

UGlobe, the Utrecht Centre for Global Challenges



THIRD SEMINAR OF THE RESEARCH PROJECT ON

The New Silk Road: Implications for higher education and research cooperation between China and Europe

9 April 2019

Tsinghua University

Jinchunyuan Hotel, Tsinghua Campus, Beijing



UGlobe, the Utrecht Centre for Global Challenges



























13.00	Welcome	Dr. Zheping Xie (Tsinghua University)
	Opening	Professor dr. Marijk van der Wende (Utrecht University)
13.15	Opening key note	Professor dr. Anthony Welch (University of Sydney): China's Rise, and Academic Collaboration with the EU: towards a New Silk Road of Knowledge?
14.00	Panel 1	The New Silk Road: Balancing Interests in Higher Education and Research Cooperation Chair and opening comments: Professor dr. Nian Cai LIU (Shanghai Jiao Tong University)
		Panellists: Professor dr. Sybe de Vries (Utrecht University) Dr. Jiabin Zhu (Shanghai Jiao Tong University) Mr. Marcin Grabiec (Counsellor for HE, EU Delegation to China)
		Dr. Ingrid d'Hooghe (Leiden Universty)
15.15	Break	
15.30	Panel 2	Disciplines: Performance and Engagement along The New Silk Road Chair and opening comments: Professor dr. Marijk van der Wende Panellists: Professor dr. Hamish Coates (Tsinghua University, IoE)
		Dr. Trisha Craig, (Yale-NUS Singapore) Dr. Yi Wang (Harvard Centre Shanghai) Professor dr. Isak Froumin (Higher School of Economics Moscow)
16.45	Closing	Professor dr. William Kirby (Harvard University)
	key note	3
17.30	End	

CHINA: FOLLOWER OR LEADER IN GLOBAL HIGHER EDUCATION?

中国: 全球高等教育的追随者还是领导者?

It is time to view China not just as a follower, but also look at its potential role as a global leader in higher education.

Marijk van der Wende William Kirby Jiabin Zhu **2015**









Changing Global Context

Recent geopolitical events such as Brexit and the US turning its back on multilateral trade and cooperation create waves of uncertainty in higher education regarding international cooperation, the free movement of students, academics, scientific knowledge and ideas.

At the same time China is launching new global initiatives with its New Silk Road (or One Belt One Road) project, which could potentially span and integrate major parts of the world across the Euro-Asian continents, but likely on new and different conditions, also for higher education.









Areas of Inquiry

A. What are the trends in academic "traffic" on the NSR?

Mapping of Flows of students, researchers, programmes, projects, funding (grants), data, innovations, etc.

B. How do HEIs respond to new opportunities?

Case studies on various forms of inter- and transnational higher education; networks, alliances, joint programmes and ventures, branch campuses, etc

C. Under which conditions are these activities happening?

Who defines these conditions?

Analysis of policy documents & formal agreements between governments, institutions, professional bodies, etc.

D. Based on which values?

Values underpinning the "idea of the university"; mission & model, institutional autonomy, academic freedom, scientific integrity, etc.

E. Impact on the global HE landscape and the role of the US HE sector therein



Relevance

The New Silk Road will carry more than consumer goods alone. As in previous historical periods, people, ideas, and knowledge will travel along with mutual influence.

China's rise is among the most important geo-political trends that will characterize the (early) 21st century.

And like all previous major geopolitical trends and events, have impacted international cooperation in higher education (for better or for worse), this can also be expected to result from the NSR project.

The size of China's higher education and R&D system and the speed at which it develops both to global standards, will impact that of its major competitors globally, not at least as it actively seeks to cooperate with academic partners along the Silk Road.

Need to improve our understanding of globalization.

Globalization in the East diverges from globalization in the West. Economic globalization becomes more Eastern-led and Easternization could become a force in international higher education (especially if a quarter of the world's best universities become Asian).



