



中国科学院大学
University of Chinese Academy of Sciences

University of Chinese Academy of Sciences: An Innovative University for Science and Education

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December 7th , 2021



Chinese Academy of Sciences in the Early Years



Academia Sinica (1928-1949)



CAS headquarters (1949-1979)



- **founded on November 1st, 1949**
- **integrated original major scientific research institutions in China;**
- **home to the largest number of best talents**
- **administrative function over the whole country.**

History of Achievements



In 1960's CAS made significant contribution to the development of China's atomic bombs, missiles and satellites.

The mushroom cloud of China's first atomic bomb, October 16, 1964

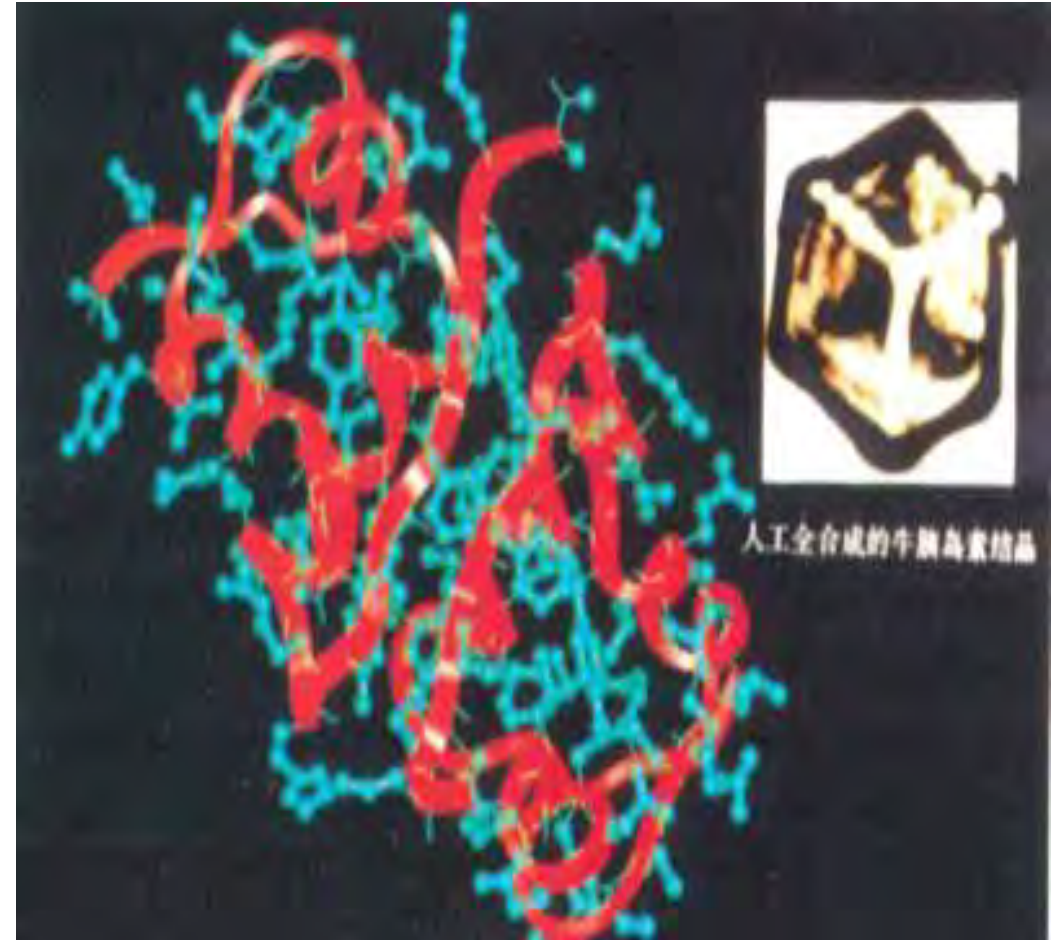


On April 24, 1970, China launched successfully the first man-made satellite-Dong Fang Hong No. 1.

History of Achievements

In September, 1965 CAS scientists obtained successfully **the crystals of total synthesis of bovine insulin**.

That was **the first** human synthesized crystalline protein with biological activity in the world.



Chinese Academy of Sciences



中国科学院
CHINESE ACADEMY OF SCIENCES

CAS, **China's** leading national scientific institution
in natural sciences and high-tech development.

Mandate

- Basic and applied research /Technology transfer
- Science-based advice and consultation
- Higher education



中国科学院
CHINESE ACADEMY OF SCIENCES

Three IN One

research &
development
system

a merit-based
academic
society

higher
education
function



106
research
institutes



800
Members
92
Foreign Fellows



3
Universities
70,000+
students

Top Achievements

FAST: an eye for the universe

FAST(Five-hundred-meter Aperture Spherical Radio Telescope)provides a unique tool for exploring the universe and serves as a world-leading innovation platform for fundamental research, advanced technology development and international S&T cooperation.

**Most sensitive with
the world's largest
single-aperture**

**Enable astronomers
to jumpstart many of
the science goals**

**New pulsars
discovered
using FAST**



Top Achievements

Beidou: just follow me!

