



KITPC

Kavli Institute for Theoretical Physics China



中国科学院大学

University of Chinese Academy of Sciences



The Abdus Salam
International Centre
for Theoretical Physics
50th Anniversary 1964 - 2014



ICTP and CHINA

Yue-Liang Wu

University of Chinese Academy of Sciences (UCAS)

Kavli Institute for Theoretical Physics China (KITPC)

State Key Laboratory of Theoretical Physics (SKLTP)

Institute of Theoretical Physics, CAS

SIGNIFICANCE OF ICTP



ICTP was established in a golden time for theoretical physics

➤ In 1960's, theoretical physics, in particular elementary particle physics, faced a great challenge and met a historical opportunity to be developed

- Origin of particle masses → Higgs Mechanism(1964)
- Basic constituent of matter → Quark model (1964)
- Symmetry breaking of space-time → CP violation(1964)
- Unifying electroweak interactions
- Nature of strong interaction
- Divergence/Infinity problem and Renormalizability of QFT

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SIGNIFICANCE OF ICTP



The establishment of ICTP has played a significant role for internationalizing basic research science worldwide

The great success of ICTP makes clear that

- Theoretical physics as the pure basic research science is not limited by the border of countries
- Theoretical physics provides the most efficient and economic way for promoting the developing world to carry out basic researches

ICTP and CHINA

- In 1966, the first Asia-Pacific conference on science was held in Beijing, Abdus Salam as the founding director of ICTP attended the conference, where he got a deep impression on the so-called straton model studied by the Chinese group of particle physics, then it was A. Salam who introduced such a model to the community of particle physics out of China.
- The former CAS president Prof. Guang-Zhao Zhou (K.C. Chou) and former NSFC president Prof. Jia-er Chen were the members of ICTP science council. Currently, the mathematician Prof. G. Tian from Peking Univ. serves as the member of ICTP science council

ICTP and CHINA

China has actively participated in ICTP program

- Prof. L. Yu from ITP-CAS served as the header of condensed matter physics division of ICTP more than 10 years. Prof. J.Y. Li joined the ICTP about 6 years.
- More than 5000 Chinese scientists and scholars visited ICTP since 1970's.
- More than 400 ICTP associate members offered to Chinese scientists since 1970's.
- More than 40 Institutions in China have cooperated with ICTP for various programs.

ICTP WORLDWIDE

- Theoretical physics has faced a new challenge and reached to a new golden era

The well-known challenging questions and puzzles include:

- What is dark matter
- How to understand the early inflation and present acceleration of Universe
- Quantum gravity beyond general relativity of Einstein
- Quantum field framework for unification of basic forces
- Quantum matter and quantum computer


The necessity to extend International Centre for Theoretical Physics worldwide for the future of science in next 50 years!

ICTP WORLDWIDE

From Oct 7 to 21, 2011, the director of ICTP , Prof. Fernando Quevedo visited and attended the “String theory and Cosmology” program, and discussed about ICTP branch in China



