018 Robomasters Contest
Second Prize: 1
- 2018 The 1st National University Robotics Innovation Contest
First Prize: 1
- 9th Chinese Mathematics Competitions
First Prize: 1, Third Prize: 1
- China College Students Computer Design Competition in 2018
First Prize: 8, Second Prize: 10, Third Prize: 2
- 2018 Chinese College Students Computer Game Competition and The 12th China Computer Game Championship
First Prize: 9, Second Prize: 6, Third Prize: 3
- National Undergraduate Mathematical Modeling Contest
First Prize: 1, Second Prize: 7
- 4th National Safety Science and Engineering College Students Practice and Innovation Works Competition
Second Prize: 1, Third Prize: 3

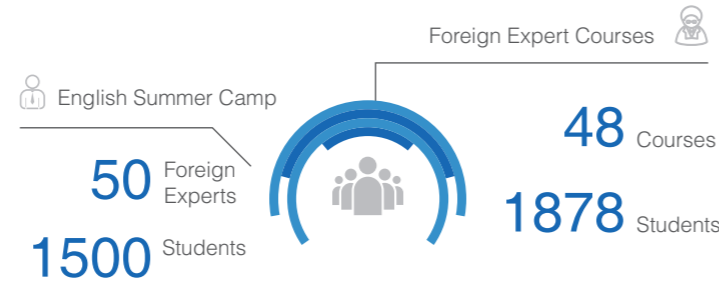
- 2018 5th National College Students Concrete Material Design Competition
Special Prize: 1, First Prize: 1
- 13th National Collegiate Smart Car Race Finals
First Prize: 1
- 2018 "Siemens Cup" China Intelligent Manufacturing Challenge National Finals
Second Prize: 3, Third Prize: 1
- 2018 International Contest of innovAtioN
First Prize: 1, Second Prize: 3, Third Prize: 5
- 2018 11th "Higher Education Cup" National Undergraduate Advanced Mapping Technology and Product Information Modeling Innovation Competition
First Prize: 8, Second Prize: 6, Third Prize: 2
- 2018 National English Competition for College Students
First Prize: 8, Second Prize: 72, Third Prize: 111
- 2018 11th National University Energy Conservation and Emission Reduction Competition
First Prize: 4, Third Prize: 3
- 2018 National Student Computer System Capability Challenge
Third Prize: 1
- 2018 7th National Metallographic Skills Competition for College Students
First Prize: 1, Second Prize: 1, Third Prize: 1
- 2018 National Undergraduate Chemistry Laboratory Tournament
Third Prize: 1
- 2018 11th National College Student Information Security Contest
Third Prize: 1

International Cultivation of Students

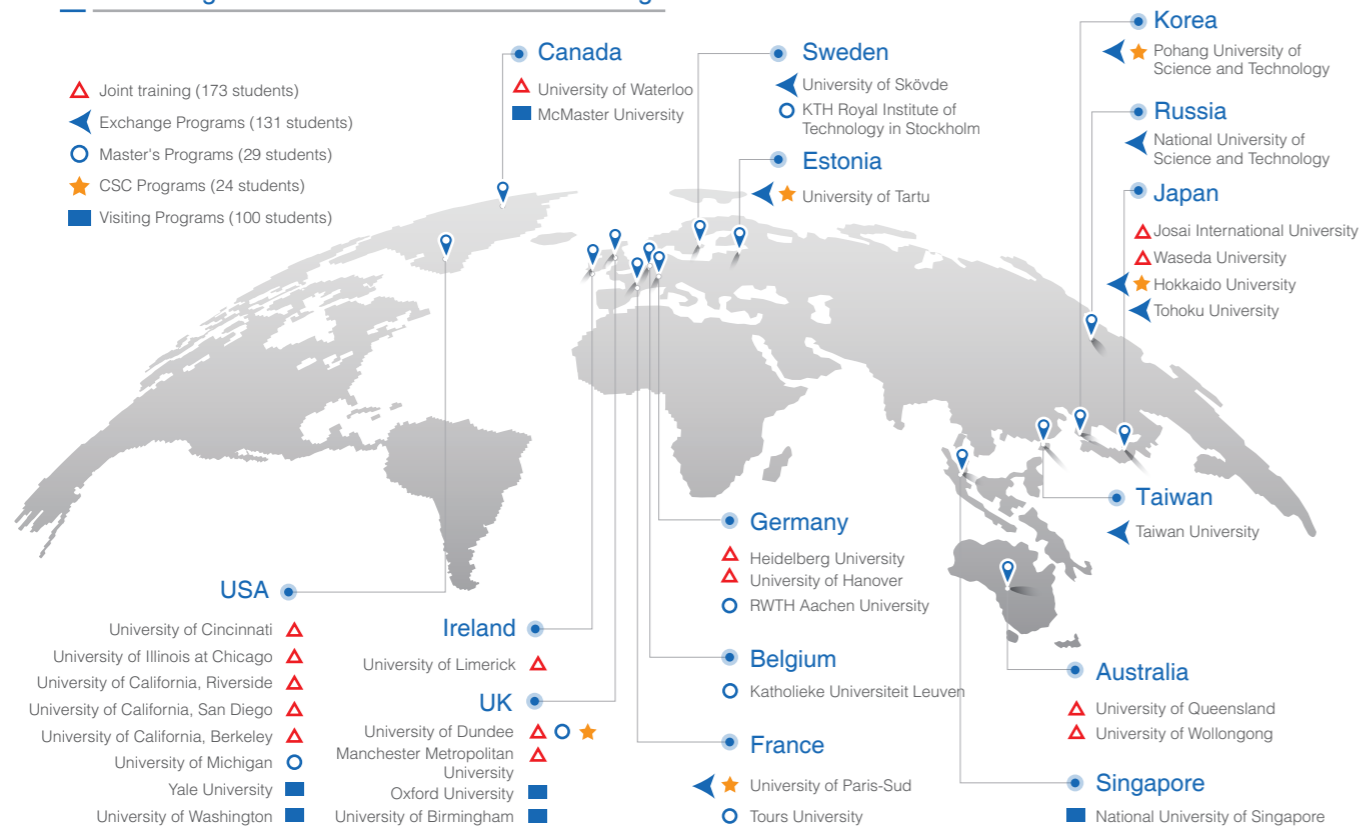
USTB carries out in-depth international exchanges and cooperates closely with high-level overseas universities, making full use of high-quality educational resources to promote the international training of students and delivers practical benefits to students. We have constructed a diversified multi-level "overseas learning and exchange platform" for students, including inter-collegiate exchanges, joint training, degree study and study abroad programs, so as to further the international training of students.