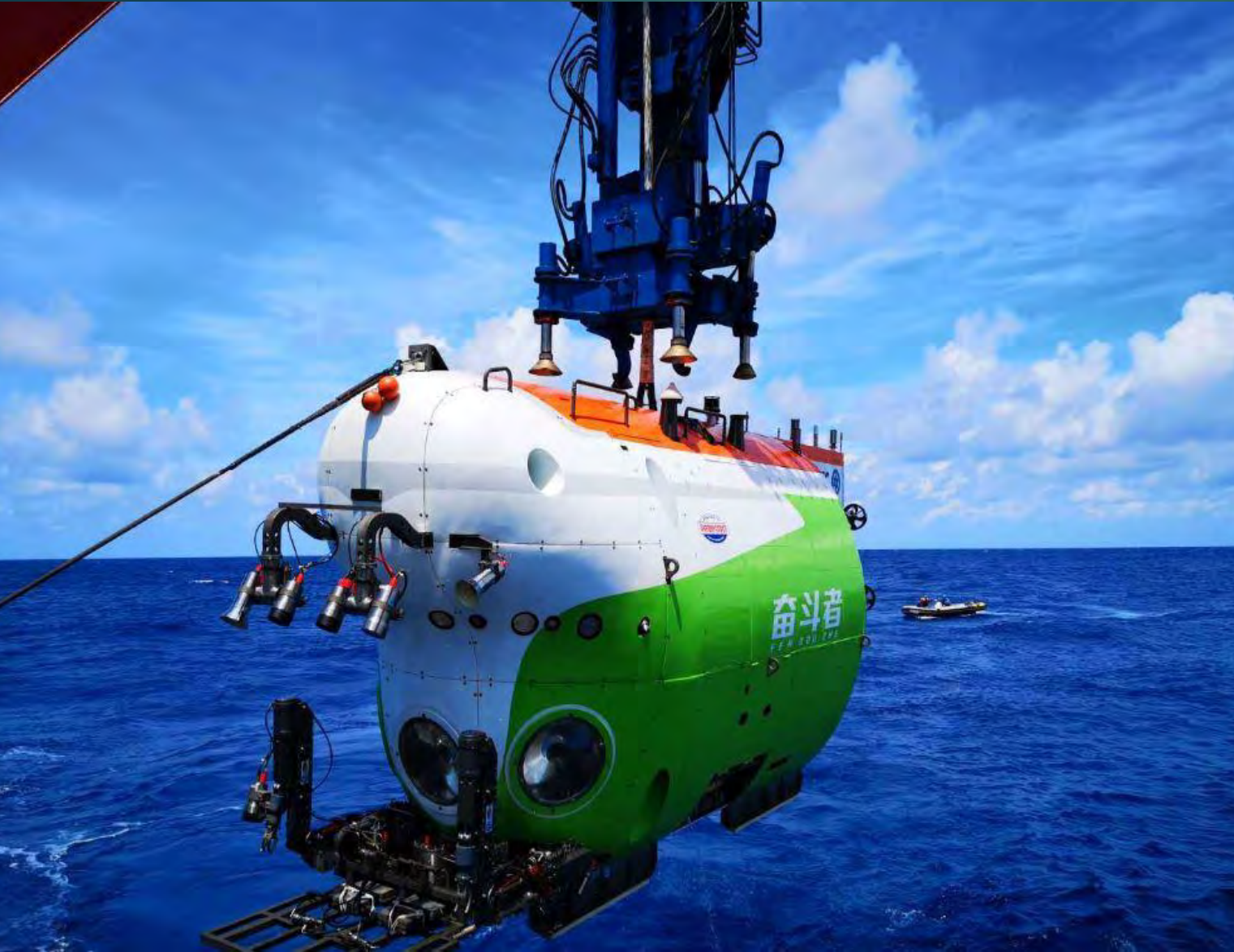
Making great contributions to the global network of Navigation Satellite System

Responsible for test satellite of global navigation system, “Beidou-2” and “Beidou-3”.

launched a first new generation of “Beidou” satellites

Application of satellite atomic clock and high-precision navigation, positioning and timing.