Panel 1

The New Silk Road: Balancing Interests in Higher Education and Research Cooperation

Chair and opening comments: Professor dr. Nian Cai LIU (Shanghai Jiao Tong University)

Panellists: Professor dr. Sybe de Vries (Utrecht University) Dr. Jiabin Zhu (Shanghai Jiao Tong University) Mr. Marcin Grabiec (Counsellor for HE, EU Delegation to China) Dr. Ingrid d'Hooghe (Leiden Universty)



Panel 2

Disciplines: Performance and Engagement along the New Silk Road

Chair and opening comments: Professor dr. Marijk van der Wende (Utrecht University)

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Shifts in global student flows

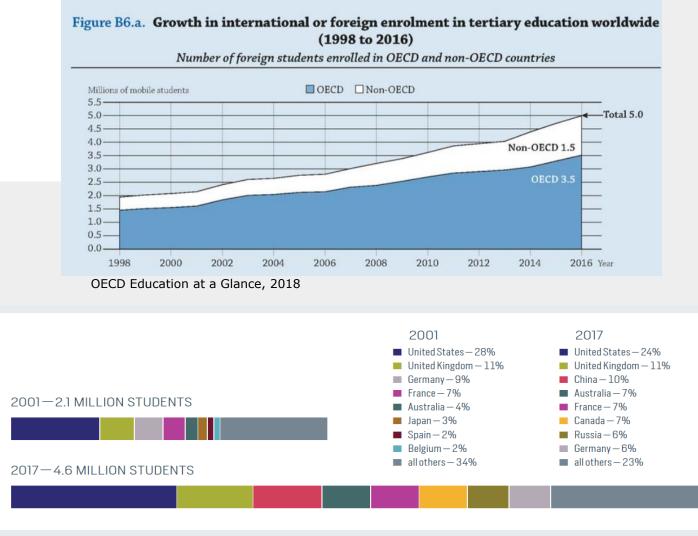
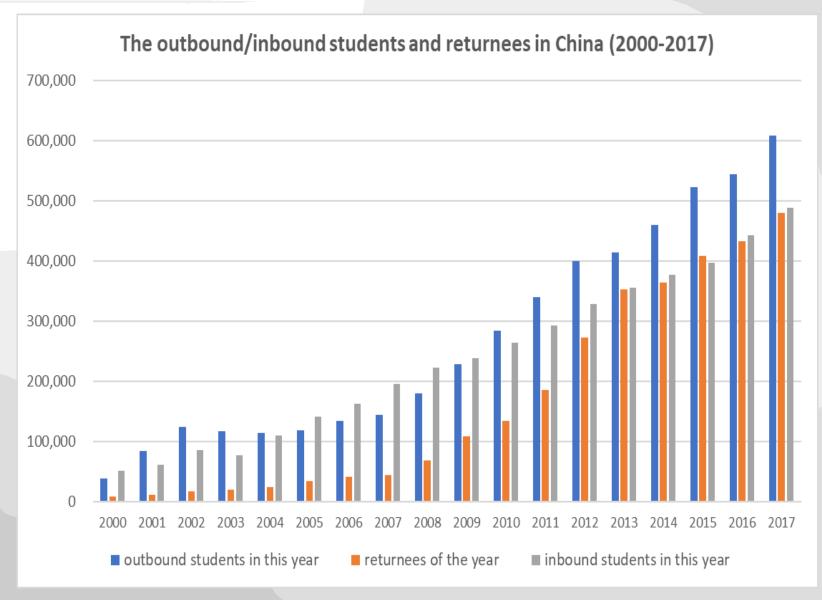


FIGURE 14 Host destinations of globally mobile students, 2001 & 2017 SOURCE: PROJECT ATLAS, 2017; UNESCO, 2017

IIE Center for Academic Mobility Research and Impact (2018). A World on the Move. Trends in Global Student Mobility ISSUE 2 March 2018