中关村交叉学科论坛
Colloquium on The Interdisciplinary
and Cross-disciplinary Science

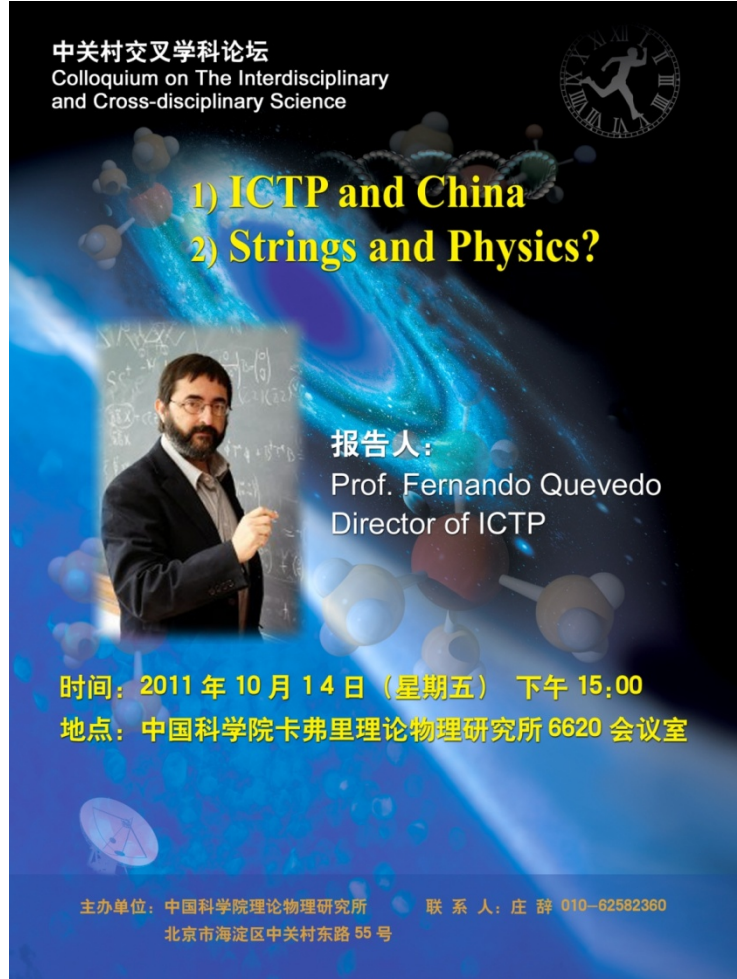


1) ICTP and China
2) Strings and Physics?

报告人:
Prof. Fernando Quevedo
Director of ICTP

时间: 2011年10月14日(星期五) 下午 15:00
地点: 中国科学院卡弗里理论物理研究所 6620 会议室

主办单位: 中国科学院理论物理研究所 联系人: 庄 辞 010-62582360
北京市海淀区中关村东路 55 号



Theoretical Physics/Particle Physics in China

新疆

中国科学院大学 UCAS
国家天文台 NSO-CAS
清华大学 Tsinghua Univ.
北京大学... .. Peking Univ.

吉林大学
辽宁师范大学

南开大学
河北大学

山东大学
威海、青岛

南京大学
南京师范大学
东南大学
河南师范大学
郑州大学

中国科技大学

上海交通大学
复旦大学

浙江大学
杭州师范大学
宁波大学

理论科学中心
ICTS
中研院物理所
清华大学
台湾大学
中央大学.....