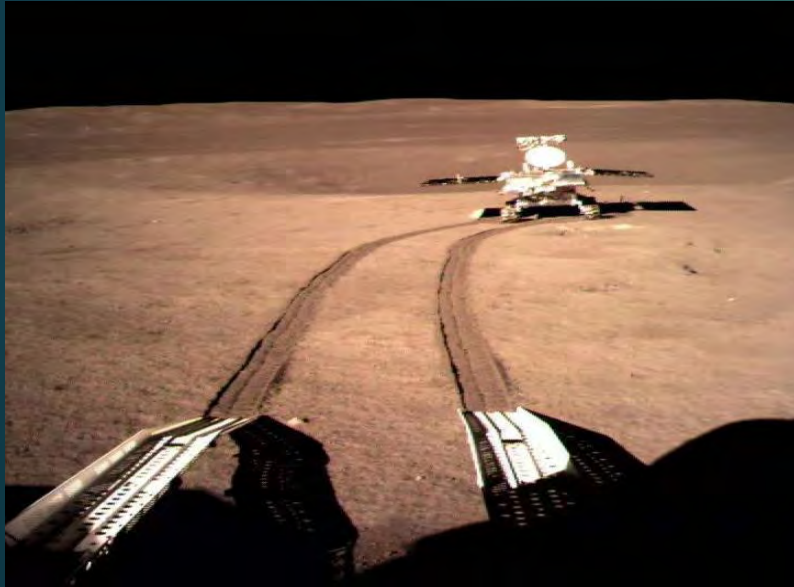
Top Achievements



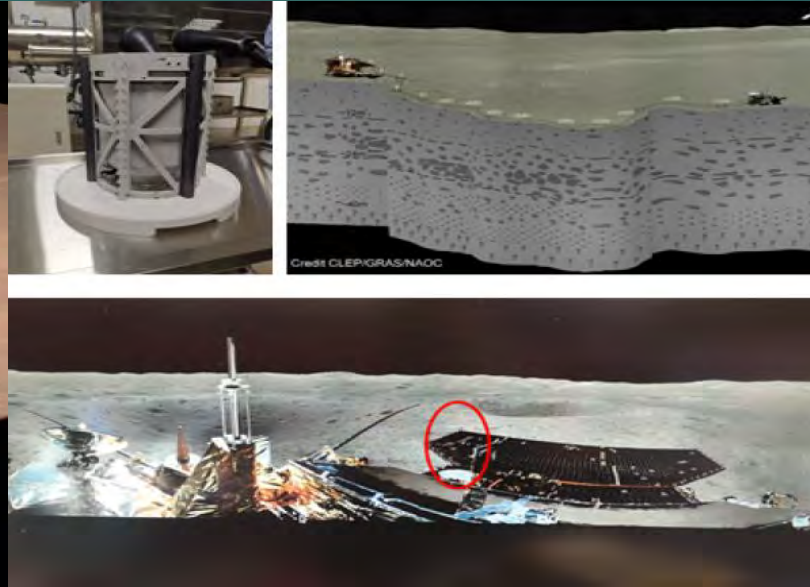
Eleven Thousand Meters Under the Sea

China's new deep-sea manned submersible Fendouzhe, or Striver, set a national diving record of 10,909 meters on November 11, 2020 in the Challenger Deep, a 11,000-meter chasm located at the bottom of the Mariana Trench in the western Pacific Ocean.

Top Achievements: **Chang'e** Flying to the Moon



The Chang'e-4 probe made the first-ever soft landing on the Von Karman Crater in the South Pole-Aitken Basin on the far side of the moon on Jan. 3, 2019.



Chang'e-5 brought back the country's first samples collected from the moon on Dec. 7, 2020



National Astronomical Observatories took charge of lunar rocks and soil

Top Achievements

 中国科学院
CHINESE ACADEMY OF SCIENCES


OPEN 开放




The Chinese Academy of Sciences releases the world's first electron microscope picture of SARS-CoV-2 on Jan 24, 2020.

[2020年1月24日,
中科院发布全球第一张新冠病毒电子显微镜照片]

Learn more 


 中国科学院
CHINESE ACADEMY OF SCIENCES

GLOBAL 国际 ATTENTION 关注

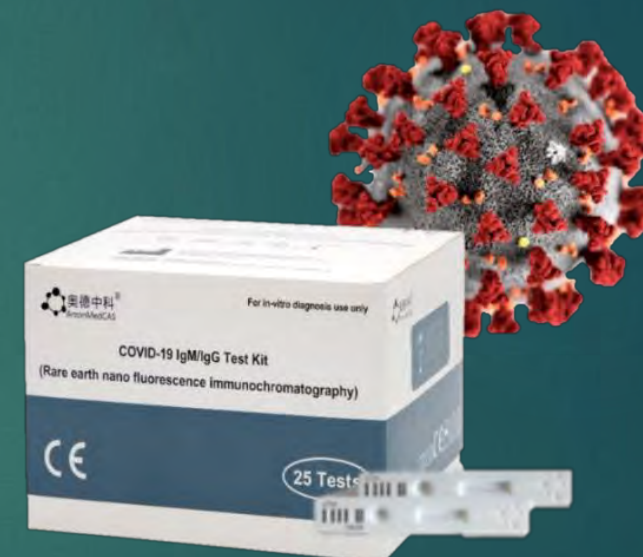


The COVID-19 databases developed by the Chinese Academy of Sciences attract attention and coverage from several international media outlets.

[中科院建立的新型冠状病毒相关数据库所发布信息
吸引多家国际媒体关注报道]

Learn more 

Together, we beat virus.



国械注准20203400776

CE认证: EU213518

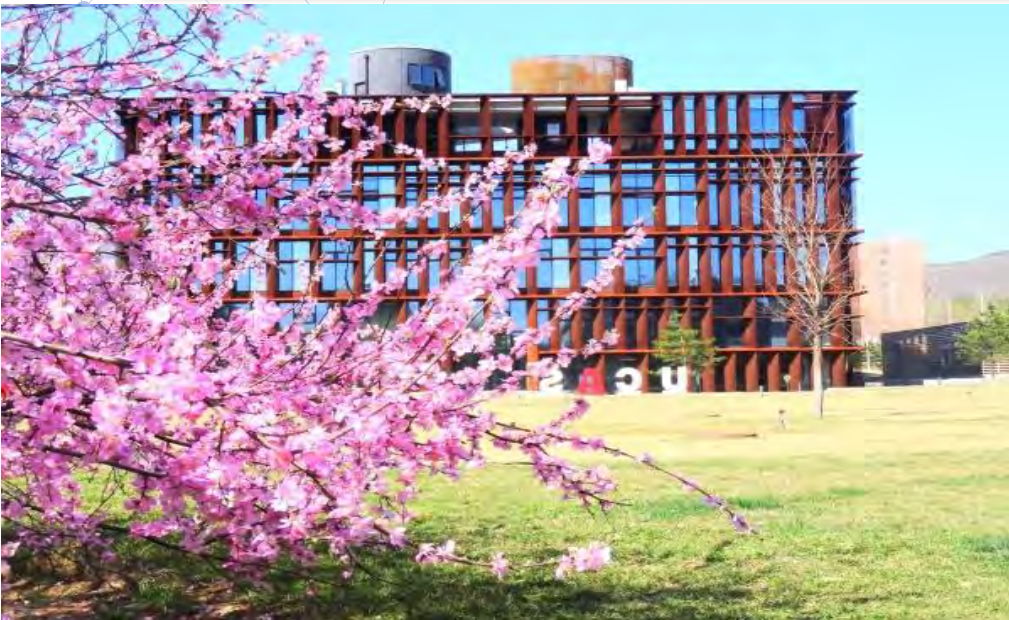
The inactivated vaccine developed by CAS shows 79.34 % efficacy against COVID-19 and is available in the market .