International Teaching System

With the aim of cultivating students' international vision and promoting intercultural communication, USTB has constructed a layered and multi-entrance English curriculum system, organized summer English camps, and invited foreign experts and scholars to our university and set up courses with English as the instructive language.



2018 Undergraduate Students Overseas Exchange



2018 Oversea Programs for Postgraduate Students

Category	Country/Region	Number	Remarks
Joint Training of Doctoral Students	Australia, Austria, Netherlands, Canada, USA, Japan, Singapore, UK	42	CSC (China Scholarship Council) and State-sponsored Projects
PhD Students	Australia, Belgium, Germany, Canada, Japan, Sweden, United Kingdom	19	CSC (China Scholarship Council) and State-sponsored Projects
Doctoral Students Participating in International Conferences	Poland, Germany, Russia, France, Korea, Canada, the United States, Portugal, Japan, Sweden, Spain, Singapore, Italy, Indonesia, Britain, etc.	49	Supported by UTSB Innovative Talents Training Program
Doctoral students' short-term visiting abroad Programs	Ireland, Australia, Germany, Netherlands, Canada, USA, Japan, UK, Chile, Hong Kong, China, etc.	24	Supported by UTSB Innovative Talents Training Program

International Student Education

USTB takes concrete measures to promote the opening up of education, serve the national strategy, and further improve the quality and efficiency of the development of overseas education in China. The overall quality of international student education has been improved through strengthening the construction and quality certification of overseas study programs in China, optimization of the compositional structure of international student courses, and new breakthroughs in the curricular system have been made, as well as improvements in international student affairs management.

2018 International Student Profile

Unit: Person

Category	Undergraduate	Master's Degree Student	PhD	General Advanced Student	Senior Advanced Student	Chinese Language	Short-term	Total
Total Number of Students	336	336	160	9	8	63	84	996
Chinese Government Scholarship	146	230	102	9	8	34	/	529
Dingxin Scholarship	17	65	39	/	/	1	/	122
Foreign Government Scholarships	10	5	4	/	/	/	/	19
"Belt and Road Initiative" Scholarship in Beijing	4	/	/	/	/	/	/	4
Self-funded Student	159	36	15	/	/	/	24	234
Exchange Student	/	/	/	/	/	4	84	88

2018 International Student Freshmen Profile

Unit: Person

Category	Undergraduate	Master's Degree Student	PhD	General Advanced Student	Senior Advanced Student	Chinese Language	Total
Number of New Admissions	85	134	30	9	7	57	322
Chinese Government Scholarship	39	105	19	9	7	34	213
Dingxin Scholarship	11	25	11	/	/	1	48
Foreign Government Scholarships	/	/	/	/	/	/	/
"Belt and Road Initiative" Scholarship in Beijing	4	/	/	/	/	/	4
Self-funded Student	31	4	/	/	/	18	53
Exchange Student	/	/	/	/	/	4	4



Sports

USTB has a fine tradition of advocating athletics. Since its establishment, the vigorous development of nationwide fitness program has led to many accomplishments in athletics sports. USTB has been continuously innovating the contents and methods of PE teaching, offering 52 physical education courses, organizing rich and colorful sports activities for all people, comprehensively advancing the "sunshine sports program". Guided by scientific theory, USTB continues to strengthen the construction of high-level sports teams, and has obtained excellent results in many competitive events in 2018.