西北大学

大亚湾反应堆
中微子实验
(深圳、江门)
中山大学

武汉大学
师范大学
科技大学

国防科技大学
湖南大学

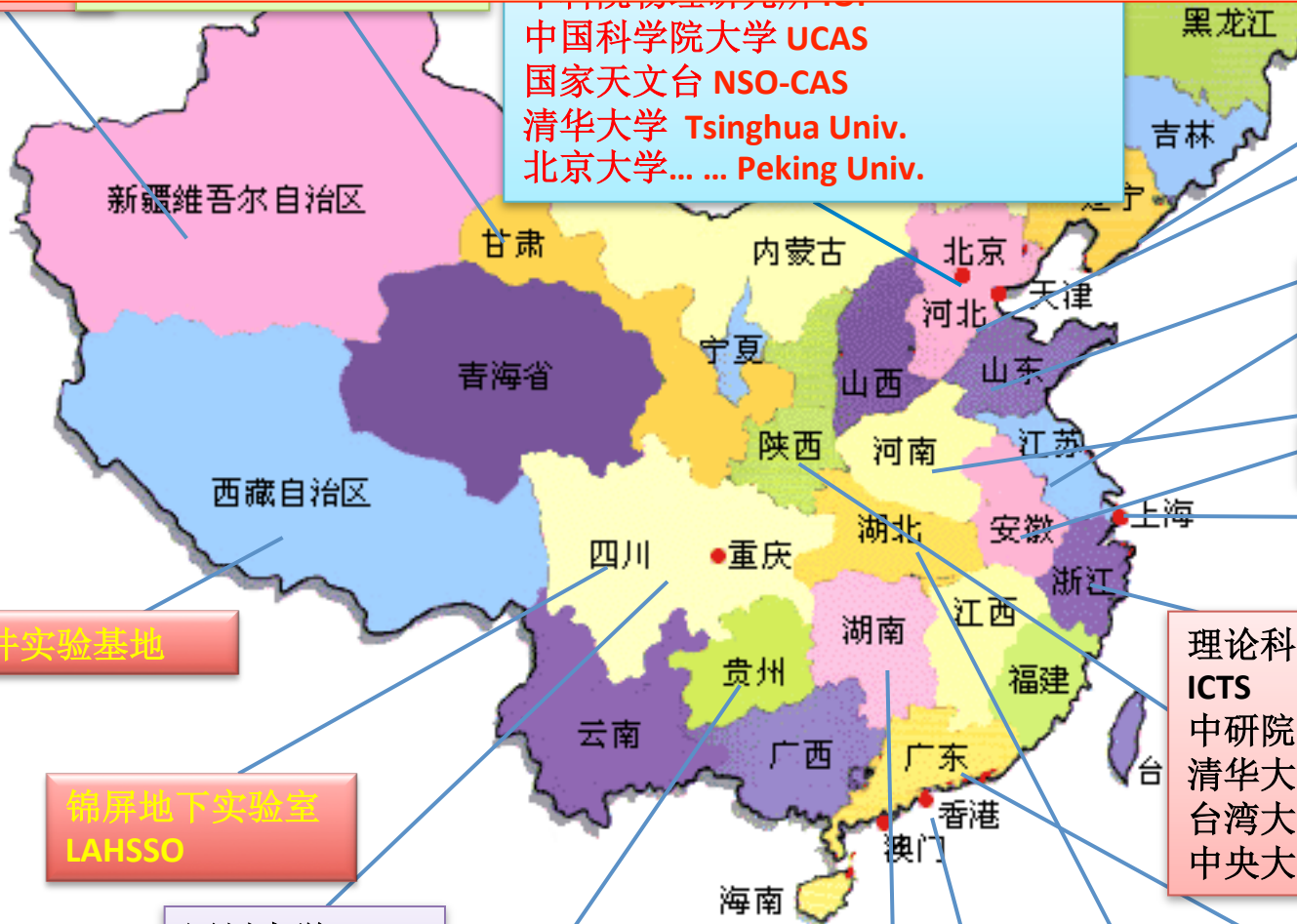
科技大学
研究院

500米口径球面射
电望远镜(FAST)

四川大学
重庆大学
重庆邮电大学

锦屏地下实验室
LAHSSO

羊八井实验基地



新疆维吾尔自治区

甘肃

内蒙古

北京

天津

吉林

河北

山西

山东

宁夏

陕西

河南

湖北

江苏

安徽

上海

四川

重庆

江西

浙江

贵州

福建

云南

广西

广东

香港

澳门

海南

台湾

Kavli Institute for Theoretical Physics China(KITPC) At the Chinese Academy of Sciences

**ESTABLISHMENT of KITPC/ITP-CAS
at the CAS on Jun 18,2006**



Official Inauguration on May 26, 2007

Opening Ceremony at Great Hall of the People



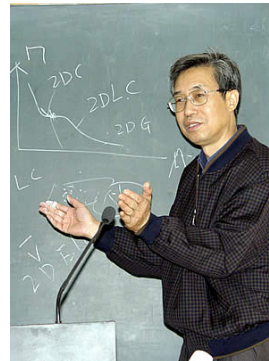
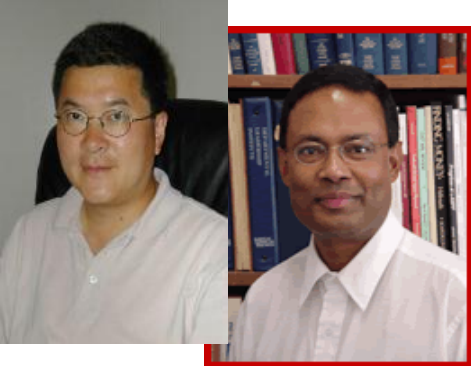
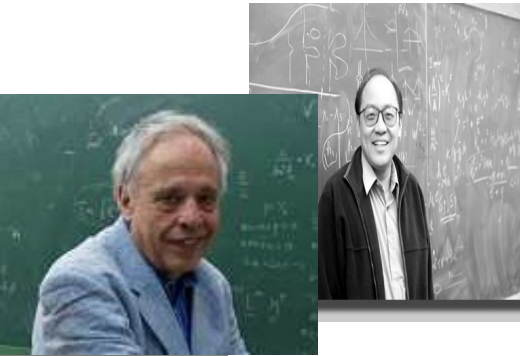
International Advisory Committee