CAS' Contributions to Higher Education

- **1951**: CAS started to admit in-tern researchers and graduate students, starting postgraduate education in China.
- **1955** : “The Tentative Regulations on CAS Graduate Students” co-issued by MoE and CAS marks establishment of Chinese graduate educational system.
- **1955-1965** $\approx 1,000$ on going graduate students trained at CAS made up 20.7 % of the total no. of graduate students in the country
- **1964** attempted to establish “Graduate School of Chinese Academy of Sciences”

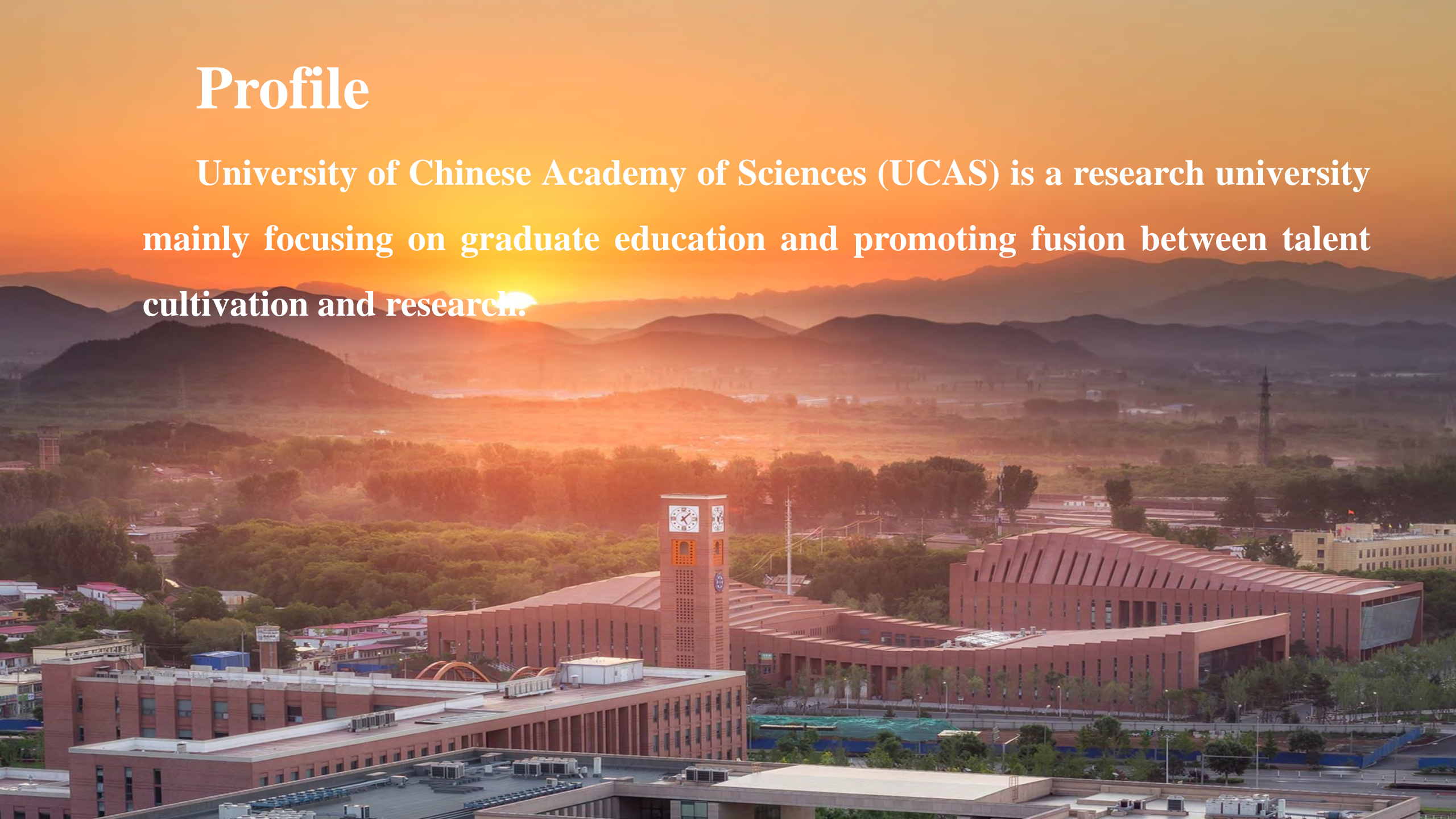


University of Chinese Academy of Sciences



Profile

University of Chinese Academy of Sciences (UCAS) is a research university mainly focusing on graduate education and promoting fusion between talent cultivation and research.