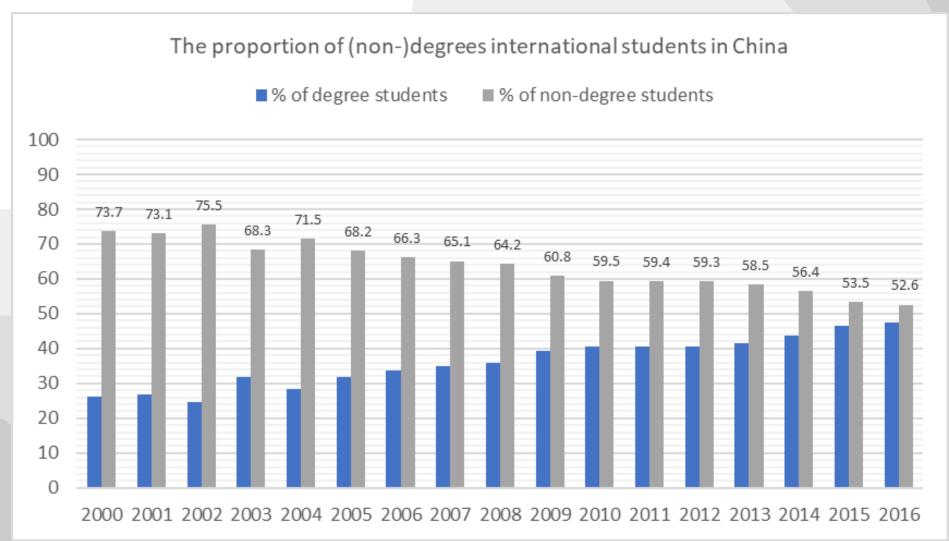




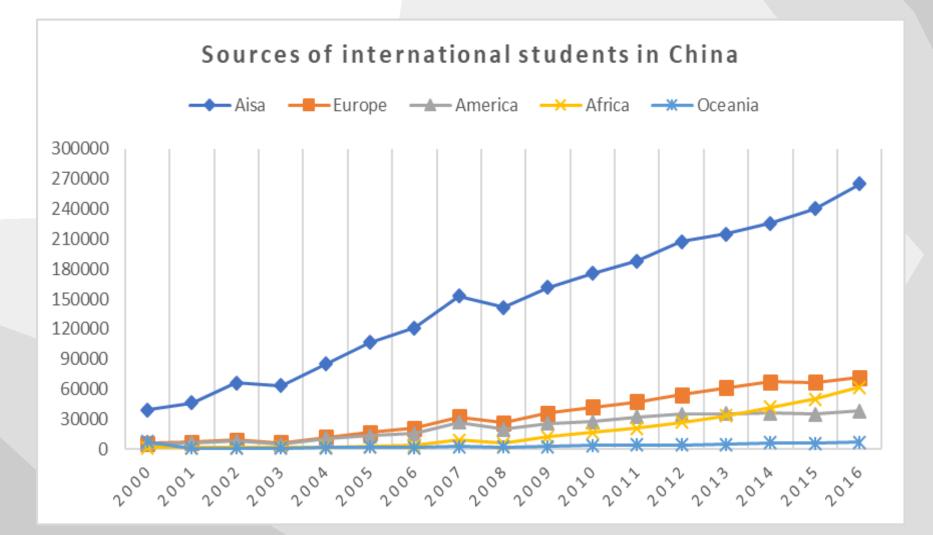
Source: MOE China; Centre for China and Globalization



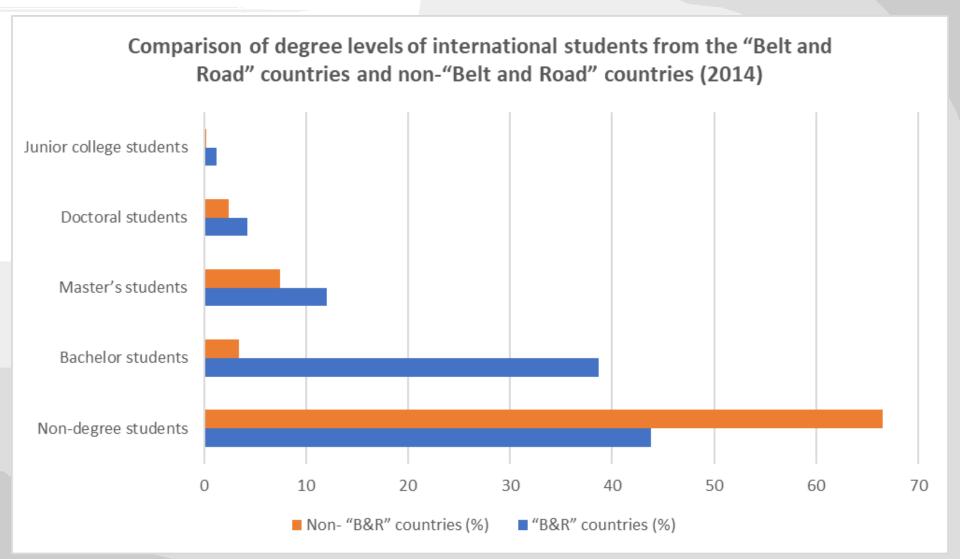
The proportion of (non-) degree international students in China