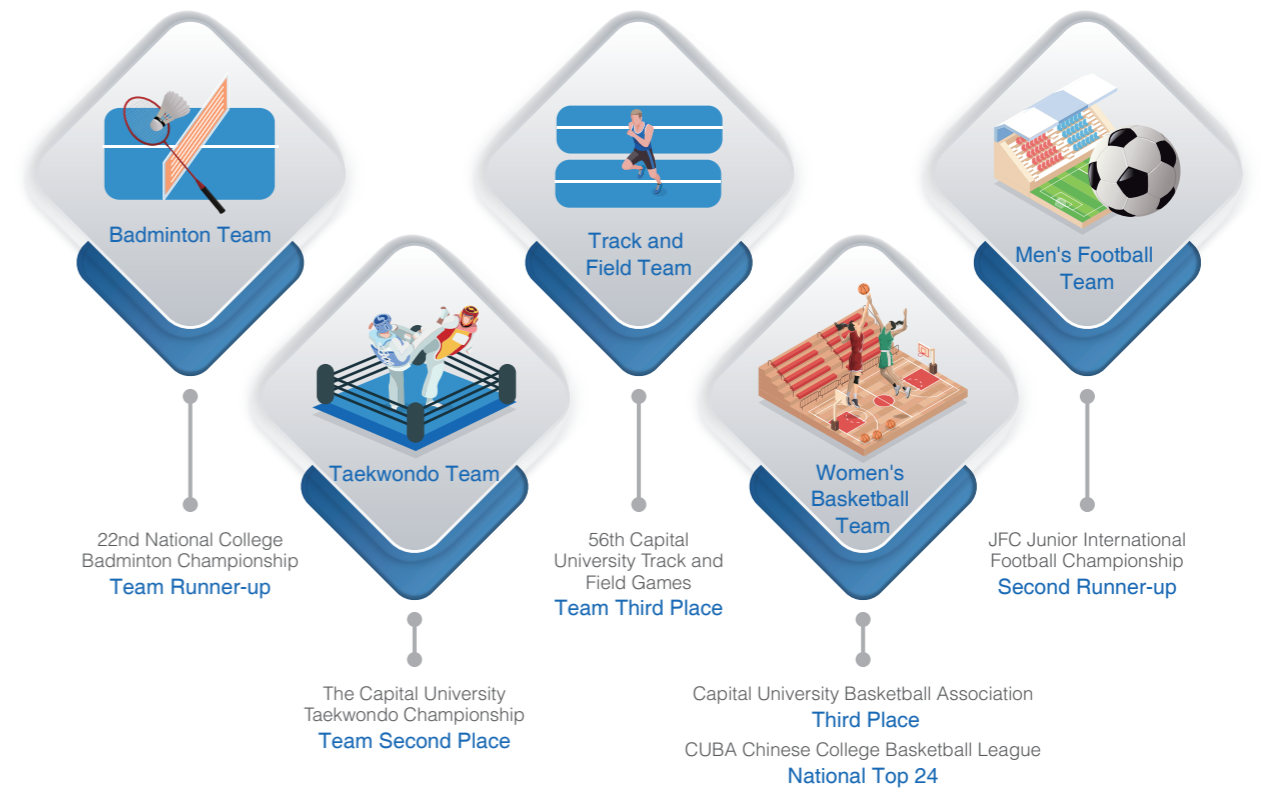
Gong Lijiao

Women's Shot Put Champion in London Track and Field World Championship
Business Administration Undergraduate Alumni 2007

2018 Physical Education Courses



2018 Team Competition Results



2018 Student Competition Results

Track and Field	Tennis	Swimming
<ul style="list-style-type: none"> Capital University Tenth Autumn Student Competition Track Meet Women's Group 6th Place Men & Women's Group 7th Place 	<ul style="list-style-type: none"> 2018 Capital University Tennis League Autumn Single Event Women's Group 5th Place 	<ul style="list-style-type: none"> 2018 Capital University Swimming Championship Group 50m Breaststroke 5th Place Group 100m Breaststroke 5th Place Group 100m Freestyle 2nd Place Group 50m Butterfly 5th Place
Basketball	Badminton	Orienteering
<ul style="list-style-type: none"> 2018 Chinese College Student Three-on-Three Basketball League (Beijing Division) Men's Open Group 6th Place Men's Open Group 7th Place 	<ul style="list-style-type: none"> 2018 Capital University Badminton Championship Group B Female Doubles 1st Place Group B Female Doubles 2nd Place Group A Male Doubles 3rd Place 	<ul style="list-style-type: none"> 2018 Beidou Cup Orienteering Championship Group A Mens Undergraduates 1st Place Group A Undergraduates 3rd Place 2018 Capital College Student Orienteering Championship Group A Undergraduates 1st Place 2018 Capital University Sunshine Campus Orienteering Tour Group A Undergraduates 3rd Place
Target Shooting	Outdoors	
<ul style="list-style-type: none"> 2018 National Spring Target Shooting Championships Group A Runner-up 	<ul style="list-style-type: none"> 2018 Capital University Outdoor Challenge Competition Group 5th Place 	

RESEARCH

USTB has taken the goal of addressing the country's needs and leading industrial development as its responsibility, promoting scientific and technological innovation and the commercialization of research findings. USTB contributed many "firsts" in China's history of science and technology. In recent years, USTB has been holding fast to the strategy of innovation-driven development, promoting the research of technological systems and operational mechanisms in pursuit of significant scientific break-throughs, and moving ahead with cross-synergy and integration, striving to achieve results in key areas, and thus making positive contributions to the building-up of an innovation-oriented country.

Historical "Firsts"

USTB has been created many "firsts" in China. In the first 10 years of the "211 Project", it won 4 first prizes for the State Scientific and Technological Progress Award, and ranked first among universities in China.