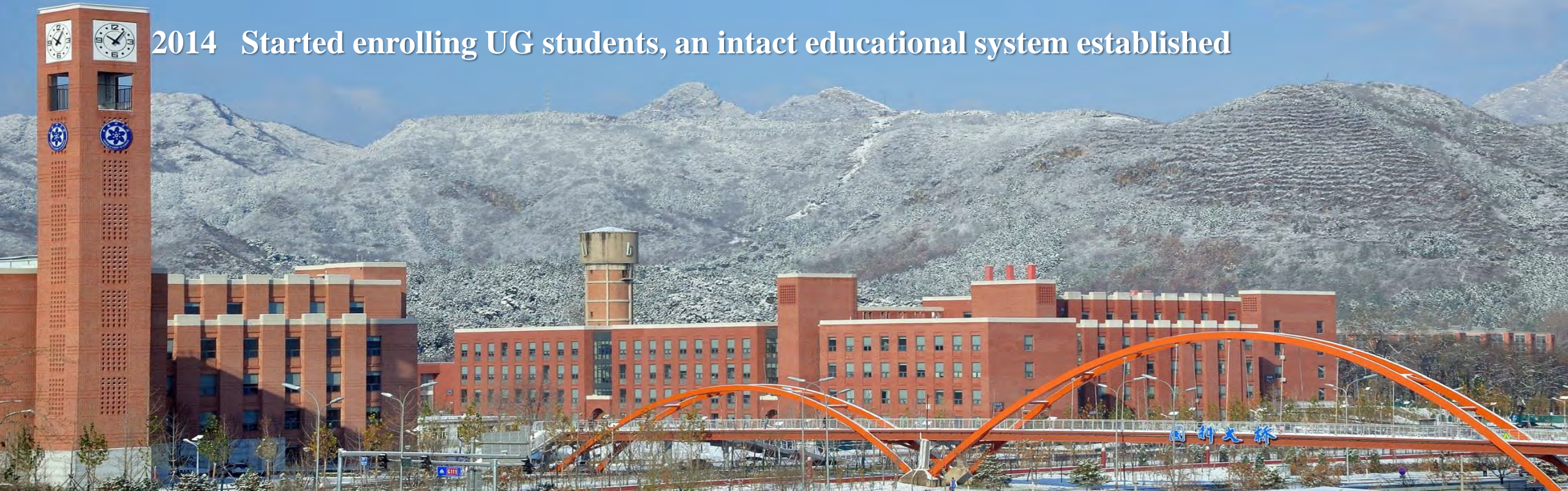
Milestone Event

1978 Graduate School of Chinese Academy of Sciences, the first graduate school in China

2000 Reconstructed and renamed Graduate University of Chinese Academy of Sciences

2012 Renamed as the University of Chinese Academy of Sciences

2014 Started enrolling UG students, an intact educational system established



Features

- fully supported and facilitated by and under the auspices of CAS
- highly qualified faculty consisting of distinguished scientists from CAS institutes
- coursework on UCAS campus + research/dissertation work at CAS institutes
- Training through research



Our Students

1,600

undergraduate students

27,500

Master's students

55,000+

students

27,000

PhD students



≈ 1,900

Intl students

from 103 countries

no. of Int'l PhD students

ranking **No.1** in china



Our Faculty

3,000+
dedicated faculty
members

11,000+
supervisors



Faculties on Beijing Campuses



100%
Science

Science

School of Mathematical Sciences
School of Physics
College of Chemical Science
Department of Psychology
School of Astronomy and Space Science
College of Earth Sciences
College of Resources and Environment
College of Life Sciences

Agriculture



School of Advanced Agricultural Sciences



90%
Engineering

Engineering

School of Engineering
College of Material Sciences and Opt-Electronic Technology
School of Computer and Control Engineering
School of Electronic, Electric and Communication Engineering
College of Future Technology
College of Cyber Safety
College of Chemical Engineering
College of Nano Science and Technology
College of Nuclear Science and Technology
College of Aeronautics and Astronautics



Social Science

College of Humanities and Social Sciences
Department of Foreign Languages
School of Economics and Management
School of Public Policy and Management
College of Innovation and Entrepreneurship



Medicine

Savaid Medical School



International

Sino-Danish College
International College

Geographic Locations of Training Units



- ★ Locations of CAS Institutes
- Locations of CAS education centers

UCAS Training Units

- ◆ Headquartered in Beijing
- ◆ Supported by about **110** CAS institutes
- ◆ An educational network formed
- ◆ **5** educational centers in Shanghai, Wuhan, Guangzhou, Chengdu and Lanzhou

Two-phase Education Mode

Phase 1

(1st Year)

- take courses required for degrees on campus



Phase 2

(2-4th Year)

- participate in research programs and defend their dissertation at CAS institutes

University

Institute

College



Fusion of Education and Research

01

“Fused” schools & colleges

- Undertaken by Institutes & UCAS schools & colleges
- Supported by institutes outside of Beijing

02

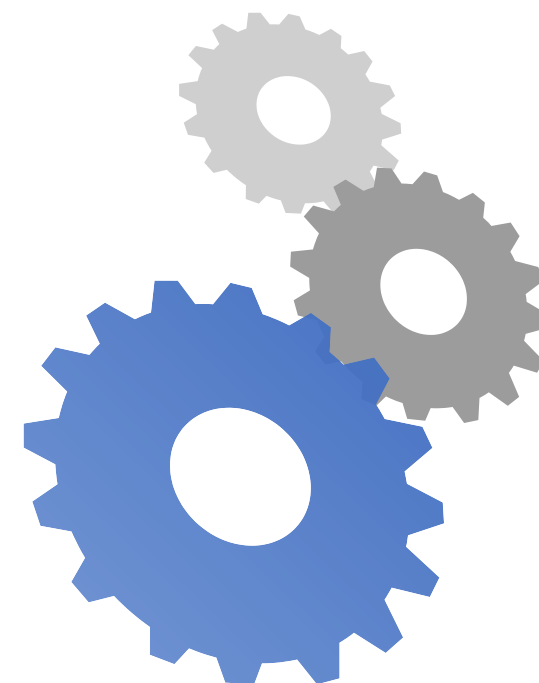
Teaching and research sections

- Established at CAS institutes
- Co-managed by CAS institutes & UCAS

03

Re-organized faculty structure

- Deans staffed by renowned scholars from CAS Institutes
- UCAS-Institute Jointly Appointed Professors as backbone



Research Environment

Science facilities

- I. Operate **80% +** large-scale science facilities in China
- II. **30+** such facilities either in operation or under construction at CAS inst.

