中国科学技术大学

University of Science and Technology of China

### Teaching Students in Accordance with Their Aptitude:

# Development of Top-Notch Talents in Science and Technology at USTC


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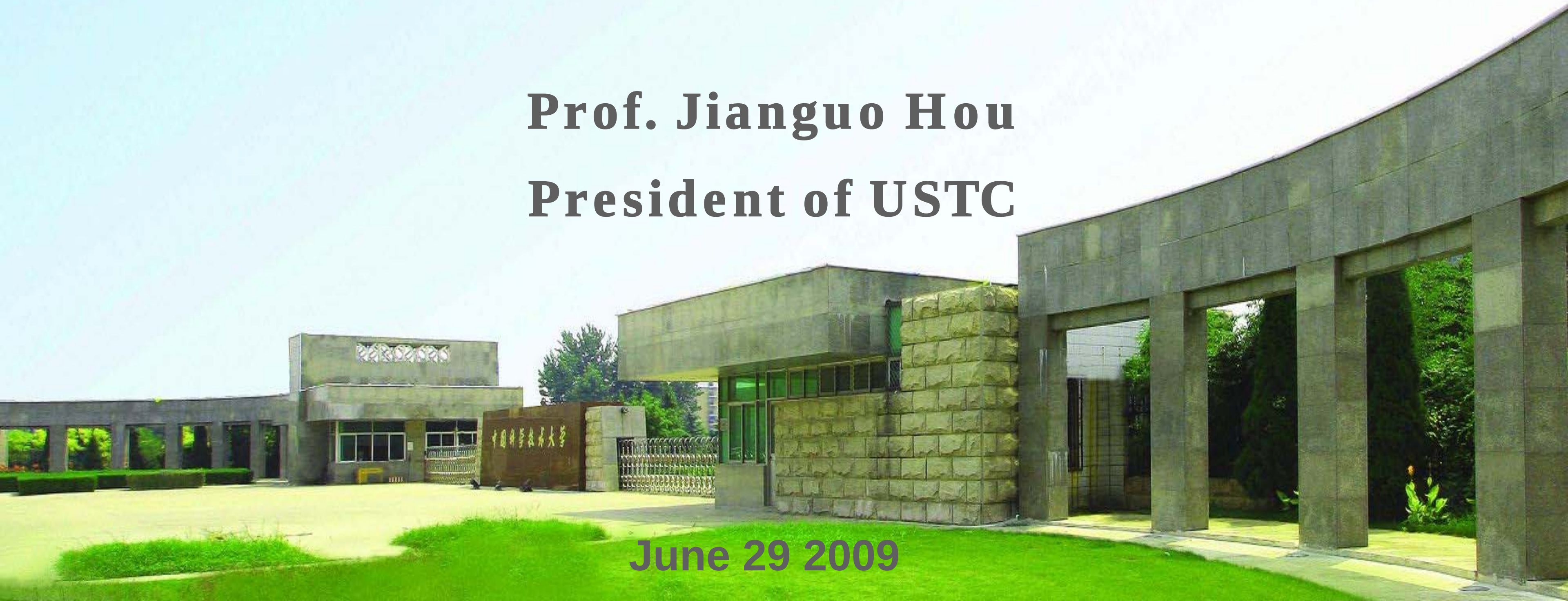
**President of USTC**

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## Pooling efforts of the Chinese Academy of Sciences (CAS) for the university’s development
## Integrating CAS institutes with the university’s corresponding departments

中国科学院
CHINESE ACADEMY OF SCIENCES

- **CAS is the National Research & Development Center for natural science and high-new technology.**
- **CAS is the National team for science and technology, playing a role as the state think tank of science and technology.**

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- **USTC was established in 1958.**
- **USTC is the only university affiliated with CAS.**
- **USTC creatively combines science with engineering based on cutting-edge science and high-new technology.**