Chaired by David Gross

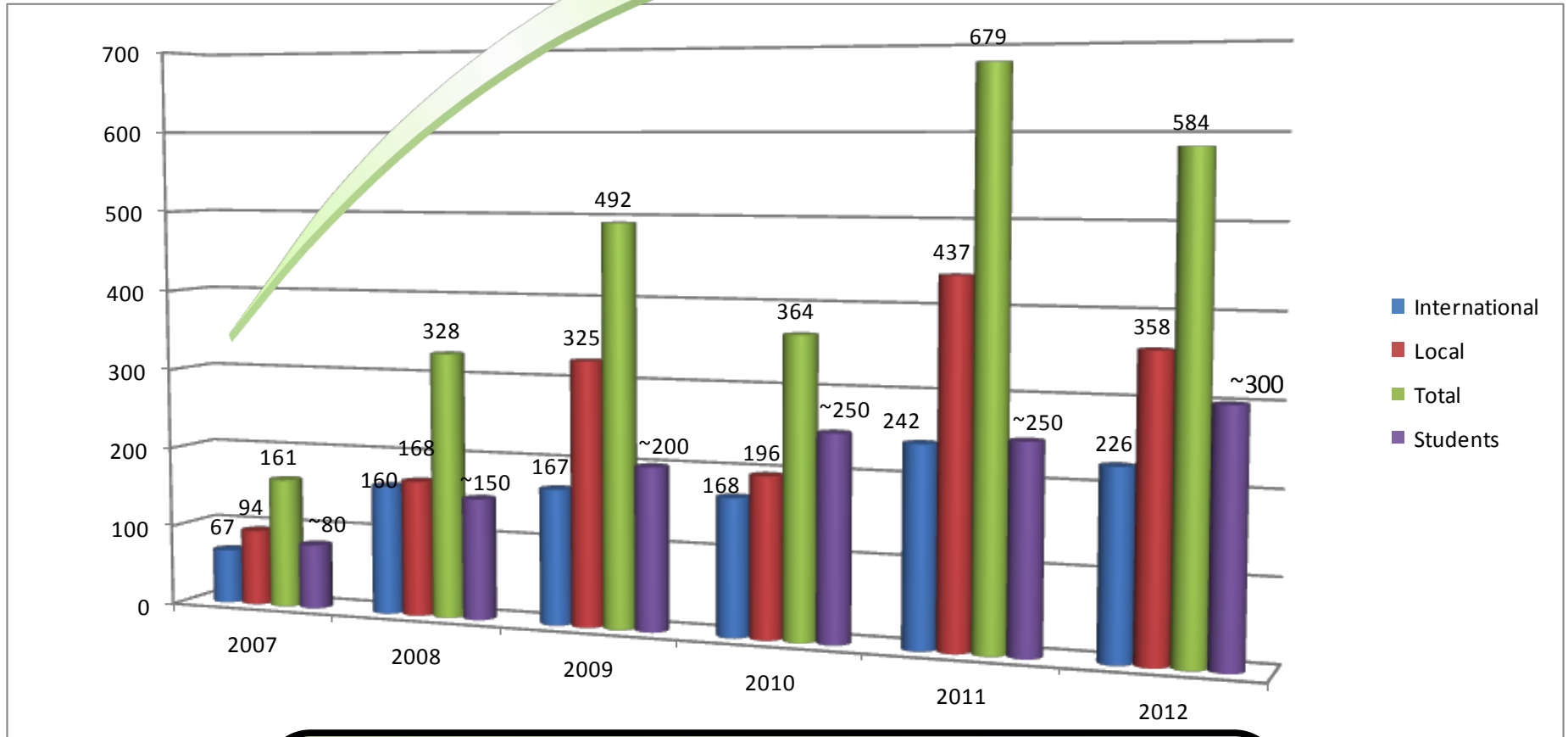


International Advisory Committee (IAC)

- David Gross (Chair)
- Robbert Dijkgraaf
- Terence Hwa
- Zhong-Can OuYang
- Sankar Das Sarma
- Joe Silk
- Henry Tye
- Xiao-Gang Wen
- Yue-Liang Wu
- Shing-Tung Yau
- Guang-Zhao Zhou



Programs & Participants (2007-2012)