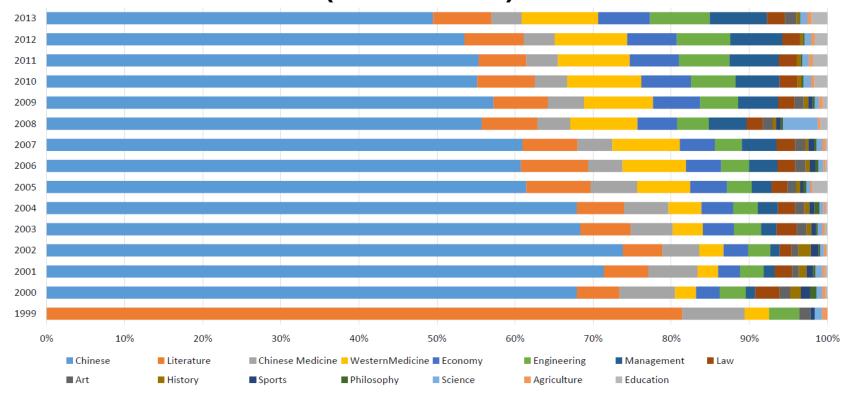








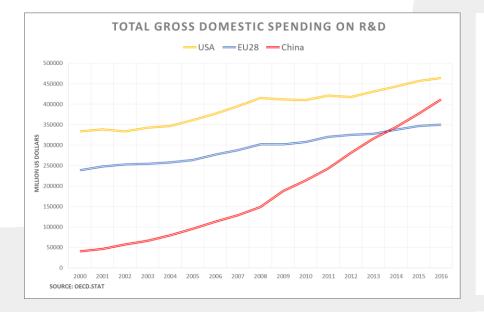
Number of Foreign Students by Majors (1999-2013)

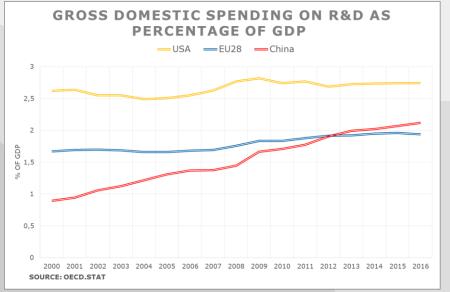


Source: Fang & Wu, 2016, p.23, China Association for International Education (CAFSA), http://www.cafsa.org.cn/research/72.html, author edited.