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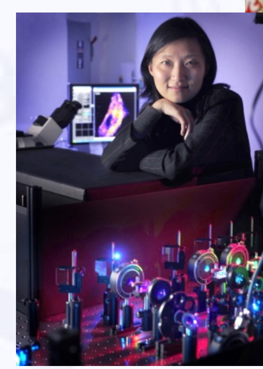
# Mission of USTC: to educate top scientists and engineers


- **For every 1000 graduates at USTC, there are more than 700 graduates pursuing master or doctoral degree. Also, 1‰ of the USTC undergraduate holders are elected Academician of the CAS or the Chinese Academy of Engineering. This ratio is the highest among Chinese universities.**

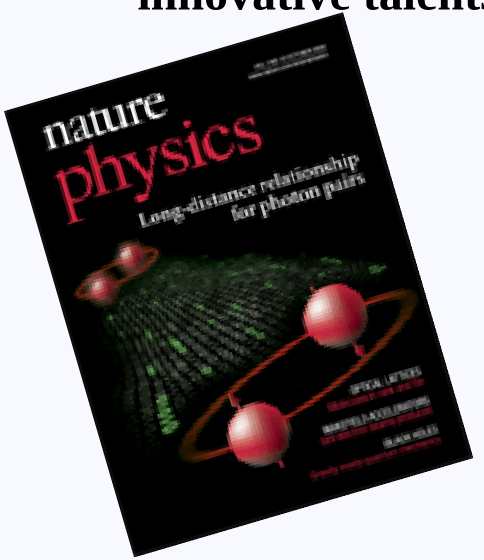
- **In the past ten years, 28 doctoral dissertations at USTC have been awarded “The National 100 Outstanding Doctoral Dissertations”, ranking the top among Chinese science and engineering Universities.**



- **USTC is regarded in China as “The Cradle of Scientific Elites”.**

# The National Development Strategy Sets Higher Requirements for Higher Education

- By 2020, China will build itself into an innovative country. The scientific and technological development shall become a powerful support for economic and social development.
- 16 major technology projects and 4 major scientific research plans are defined by the national scientific and technological development and long-term planning framework (2006-2020).
- Such a strategy puts forward imperative demands for developing highly innovative talents.




**Mission and challenge of USTC**

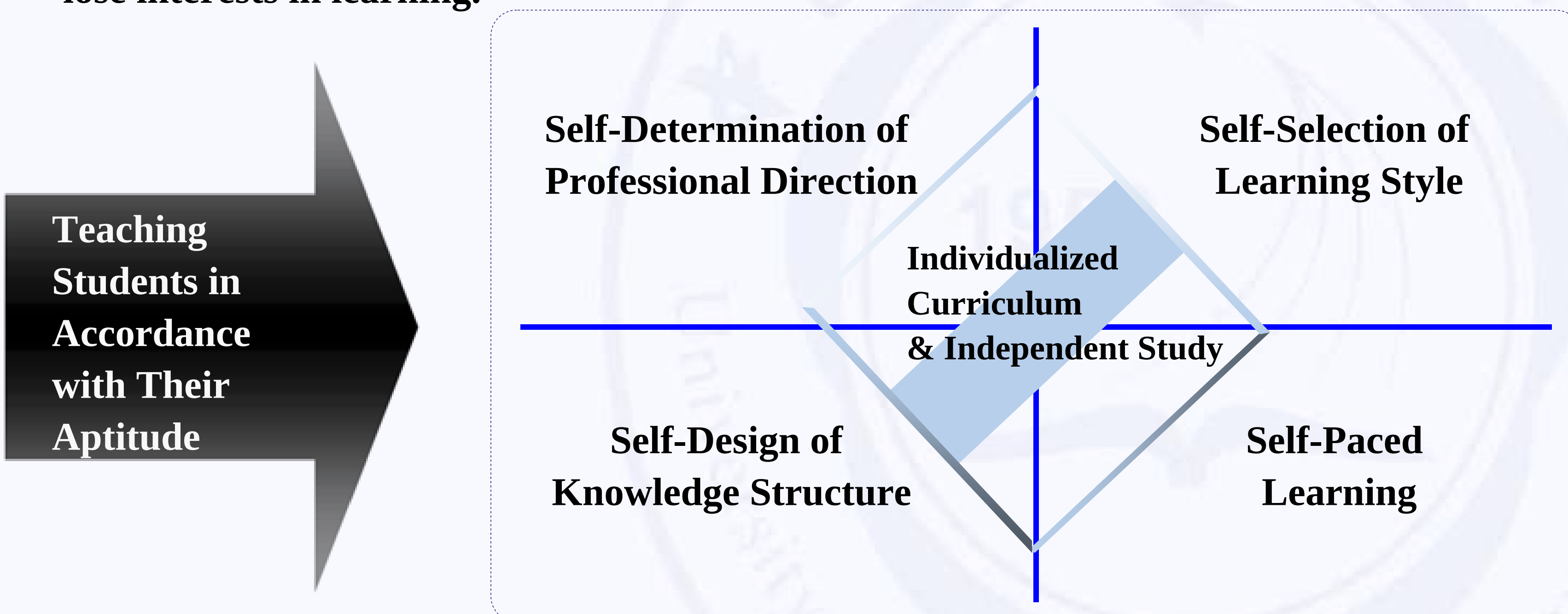
**In order to meet demands of national development strategy and international scientific development, the important mission of USTC as well as of CAS is to explore innovative educational model, to develop and prepare top-notch talents in science and technology.**