32 Scientific Programs + 1 Outreach Program

Key Participants(Profs, Postdocs):
Around 2500 person-time

Students:
Around 1200 person-time

ICTP in CHINA



Fernando Quevedo met with CAS President & Vice President

ICTP in CHINA



Fernando Quevedo met with NSFC President

ICTP in CHINA

CAS has paid attention to cooperate with ICTP for promoting the developing world to make progresses in science and education

- Set up the CAS-TWAS President Fellowship program to support students from the developing world for PhD studies at UCAS and USTC. About 200 students per year get full support with total amount $200 \times 15 = 30$ million RMB support. From 4th year, the support will reach to **over 100 million RMB per year**.
- Set up the CAS President Research Program to support postdoctoral researchers and young scientists from developing world.

ICTP in CHINA

- UCAS presidents' meeting in 2013 gave the approval on establishing the International Centre for Theoretical Physics Asia-Pacific (ICTP-AP) at UCAS
- UCAS will provide the faculty positions for research and education, and staff members for administration at the center ICTP-AP. Before its fully operated, administrative clerks with the International College of UCAS engaged in the center's affairs.
- There are more than 800 international graduate students from over 60 countries at International College of UCAS
- ICTP-AP together with IC-UCAS is going to serve as an international platform for integrating the advanced research and education with paying attention to the developing world in Asia-Pacific area. KITPC programs will be very helpful for such a purpose.

ABOUT UCAS

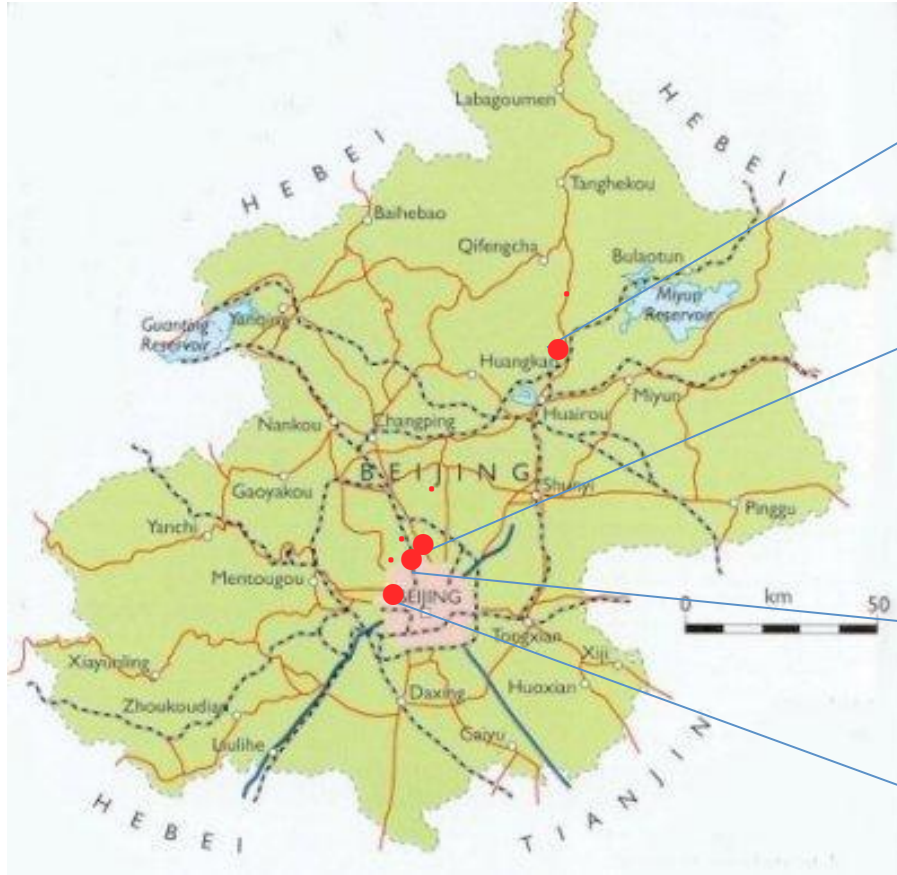
- UCAS was established as three-in-one structure of the Chinese Academy of Sciences (CAS).
- UCAS is the first graduate school in China, it was ratified by the state council in 1978.
- UCAS is the largest graduate university in China.