1 National laboratories

2 National Research Centers

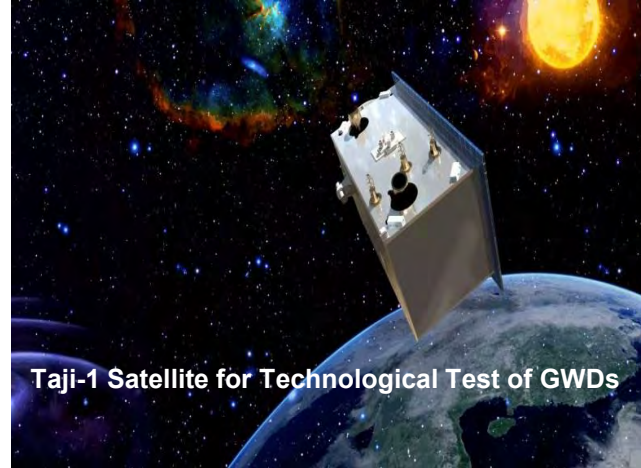
9 National Engineering Research Centers

15 National Engineering Research Laboratories

17 National Engineering Technology Centers

77 National key laboratories

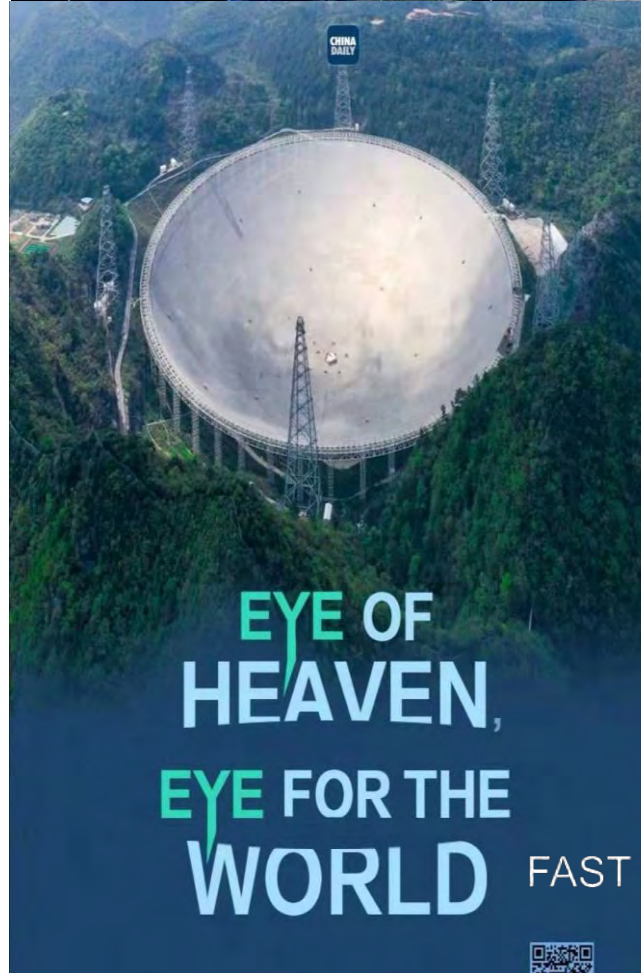
189 CAS key laboratories



Taji-1 Satellite for Technological Test of GWDs



LAMOST



EYE OF HEAVEN,
EYE FOR THE WORLD

FAST



SSRF



Oceanographic Research Vessel
Shiyun VI



BEPC II



World Recognition

ESI Ranking

National Ranking	Institution	Global Ranking	No. of top 1% Disciplines	No. of papers
1	UCAS	45	19	142,482
2	Tsinghua U	61	20	83,389
3	Peking U	71	22	81,078
4	SJTU	77	20	94,503
5	Zhejiang U	81	21	92,713

Source: Essential Science Indicators (ESI) November, 2021

World Recognition

nature index

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Top 175 young universities

The table shows the top 175 young universities* ranked by their fractional count in 2018 (FC 2018). Also listed are each university's article count of the year (AC 2018), the highest subject rank among young universities and its global rank among all academic institutions in 2018.

Click on column headers to sort

Rank	Institution	Country / Region	Year established	FC 2018	AC 2018	Highest subject rank**	Rank among academic institutions***
1★	University of Chinese Academy of Sciences (UCAS)	China	1978	318.77	1,816	C1, E1, P1	19
2	Nanyang Technological University (NTU)	Singapore	1991	232.51	569	C2, E2, P2	34
3	Swiss Federal Institute of Technology Lausanne (EPFL)	Switzerland	1969	219.92	542	C3, L3, P3	37
4	Korea Advanced Institute of Science and Technology (KAIST)	South Korea	1971	155.09	319	C4, P4	63
5	Hong Kong University of Science and Technology (HKUST)	China	1991	108.39	310	P5	98
6	King Abdullah University of Science and Technology (KAUST)	Saudi Arabia	2009	104.77	248	C5	108
7	Southern University of Science and Technology (SUSTech)	China	2012	89.22	271	C6	136
8	Pohang University of Science and Technology (POSTECH)	South Korea	1986	85.85	219	P6	143
9	University of Paris-Sud (UPSud)	France	1970	71.08	574	P9	184
10	Ulsan National Institute of Science and Technology (UNIST)	South Korea	2009	68.88	161	P8	189
11	Oregon Health and Science University (OHSU)	United States of America (USA)	1981	55.48	151	L1	226
12	City University of Hong Kong (CityU)	China	1994	53.60	197	C10	234






Int'l Cooperation



➤ 100+ academic exchange agreements

➤  **APRU** Member of Association of Pacific Rim Universities

➤  **ANSO** Funding member of Alliance of International Science Organizations (ANSO)





中丹学院

Sino-Danish College

SDC
The university partnership
Denmark – China



- Collaboration between UCAS & eight Danish public universities
- To promote education, research and industrialization
- Dual- degree program
- Guided by two supervisors
- English as teaching language
- Aimed to be a model for Sino-Danish collaboration





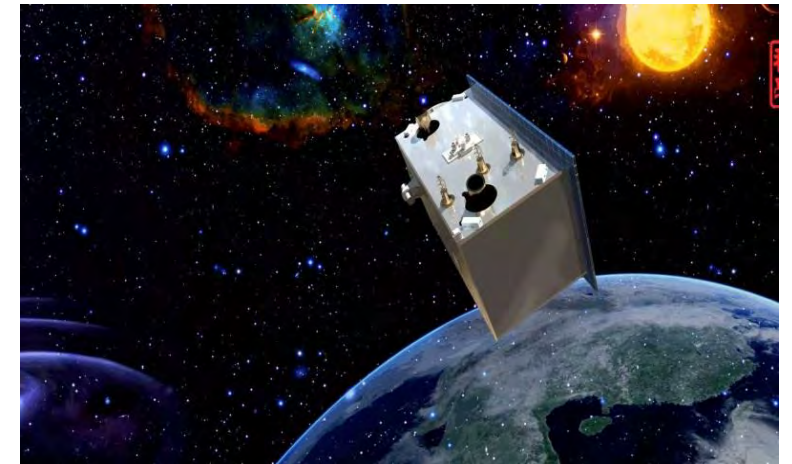
Joint Platform for Science and Education