World's first arc continuous caster



Developed the housing material for the first satellite, Dong Fang Hong I in China



Produced the first home-made large-sized robot in China

2014-2018 Scientific Research Awards

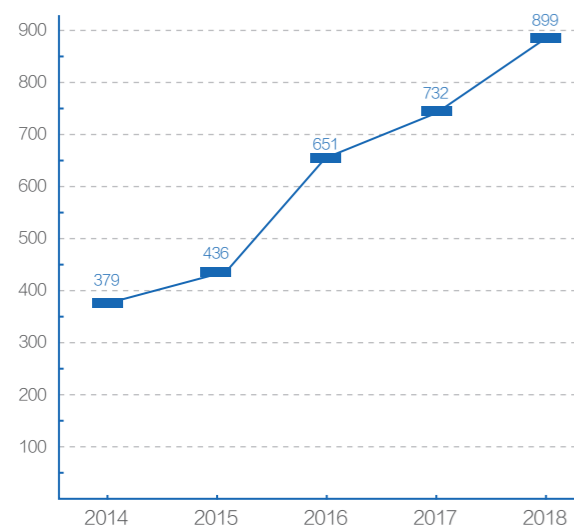
Unit: Item

State Natural Science Award	Second Prize: 2
State Technological Invention Award	Second Prize: 4
State Science and Technology Progress Award	First Prize: 1, Second Prize: 10
Ho Leung Ho Lee Foundation Science and Technology Progress Award	1
Provincial and Ministerial Science and Technology Awards	Grand Prize: 2, First Prize: 76 Second Prize: 105, Third Prize: 87, Contribution Award: 3

2014-2018 Academic Papers and Patents

Academic Papers

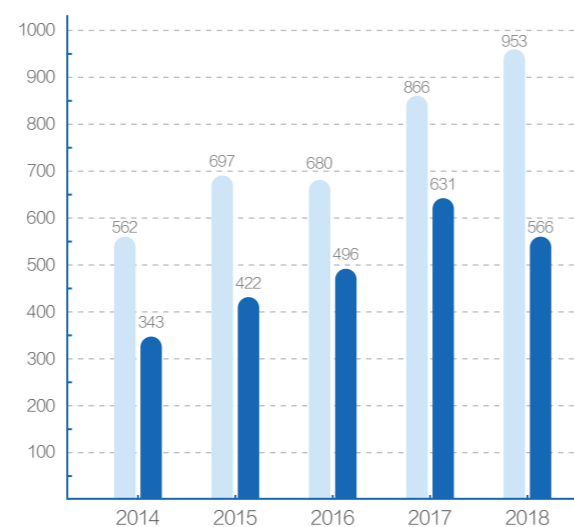
Unit: Article



Number of SCI Periodicals of Chinese Academy of Sciences ranking above JCR Q2 (included)

Patents

Unit: Item



■ Number of Patent Applications ■ Number of Patents Authorized



2018 New Major Research Projects

Unit: Item

Key R&D Program

4 (2 Leaders)

National Natural Science Foundation Key Projects

11

Scientific Research Base

National Science Center

- National Center for Materials Service Safety

"2011 Plan" Collaborative Innovation Center

- Collaborative Innovation Center of Steel Technology

National Science and Technology Platforms

- National Platform of Field Observation & Scientific Research on Material Environmental Corrosion
- Materials Science Data Sharing Network

National Engineering Technology Research Center

- National Engineering and Research Center for Advanced Equipment of Plate and Strip Production

1

2

1

2

1

1

2

National Key Labs

- State Key Lab for Advanced Metals and Materials
- State Key Lab of Advanced Metallurgy

National Engineering Research Center

- State Engineering and Research Center of Efficient Steel Rolling

National Joint International Research Base

- International Joint Research Center for Materials Services Safety
- International Joint Science Base for Environment and Energy

Unit: Item

MOE Science Center 1

Beijing Engineering Research Centers 6

Innovative Talent Introduction Bases 5

MOE Engineering Research Centers 4

Beijing Advanced Innovation Center 1

Humanities and Social Science Education Bases 2

Beijing Laboratory 1

MOE Key Labs 5

Pesticide Residue Testing Unit 1

Beijing Key Labs 15

International Cooperation Bases 8

Beijing Technology Transfer Center 1

USTB Won 7 National Science and Technology Awards In 2018

In 2018, USTB won national science and technology awards for 7 projects. Among them, USTB was solely responsible for 3 projects and collaborated in 4 projects. The total number of awards ranked USTB 8th among Chinese universities.

3 Projects Led by USTB



Atomic Structure and Toughening of Bulk Metallic Glasses

Leader: Lv Zhaoping
Award: State Natural Science Award Second Prize

The project centers on the key scientific issues in the research of a new generation of structural materials -- bulk metallic glasses (BMGs). It revealed the atomic structural characteristics of BMGs and the universal law of atomic stacking, raised new methodologies and mechanisms of structure control for strengthening and toughening BMGs, established new theories of strengthening and toughening BMGs through ordered structure in disordered solids, and realized controllable preparation of structure and properties. Besides, it fostered a new research direction of amorphous structure, strengthening, and toughening for BMGs, which not only made an important contribution to clarifying the stacking structure of amorphous alloys at atomic level, but also provided theoretical basis and new ideas for the development of high performance BMGs.

Fundamental Researches on Interface Modulation and its Applications of One-Dimensional Zinc Oxide

Leader: Zhang Yue
Award: The Second Class of National Natural Science Award

The project develops a series of nanomaterials synthesis technologies, including direct thermal oxidation of metals and laser limited patterning fabrications, proposes interface energy induced growth of one-dimensional zinc oxide structures, establishes a new method of an interface multi-field coupling effect to control the behavior of carriers and excitons, develops a variety of novel field emission cold cathodes and functional micro-nano devices, and applies to advanced national defense equipments.