# ■ Teaching Students in Accordance with Their Aptitude (Confucius: 552-479 B.C.)

## Individualized Education

- **College Entrance Examination in China is a double-edged sword.**
  - It could provide excellent students for the university.
  - Examination-oriented education system in China make many students lose interests in learning.

- **Our Objectives of Education**
  - Developing learning interests for students and encourage active learning;
  - Guiding more students to view scientific research as a career.



# Experimental Educational Programs for Elites in Science and Technology

**In order to explore innovative educational model for developing top-notch talents in science and technology, USTC and institutions of CAS have jointly established some experimental educational programs.**

**Three Combinations**

- **Combination of Research and Education**
- **Combination of Theory and practice**
- **Combination of CAS institutes with USTC departments**

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# Basic Ideas of Experimental Educational Programs

**Two Stages**
**Double Channels**

**Basic Courses at USTC**

**Specialized Courses and Scientific Research**

**1st Year** | **2nd Year** | **3rd Year** | **4th Year** | …… | **8th Year**

- **USTC+ institutes+ international…**

*Long-Term Developing Plan: Bachelor – Master – Doctor*

- **The First Two Years**
  - **USTC lays down a solid foundation for students, with most general courses among Chinese universities.**
  - **USTC adopts the Personal Tutor System, with scientists as tutors to help students develop individualized learning plans.**
- **The Following Years**
  - **Under the direction of tutors, students start to conduct "undergraduate research programs".**
  - **Researchers from CAS institutes give lectures and open seminars about cutting-edge scientific development.**
  - **Students enter the CAS institutes for professional courses, scientific research, and exploration of cutting-edge research areas.**

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# The Practice of "Experimental Educational Programs for Elites in Science and Technology"

- **On going programs**

**1. "Hua Loo-Keng Program" to develop mathematical elites with the Academy of Mathematics and Systems Science in the CAS (30 students)**

**2. "Advanced Materials Program" to develop elites in material science and engineering with the Institute of Metal Research of CAS (30 students).**

- **Programs to be started this year:**

**"Yanjici Program" with the Institute of Physics,**

**" Mechanical Engineering Program" with the Institute of Mechanics,**

**"New Energy Program" with jointed institutes etc.**

**<u>30% of the undergraduates will be involved</u>**

**<u>in the above programs in the next three years.</u>**


Thanks!
中国科大星