ICTP-AP
International Center
for Theoretical Physics Asia-Pacific
国际理论物理中心-亚太地区

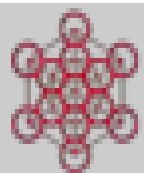
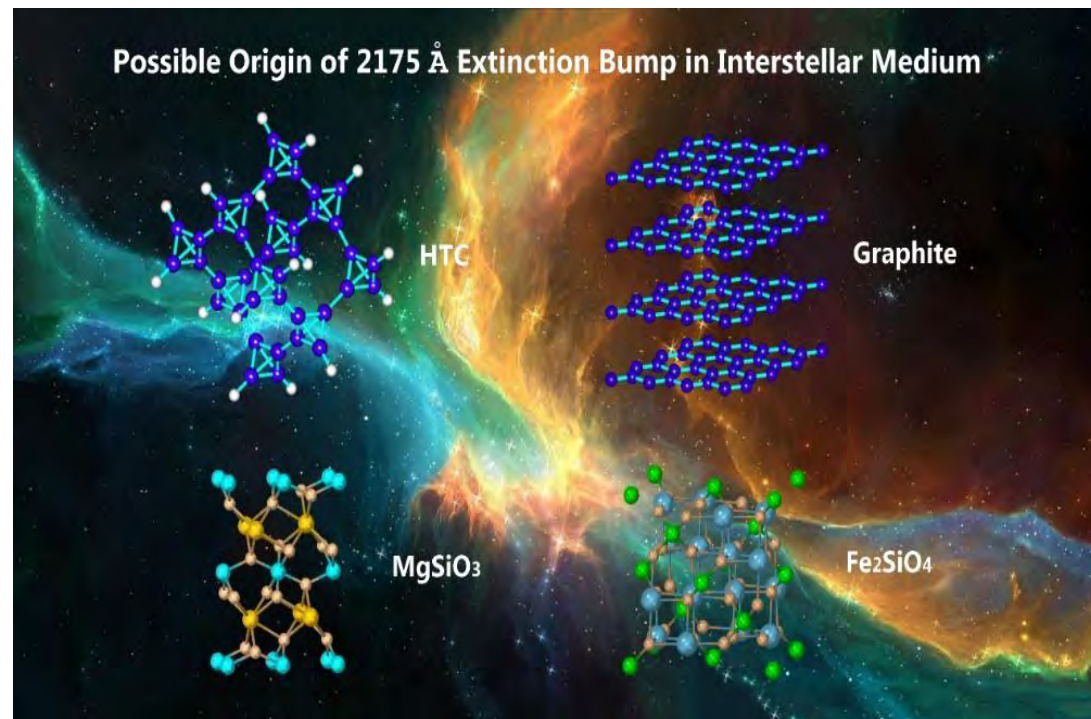
International Centre for Theoretical Physics (Asian Pacific)

- Category 2 Centre under the auspice of UNESCO
- Affiliated to UCAS in collaboration with ICTP
- To perform a top level research and promote scientific excellence throughout the world with emphasis in Asia-Pacific region