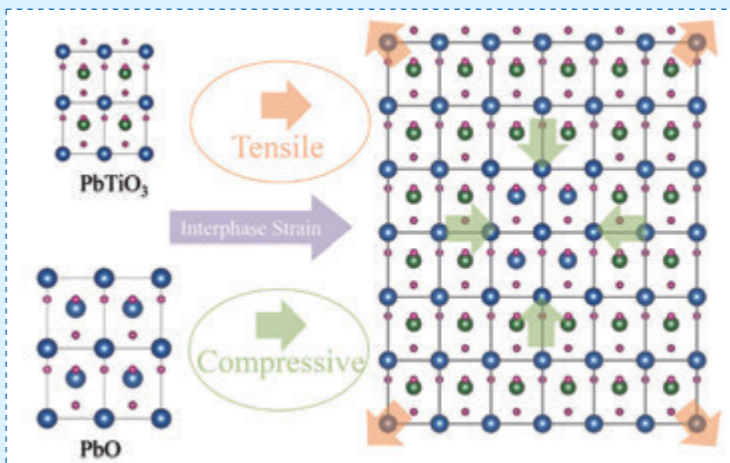
Innovation and Industrialization of Key Technologies for Recycling Strategic Metals from Complex Second Resources

Leader: Zhang Shengen
Award: National Invention Prize (Second Rank)

The project has invented Non-cyanogens Wet Process for Green Recycling precious metals, direct electrolysis of high-value alloys, preventing pollution from heavy metals etc. Strategic metals can be greenly recycled from urban mineral. The project has been granted 2 US patents, 25 China Invention patents and 28 China Utility Model patents. 2 PCT have been applied and 36 papers have been published also. Strategic Metal Recycling Technologies have been promoted to the Leading International Level. The largest recycled precious metal production line in China has been built. In the past three years, the line created 4.278 billion RMB of new sales and 732 million RMB of new profits, reduced mining and carbon by 52.35 million tons and 213.9 million tons separately, saved energy and water by 0.606 million tons and 116 million tons separately.

Professor Xianran Xing and Professor Jun Chen's group published their research results in the top international academic journal *Science*.

Professor Xianran Xing and Professor Jun Chen's group proposed a new concept of "interphase strain" to fabricated thin films with giant ferroelectric polarization, which makes an important progress in the field of ferroelectricity and negative thermal expansion. On August 3, 2018, the results were published in the top international academic journal *Science*. Dr. Linxing Zhang is the first author of this paper. Professor Xianran Xing and Professor Jun Chen are the corresponding authors. This work was a joint study with international cooperation from the University of Texas at Dallas, Tel Aviv University in Israel, St Andrews University in the United Kingdom, Tsinghua University and the Chinese Academy of Sciences.



Research results of professor Lv Zhaoping's group were published in the top international academic journal *Nature*.



Expanding research depth and challenging conventional knowledge, the Professor Lv Zhaoping's group found that the addition of interstitial atoms can not only improve the strength of metallic materials, but also greatly improve their plasticity. They

further proposed a new methodology for design of metals with high strength and high plasticity. On November 14, 2018, the research work was published in *Nature*, a leading international academic journal. This is the second time that Professor Lv Zhaoping's group published their works in this journal since 2017. Professor Lv Zhaoping is the corresponding author of this work. His doctoral students including Mr. Lei Zhifeng, Dr. Liu Xiongjun, and Prof. Wu Yuan also contributed equally to the paper. The research work was conducted jointly with the Max Planck Iron Institute in Germany, the Chinese Academy of Sciences, Chongqing University, Zhejiang University, Oak Ridge National Laboratory and Tennessee University in United States.

Participation in 4 Collaborative Projects

Participants: Zhang Xinxin and Feng Yanhua
Project: Development and Application of Clean and Efficient Coking Technology and Equipment
Award: State Science and Technology Progress First Prize

Participants: Liu Guoquan
Project: Development and Application of Complete Technology for Key Materials of Metal Structures for Super-Large Hydropower Stations
Award: State Science and Technology Progress Award Second Prize

Participants: Xie Zhenjia
Project: Research of Steel Materials and High Performance Steel Technology Based on M3 Organization and Regulation
Award: State Technological Invention Award Second Prize

Participants: Participant: Duan Xiaoli
Project: Exposure Risk Prevention and Control Technology for Regional Environmental Pollution Population and Its Applications
Award: State Science and Technology Progress Award Second Prize



Social Services

USTB actively promotes the close integration of research, development and production speeding up the transformation and industrialization of scientific and technological achievements. The university gives full play to the advantages of science and technology, and actively cooperates with government departments, scientific research institutions, and enterprises and public institutions, continuing to expand social services and tap their potential, promotes industrial upgrading and serve regional economic growth.

Institute of Coastal Collaborative Innovation Research

The Institute actively responds to the national strategy of innovation-driven development, pursuing the goal of promoting the integration of research development and production and accelerating regional collaborative innovation and the transformation of scientific and technological achievements. With institutional mechanism innovation as the core, the Institute actively explores the new pattern of university-institute-enterprise cooperation, so as to build up an innovative new system of talents-research-industry. Meantime, it builds a synergistic innovation zone for the development of coastal regional economy through scientific planning and focused construction of the Institute. The Key research institutes include:

Guangzhou New Materials Research Institute

Focusing mainly on Advanced Material industry, aiming at collaborative production through a system of innovation and entrepreneurship, which constructs "Four in one" -- talents, scientific research, industry and finance, realizing the integration and coordinated development of education, science and technology and industry. Now, five technology innovation centers and one transformation base of scientific and technological achievements have been built, four industrialization projects have been implemented, four joint-stock scientific and technological enterprises have been built up, along with an Advanced Material industry investment company, and an innovation alliance among Guangdong, Hong Kong and Macao Bay Area has been established.