There are more than **40,000** graduate students, with about half of them the Ph.D. students. The committed faculty at UCAS comprises about **10,000** instructors, with about half of them the Ph.D. supervisors. Among them over 300 are Academicians.

There are 213 Master programs & **137** PhD programs; UCAS has graduated more than **100,000** graduate students with half of them PhD students; Alumni play leading roles in universities and institutions of China.

**UCAS is a competitive education institution
aimed at training scientists**

UCAS is a unique graduate University in China. It is headquartered in Beijing with **4** campuses and **18** colleges and schools.



UCAS: Beijing Campuses



Yanqihu Campus

Students: **~10,000**



Olympic Village Campus

Students: **1800**



Zhongguancun Campus

Students: **6400**



Yuquanlu Campus

Students: **4400**

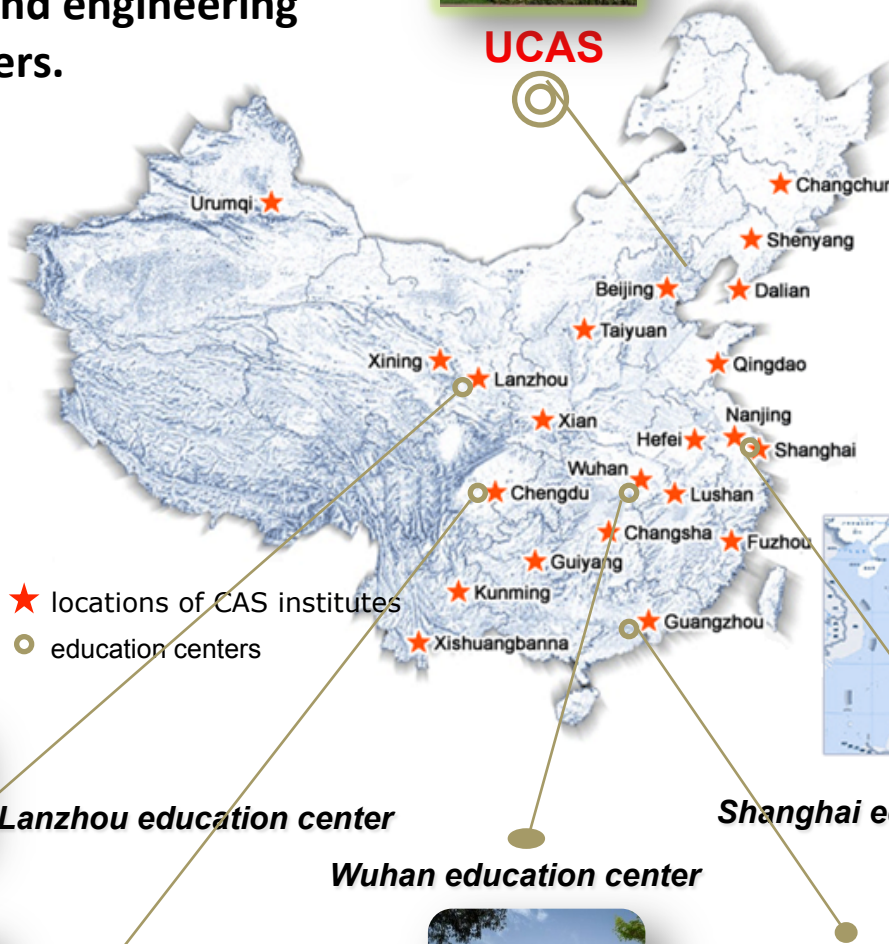
UCAS offers programs in **10** major academic categories, which includes Natural science, Engineering, Management science, Economics, Agriculture, Medicine, Philosophy, Literature, Education, Law

UCAS is supported by over **110** CAS institutes around country including over **100** national key laboratories and engineering research centers.

UCAS has **5** education centers @ Shanghai, Wuhan, Guangzhou, Chengdu and Lanzhou.



UCAS



UCAS has its distinguishing feature. All the graduate students take the basic courses at the central Campuses, and then do their research practices and complete their thesis over **110** Research Institutes and Colleges.