Joint Platform for Science and Education

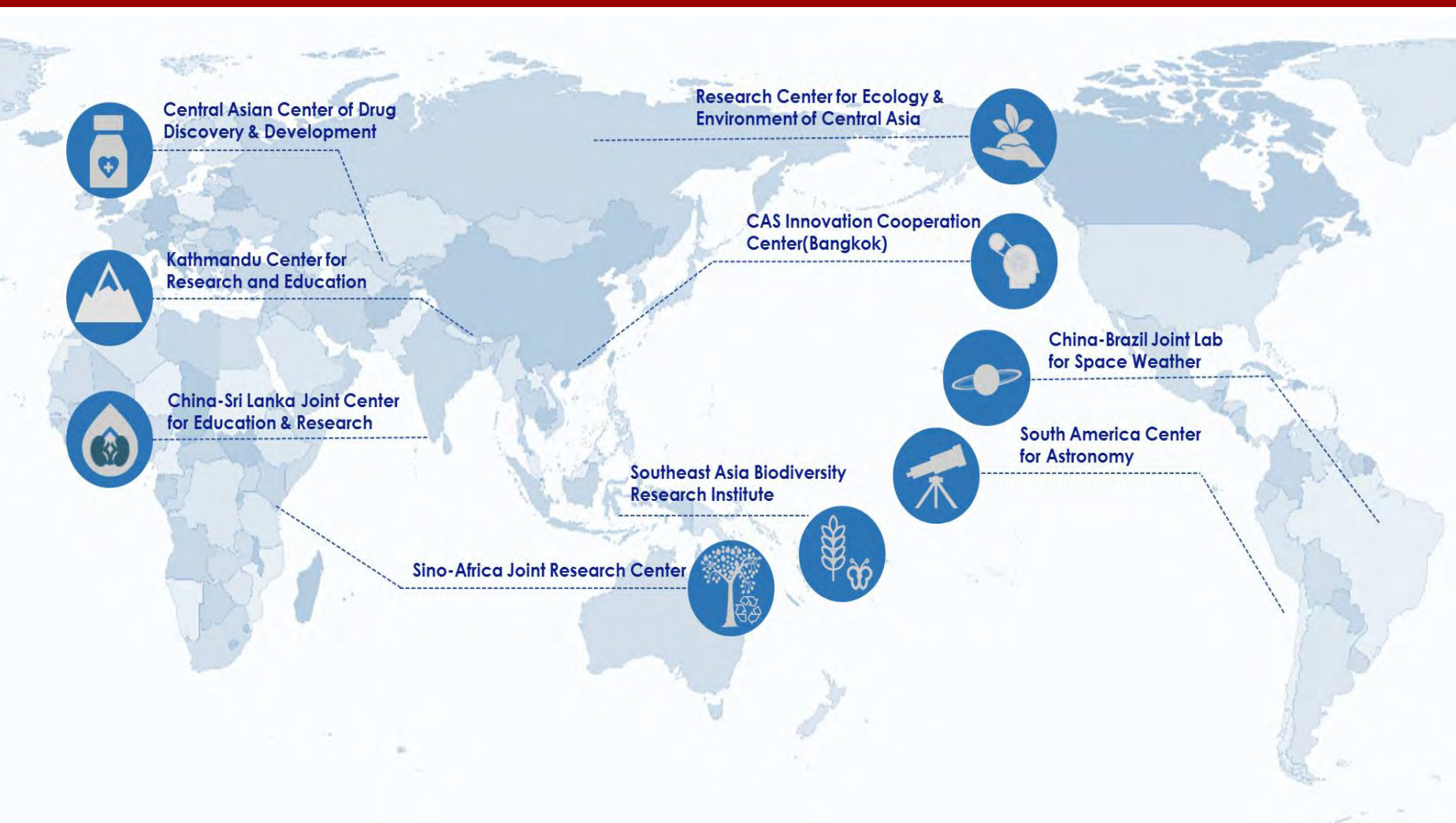


KITS

Kavli Institute for Theoretical Sciences

University of Chinese Academy of Sciences (UCAS)

Overseas Center for Education and research



UCAS is actively engaged in construction and development of the CAS Overseas Centers in Asia, Africa and South America for personnel training and capacity building.

Workshops and Seminars



BEIJING DECLARATION

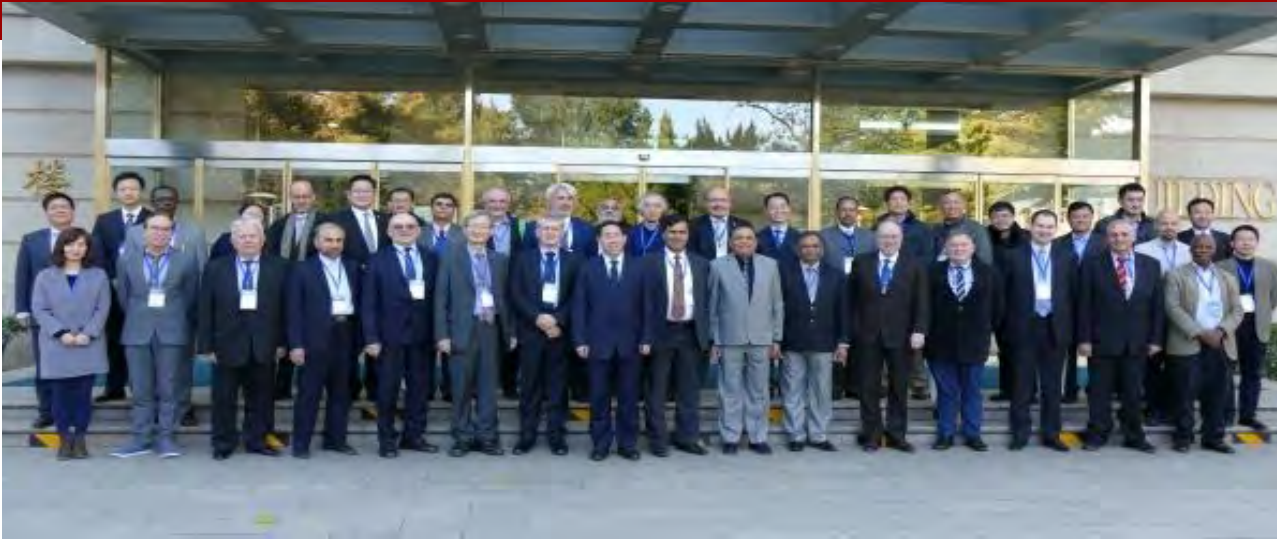
Face the future

Explore the unknown

面向未来·探索未知



Workshops and Seminars



The National Science and Research Organizations Summit Forum on the Belt and the Road Initiative, November 8, 2016



1st Africa China World Bank Education Partnership Forum
July 9-12, 2017



Int'l Student Program

Scholarship

- UCAS Scholarship
- Chinese Government Scholarship
- Beijing Municipal Scholarship
- Foreign Government Scholarship
- CAS-TWAS Presidents' Fellowship
- ANSO Scholarship



Huairou Science City



1. **Platform** for state key S&T basic facility infrastructure and cut-edging interdisciplinary study aiming at breakthroughs in research
2. Construction of **world-class science facilities** for fundamental and important research
3. Aims to be a world-famous **national science center** by 2030
4. Focus on **materials, space, atmosphere and environment, geology, IT and AI, and life science**

A New Hope

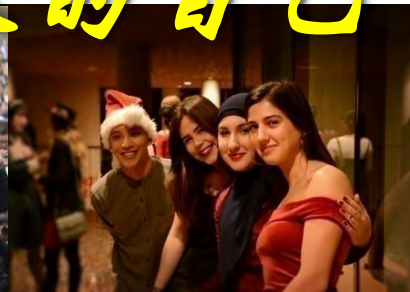


◆ Undertake responsibility of higher education

Colorful Campus Life



遇见国科大，遇见未来不可思议的自己



Thanks !



INFORMATION

Web site: [http:// www.ucas.ac.cn](http://www.ucas.ac.cn)
Email: iso@ucas.edu.cn