Yantai Industrial Technology Research Institute

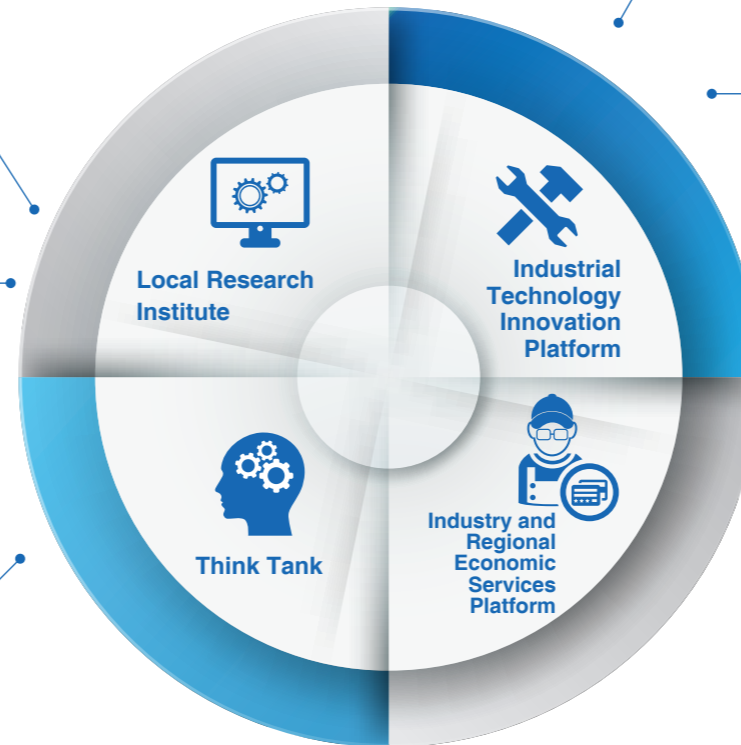
Making full use of USTB's resources of educational, scientific and technological innovation and talents in the fields of equipment manufacturing, new materials, marine engineering and nuclear power. This Institute promotes a new innovation and entrepreneurship system with the quaternary of talent, scientific research, industry and finance in cooperation. USTB has built three technological innovation centers, one transformation base of scientific and technological achievements, implemented two industrialization projects, incubated two high-tech enterprises, and joined the Shandong Nuclear Power Material and Equipment Innovation Center as one of the first batch of manufacturing innovation centers in Shandong Province (Yantai is so far the only one).

Foshan Research Institute

Foshan City mainly focuses on the industrial transformation and training of talents, utilizing industrial-university-research cooperation and multi-level personnel training. Close and extensive cooperation has been established in the fields of high-quality stainless steel, special coatings and coating materials, machinery and equipment, achieving the organic integration of talent training, technology development and industrial development, which provides valuable experience to building up new innovation and entrepreneurship system.

Pinggu Institute of Biological Agriculture

The Pinggu Institute pushes the boundaries of cutting-edge international research in the field of biology and agriculture, and is devoted to crop breeding, crop genetic manipulation, microorganisms, plant biotechnology, biological analysis, and bio-based functional materials and environmental odor analysis as well as the application of every single of them. The Institute strives to develop major scientific and technological innovations and transform them into applications, so as to integrate the central and local governments, to combine theoretical research and technological application and to achieve "Five in one" -- politics, production, education research and application, along with building up a center of scientific and technological innovation concerning "Agriculture+ Massive health" and transforation of achievements.



University of Science and Technology Beijing Technology Industry Group

- National University Science Park
- University of Science and Technology Beijing Emerging Industrial Technology Research Institute
- University of Science and Technology Beijing Analysis Center Co., Ltd.

National University Communist Youth League Research Center

Development Institute of University of Science and Technology Beijing China's "Belt and Road Initiative"

China Steel Industry Innovation and Green Development Think Tank

Beijing-Tianjin-Hebei Iron and Steel Industry Technology Innovation Alliance for Energy Conservation and Emission Reduction

The alliance integrates 107 large-scale iron and steel enterprises, universities, scientific research institutes and financial institutions in Beijing, Tianjin and Hebei. USTB is the first president of the alliance. The alliance strives to promote the Beijing-Tianjin-Hebei Iron and Steel Industry Science and Technology Demonstration Zone for Energy Conservation, Emission Reduction and Transformation and Upgrading, and build a common technology joint innovation platform, to better facilitate the transfer and transformation of scientific and technological achievements, and build a green financial service platform, so as to promote the innovation and coordinated development of Beijing-Tianjin-Hebei.

Steel-bonded structure

USTB takes the lead in establishing a steel cooperation organization with 35 major domestic iron and steel enterprises such as Baowu Iron and Steel Co., Ltd., Anshan Iron and Steel Co., Ltd. and Shougang Co. As the first industry-university-research scientific and technological alliance formed by an industry-characteristic university, the 8th Forum on the Development of New Technologies in Iron and Steel Metallurgy was held, which set up a service platform for the exchange of information on advanced iron and steel metallurgical technology, making USTB a center for future industrial development.

Science and Technology Information Alliance of Capital Colleges and Universities (Network)

The Science and Technology Information Alliance of Capital Colleges and Universities (Network) was established jointly by the science and technology management departments of universities in Beijing. There are 34 member units. Since 2004, USTB has been a permanent director unit of the Alliance. The information network gathers more than 20,000 high-tech projects, more than 8,000 expert information and more than 200 scientific research bases. It covers almost all sectors of the national economy and organizes more than 80 activities each year.

Research and Development Center for Schools and Enterprises

USTB has established 73 R&D centers/platforms with partners including Tata Iron and Steel Company, Hegang Group, Shougang General Company, Angang Group Company, Delong Group, Xinxing International China Group, China Aluminum Industry and other top 500 enterprises around the world, as well as with the governments of Wu'an City, Wuxi City, Foshan City, Wenzhou City, Longyan City and Zhengzhou City.

