

# Driving forces of the Chinese HEIs

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## **National policy**

- **Development is a crisp reason**
  - **infrastructure**
  - **high-end research programs**
  - **environmental challenges**
- **Chinese dream**
  - **expand the middle class for prosperity**
  - **prepare for a war in order to avoid the war**
  - **anti-corruption to maintain the harmony**
- **The daily feeling or attitude**
  - **dynamics**
  - **some mismatch between the body and soul**
  - **curiosity**
  - **individualism**

## Roll models of high-end research



SZ 2014.06.09 Chinese Jinping Underground Lab (2011.12 - ),  
2400m deep, for the detection of dark material



China Daily 2014.03.04

Compass Navigation System for positioning, timing, communication, started 2000, since 2012 operational for Asia-Pacific region with comparative precision to GPS, 15 satellites in operation

# 中国航天事业“三步走”

发射无人和载人飞船，将航天员安全地送入近地轨道，进行对地观测和科学实验，并使航天员安全返回地面。随着我国第一名航天员杨利伟于2003年10月16日成功返回，载人航天实现历史性突破，第一步任务已经完成

继续突破载人航天的基本技术：多人多天飞行、航天员出舱在太空行走、完成飞船与空间舱的交会对接。在这些基础上，发射短期有人照料的空间实验室，建成完整配套的空间工程系统

建成永久性的空间试验室，建成中国的空间工程系统，航天员和科学家可以往来于地球与空间站

## 第三步



中国空间站假想图

## 第二步



中国未来空间实验室假想图

## 第一步



神舟五号载人飞船

- Manned spacecraft program (1992 -)
- Shenzhou 5 (2003)
- Shenzhou 6 (2005)
- Shenzhou 7 (2008)
- Shenzhou 8 (2012)
- Shenzhou 9 (2013)





Tianhe 2 topped the ranking of super computing 2013, with 33,86 petaflops, nearly doubled so fast as the fastest supercomputer of US Titan with 17,59 petaflops at Oak Ridge National Lab

## **Internationalization policy**

- **Outgoings**
- **Returns**
- **Incomings**

**1978-2013 Total number of outgoings: 3,058,600**

- 47% returning
- 53% staying (2/3 in academic world)

**2013**

- CSC financed 710,700 incomings / outgoings (+15,83%)
- 73% of overseas Chinese students would return

## Further numbers from 2013

- outgoings 413,900 (+3,58%)
  - 4% governmental finance
  - 3% finance by the home HEI
  - 93% self-finance
- coming back 353,500 (+29,53%)
  - 3.4% governmental finance
  - 2.8% finance by the home HEI
  - 93.8% self-finance
- incomings 356,499 (+8.58%)
  - from 200 countries & regions to over 746 HEI
  - 147,890 regular degree study, +10.77%
  - top 10 groups - South Korea, USA, Thailand, Japan, Russia, Indonesia, Vietnam, India, Kazakhstan, Pakistan



## **Types / tiers of universities (>2000)**

- 7+2
- 985
- 211
  
- provincial U
- city U
- autonomous U
  
- branch campus
- joint campus
- ...

# University ecosystems

Place + Talents + Toys + Soup

- campus development
- lab facilities
- IT management
- talent promotion programs (elite vs. mass)
- learning tradition: know what / know how / know why
- relation between universities (competition vs. collaboration)
- relation between supervisor and student
- relation to the labor market (demand vs. supply)

From a face in a crowd to one the crowd faces  
leader = power + wealth + academic title

## **Governing structure**

- Dual governing system
- Non-academic staff
- Academic staff
  - deans
  - professors of n-levels (tenure-track)
  - lecturers & assistants
  - graduates
  - undergraduates
- HR management
- Communication strategy
- Rewarding system
- Knowledge transfer

## **Some concluding remarks**

- China is the largest talent factory for the best universities in the world.
- The world-class research facilities at Chinese HEIs are attractive.
- Chinese researchers are nearly invisible in Europe.
- European HEIs are nearly invisible in China.
- Chinese learning is a must to get an insider view.
- Let's shape the global HE landscape together.