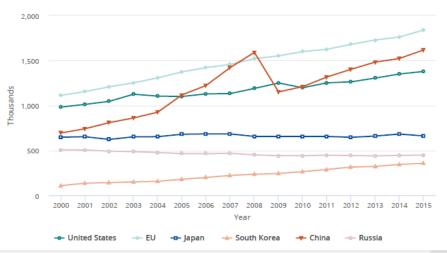


R&D: spending, researchers and output in S&E

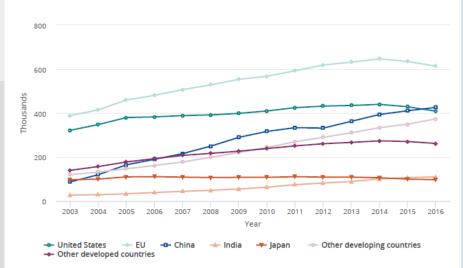




Estimated number of researchers, selected region or country: 2000–15

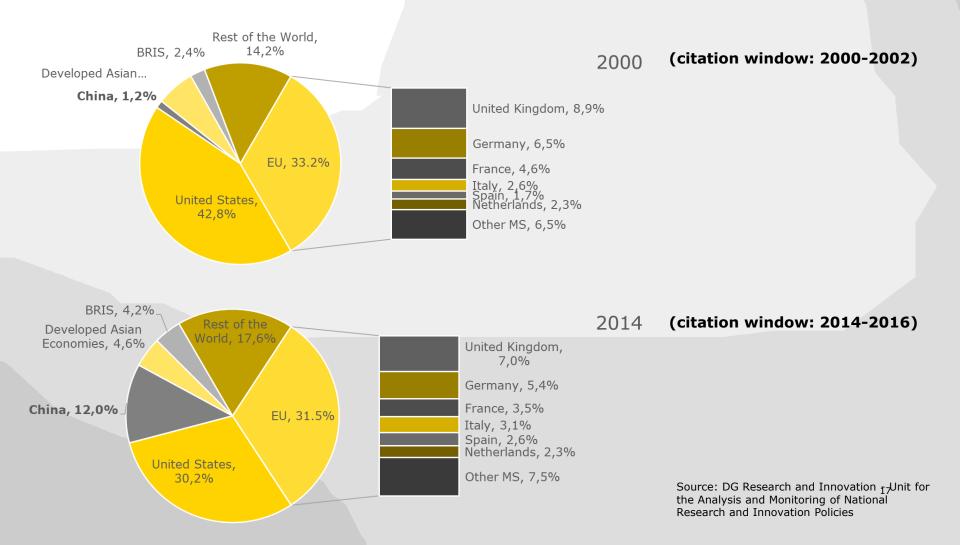








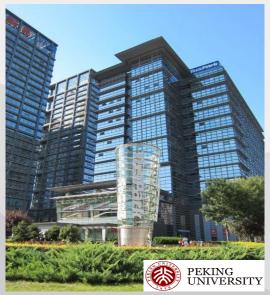
Shifts in the world share of top 10% highly cited scientific publications





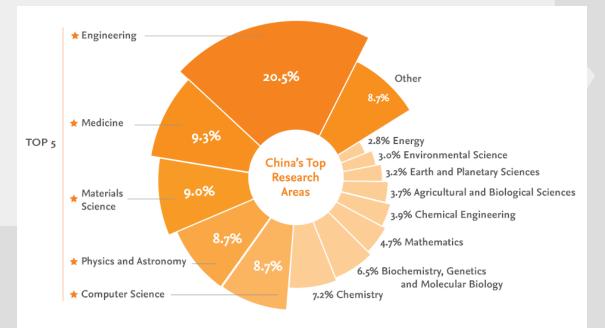
China's "Double World-Class Project" builds on the previous 211 and 985 projects and aims for China to have around 40 World-Class Universities by midcentury and to generate significant global impact





Tsinghua 45, Peking 57, Zhejiang 67 in ARWU 2018

China's Most Prolific Research Areas (2011-2016)



Source: https://www.elsevier.com/research-intelligence/campaigns/onebeltoneroad



China's rise - STEM



Table 1: Subject fields in which China holds number 1 position and \geq 20% of global top 50 (based on ARWU Academic Subjects Ranking 2017 and 2018)

Subject field	Number of institutions in top 50 2017 /2018	Highest position 2017-2018
Instruments S&T	15 / 19	1/1
Instruments S&I	10/19	1/1
Transportation	/ 12	/ 1
Metallurgical engineering	15 / 11	1 / 1
Telecom engineering	11 / 11	1 / 1
Aerospace	/ 10	/ 1

Table 2: Subject fields in which China holds number 1 position or \geq 20% of global top 50 (based on ARWU Academic Subjects Ranking 2017 and 2018)

Subject field	Number of institutions in top 50	Highest position	
	2017 / 2018	2017 / 2018	
Civil engineering	8 / 9	1 / 1	
Remote sensing	7 / 8	1 / 1	
Marine/ocean engineering	8 / 8	1 / 1	
Mining	13 / 16	1/2	
Mechanical engineering	10 / 13	8/2	
Chemical engineering	10 / 13	4/3	
Energy S&E	10 / 13	13 / 6	
Nano S&E	14 / 11	6/6	
Automation & control	/ 12	/ 4	
Biomedical engineering	/ 10	/ 3	
Biotech	/ 10	/ 5	

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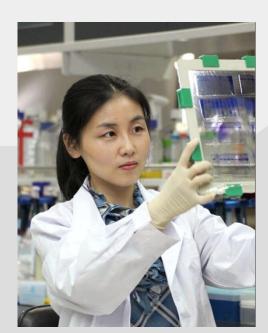
China's rise - STEM