In 2018, USTB set up a collaborative innovation center for the green manufacturing of iron and steel in association with the Hebei Iron and Steel Group.

500 MPa Steel Plate Applied to Hong Kong-Zhuhai-Macao Bridge

Application of Diamond Heat Expansion Plate in Beidou Satellite Series

Provided key materials of the High-speed Railway Ensures safe operation along 600,000 kilometers on high-speed railway

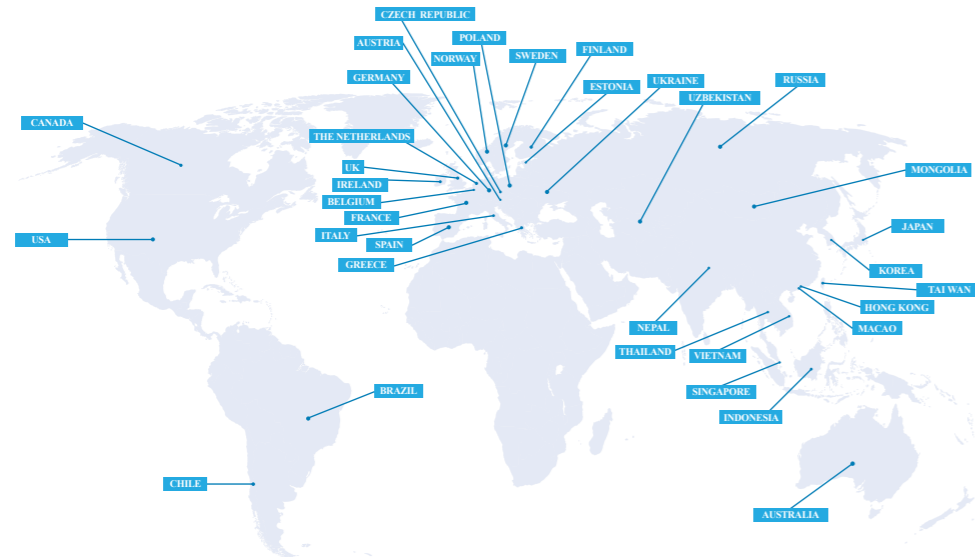
One-dimensional elastic extension mechanism for lunar equipment

INTERNATIONAL & HONG KONG MACAO AND TAIWAN EXCHANGES

USTB was the first Chinese university to establish a cooperative relationship with a foreign university after the reform and opening-up. In recent years, USTB has been adhering to the principle of pursuing global outreach and building deep alliances, following innovative ideas for international, Hong Kong, Macao and Taiwan exchanges and cooperation, and form an all-round, multi-level, wide network focused on opening to the world, and promoting student and teacher exchanges, so as to make USTB a strong international university.

A Comprehensive Global Network

USTB focuses on improving the quality and efficiency of its international network, so as to build strong partnerships with other world-class universities. USTB has signed cooperation agreements with more than 180 world-renowned institutions such as RWTH Aachen University in Germany, Oak Ridge National Laboratory in the United States and Oxford University in the United Kingdom. Among them, it has established key strategic cooperative relationships with 20 high-level universities such as RWTH Aachen University in Germany, Tohoku University in Japan and McMaster University in Canada. USTB focuses on high-level cooperation. Joint research centers/laboratories have been set up with Tata Steel and Tohoku University. Joint projects have been carried out with the University of Texas Arlington in the United States. Partnerships have been made with the University of Leuven in Belgium, the KTH Royal Institute of Technology the University of Birmingham in the United Kingdom for the training of innovative talents.



New Cooperative Agreements Signed in 2018

Trinity College, Dublin, Ireland	The University of Adelaide	University of Western Sydney
Hiroshima University	State University of New York at Albany	Silpakorn University
University of Missouri Kansas	Bernard M. Baruch College	Eurasian Pacific University Alliance
Bao University of Science and Technology, Pakistan	University of Rhode Island	University of Oulu
University of Essex		



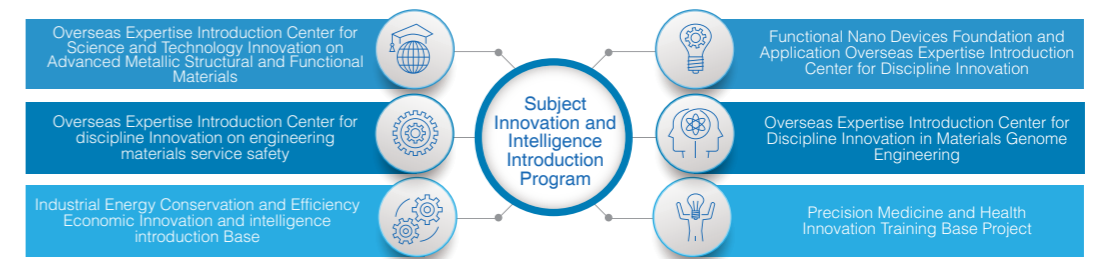
2018 International Conferences Hosted **9**



Exchanges between visiting experts and scholars **Over 1000** exchanges

Subject Innovation and Intelligence Introduction Program

USTB concentrates superior resources to introduce foreign experts, and built five Overseas Expertise Introduction Center for Discipline Innovation" ("111 Center") and several national, provincial and ministerial-level intelligence projects for a diversified and sustainable intelligence introduction system.