Edge Cutting research groups

3
88
143
27
10

National Lab [IHEP]
State Key Lab
CAS Key Lab
R&D Centers
inter. Conf. per year



Lanzhou education center



Wuhan education center



Shanghai education center

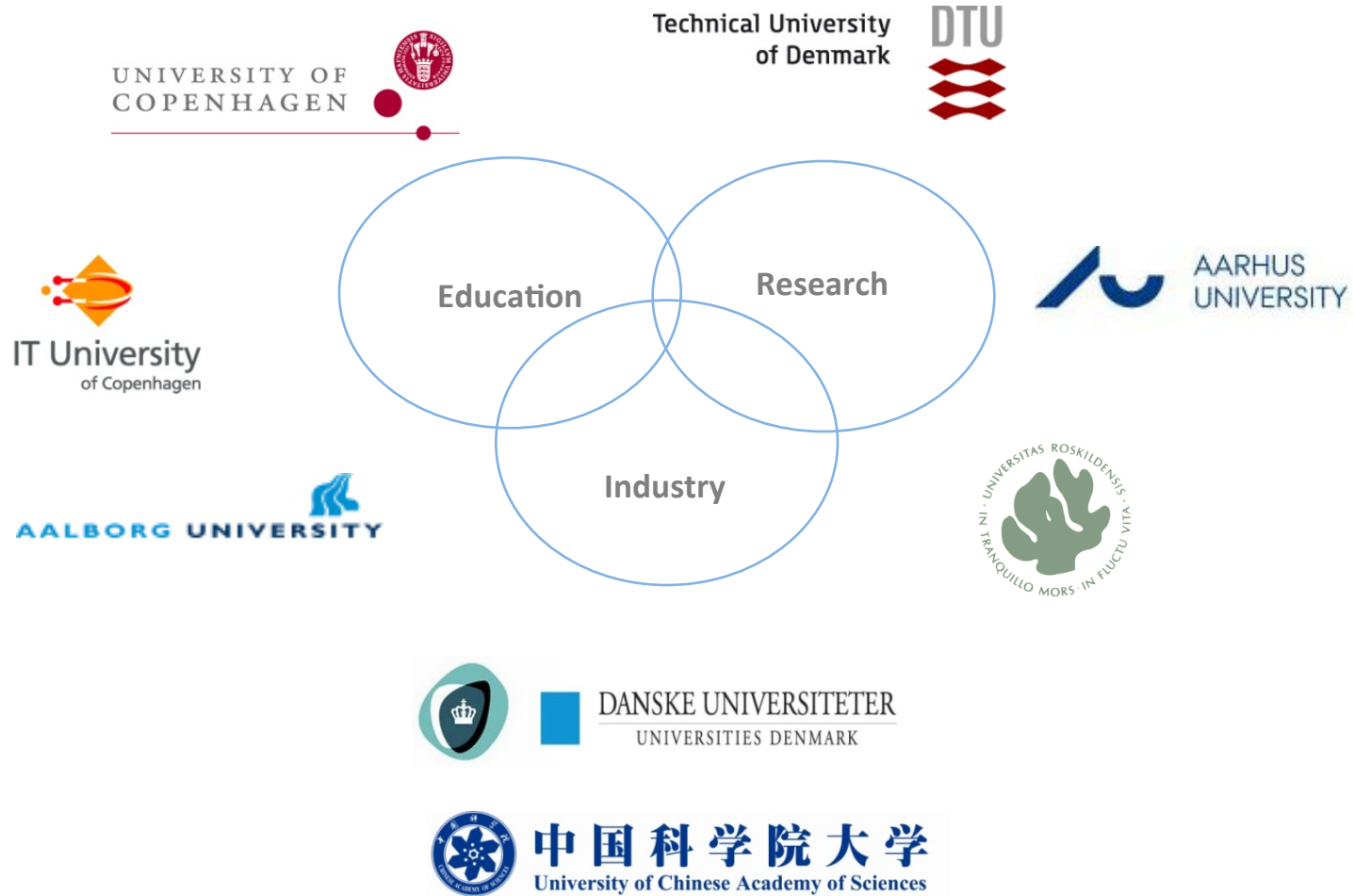


UCAS provides students the edge-cutting and international research experience.



Sino-Danish Center for Education and Research

Partnership



Fernando Quevedo gave a public lecture talk at UCAS new campus



UCAS NEW CAMPUS



LOCATION OF UCAS NEW CAMPUS



谢谢



中国科学院大学

University of Chinese Academy of Sciences

Thanks

One World One Dream

2014.10.6-9