Table 3: scientific impact per field (based on Leiden ranking, CWTS 2017 and 2018)

Field	Impact (number of publications)		Impact (number of top 10% publications)		Impact (percentage of publications in top 10%)	
	Number of institutions in top 50 2017/2018	Highest position(s) 2017/2018	Number of institutions in top 50 2017/2018	Highest position(s) 2017/2018	Number of institutions in top 50 2017/2018	Highest position(s) 2017/2018
Math & Computer sciences	23/29	1-8/1-9	16/22	1/1-3	1/8	10/11
Physics & engineering	25/28	1-5/1-7	17/20	3/1	/1	-/50
Life and earth sciences	/12	/4	/6	/16	/2	/18

Table 4: combining all high citation papers (top 10% of research field), in math and physical sciences, 2012-2015 (based on Leiden ranking, CWTS 2017)

World rank	University and system	High citation papers in Math, Computing, Physics and Engineering
1	Tsinghua University, China	1421
2	MIT, USA	1420
3	UC Berkeley, USA	1360
4	Nanyang Technological University, Singapore	1190
5	Stanford University, USA	1184
6	Zhejiang University, China	1113
7	Harvard University, USA	1008
8	National University Singapore	975
9	Cambridge University, UK	936
10	ETH Zurich, Switzerland	842
11	University of S&T, China	835
12	Shanghai Jiao Tong University, China	834





Cooperation in H2020

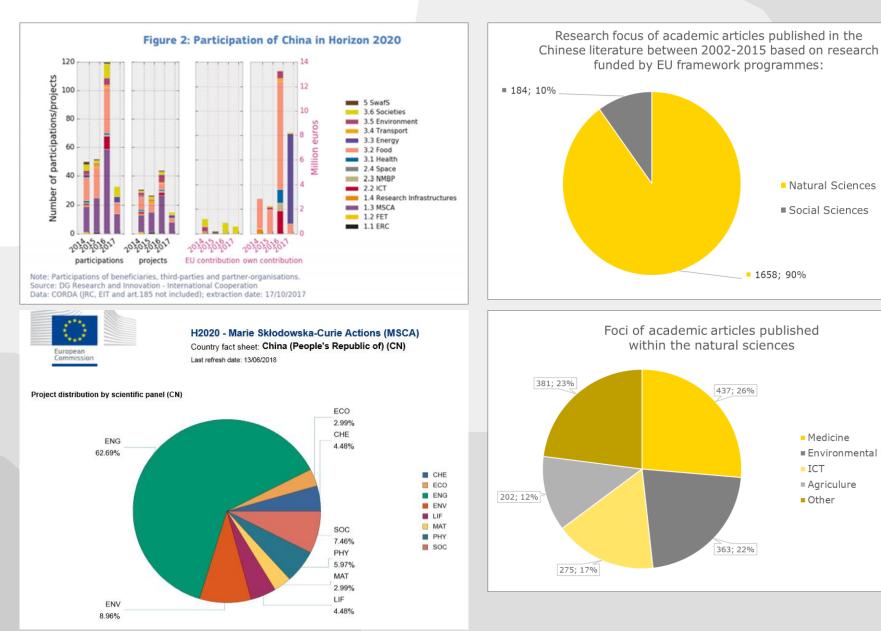
Medicine

■ Agriculure

ICT

Other

Environmental protection





《合肥宣言》签署仪式

斯列研讨会

China's One Belt One Road: Will it reshape global higher education?

HEFEI STATEMENT (2013) ON THE TEN CHARACTERISTICS OF CONTEMPORARY RESEARCH UNIVERSITIES ANNOUNCED BY AAU, LERU, GO8 AND C9



summerschool UTRECHT



The New Silk Road

Connecting students and universities from China and Europe

Utrecht Summer School 19-23 August 2019



International relations are shifting as multilateral trade and cooperation are being renegotiated by the US and UK. Meanwhile, China is launching the New Silk Road (or One Belt One Road) that could potentially span and integrate major parts of the world across the Euro-Asian continents.

Based on the UU-led international research project on the New Silk Road, this course will explore how these new relationships are affecting cooperation between Chinese and European universities.