Cooperation and Exchange with Hong Kong, Macao and Taiwan

USTB promotes academic exchange & cooperation with Hong Kong, Macao and Taiwan institutions that covers a wide range of fields and emphasizes practical results.

- | | | |
|--|--|--|
| <p>Partner Institute
Taiwan University, Furen University and other 26 universities, exchange over 500 people per year</p> | <p>Educational Cooperation and Exchange
Joint Research Funding Scheme and Multilateral Discussion Mechanism</p> | <p>Branding Activities
Summer exchanges between teachers and students across the Taiwan Strait Beijing-Hong Kong Youth Exchange Program, etc.</p> |
| <p>Cross-strait university alliance for innovation and entrepreneurship
3 Taiwan Universities + 6 Mainland Universities</p> | <p>Personnel Training Cooperation Project
Exchange visits, summer courses, etc. with 20+ Taiwanese universities</p> | |

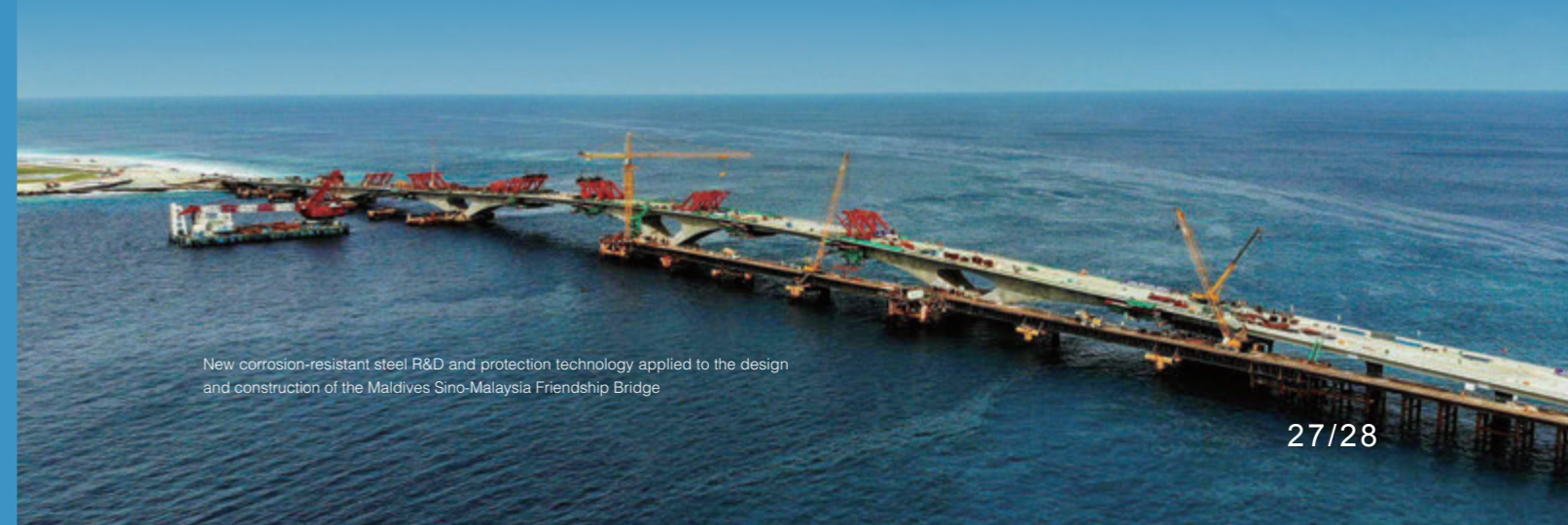
Confucius Institute of Creative Industry Technology

The Confucius Institute of Creative Industry Technology of USTB - De Montfort University of England has always adhered to the development concept of "concentrating on advantages, digging in depth, creating innovation and expanding influence", and has actively carried out various activities such as Chinese language lessons, cultural and academic exchanges.

- 1 affiliated Confucius Classroom
- 24 teaching sites
- 3293 students
- 452 DMU students taking for-credit and elective courses

International Collaboration to Support the "Belt & Road" Initiative

Through deepening reform, USTB has tapped into its inherent potential of research services to stimulate cooperation and exchanges. This has led to talent cultivation; the integration of resources for scientific research and common access; and open channels and communication, serving the growing Belt and Road Initiative.



New corrosion-resistant steel R&D and protection technology applied to the design and construction of the Maldives Sino-Malaysia Friendship Bridge

ALUMNI COMMUNITY

66 years has passed since its foundation, USTB has trained more than 200,000 alumni. Most of them have become pillars of the Chinese politics, economy, science and technology, and education, especially in the metallurgical and materials industries. USTB is known as the "cradle of iron and steel engineers". The USTB Alumni Association was established in April 1987. At present, there are 59 Alumni Clubs (49 Local Alumni Associations, 6 Professional Alumni Associations, 3 Club Alumni Associations and 1 Special Interest Alumni Association) throughout the country, including the Hong Kong Special Administrative Region, North America, Europe, Vietnam and other places.

Distribution of USTB Alumni Branches

Domestic distribution



International Branches

USA (Detroit) Canada Europe Vietnam Chicago

Professional Alumni Associations

Casting Professional Alumni Association
Chemistry Alumni Association
Alumni Association of Law Majors
Social Work Professional Alumni Association
Executive Management Alumni Association
MBA Alumni Association

Club Alumni Associations

Student Union Alumni Association
Robot Competition Team Alumni Association
Alumni Volunteer Association for Supporting Rural Education

Special Interest Alumni Association

Alumni Association of Golf Teams