Globalization is increasingly contested in the West, while China claims a leading role towards a more sustainable and inclusive version of economic globalization. Should we understand this as "globalization with Chinese characteristics"? It is crucial to learn to understand China better and to have an open eye at how its rise and changing international position concerns Europe.

Cooperation in higher education and the mobility of students and researchers are major components of the new relations between China and Europe. But it is unclear how these new relationships are affecting European higher education and research:

- What types of academic flows and cooperation activities are emerging along the NSR?
- What do students experience, and how do universities respond?
- Under which (legal regulatory and technological) conditions are these activities taking
 place and who defines these?
- What values are underpinning the mission of the university in Europe and in China and how will cooperation contribute towards an open society?

This course will explore these questions, based on the on-going findings from the UU-led international research project on the New Silk Road.

Graduate students (research masters and PhD) from social sciences, law, economics, and cultural studies, will be invited to actively contribute by presenting their own research (plans) in this area, which will be discussed in small groups led by senior scholars.

Lecturers for this summer school will be drawn from the interdisciplinary team of high-level scholars engaged in the international research project on the New Silk Road, as well as other invited experts in the field.

Organizing Committee:

Prof. dr. Marijk van der Wende (Utrecht University - coordinator) Dr. Yuhao Chen (Shanghai Jiao Tong University) Lin Tian (Shanghai Jiao Tong University & Utrecht University)

Application deadline: 1 April, 2019

Fees: course fee - €600; housing fee - €200

For more information and application: https://www.utrechtsummerschool.nl/courses/law-economics/the-new-silk-road

A New Silk Road: Achievements, Prospects and Challenges in China-EU H. Ed. Relations

Anthony Welch University of Sydney

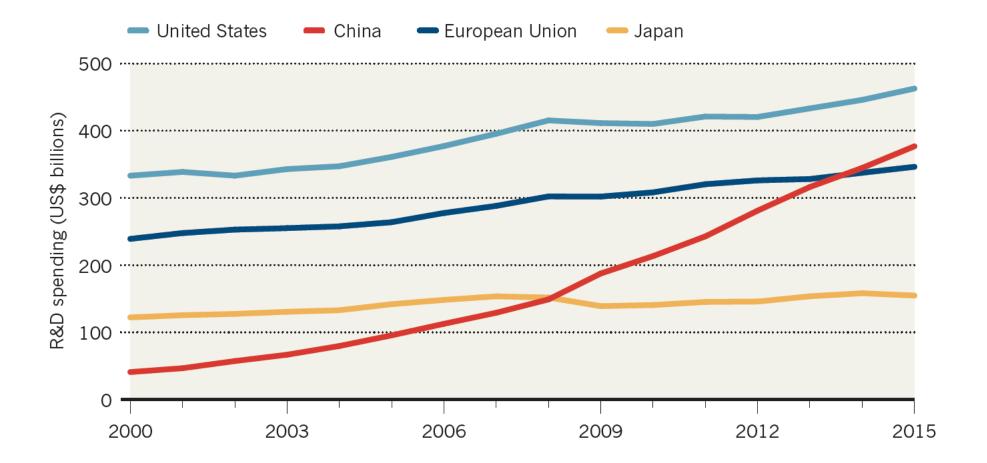
China's Scientific Rise: Background

- China's stellar economic rise, with a GDP growth over recent decades averaging around 10 per cent until recently, often blinds analysts to other dimensions of China's rise.
- Of these, the rise of its universities and innovation system is among the more notable, making it an increasingly attractive knowledge partner for, *inter alia*, European Union (EU) university systems, and its higher education institutions (HEIs). (E.g. Norway's co-authorship with China quadrupled between 2006-2016, esp in Health, IT, Environment, bio-technology. It signed an MoU with National Natural Science Foundation [NSFC] and Ministry of Science and Technology [MOST] in 2017).
- This should come as no surprise, given China's long history of scientific innovation, including its Four Great Inventions gunpowder; printing (both woodblock and movable type); paper; and the compass, as well as breakthroughs in mechanics, hydraulics, and mathematics, horology, metallurgy, agriculture, engineering, warfare and naval architecture.
- "For much of human history, China led the world in science and technology. .. Chinese scientific civilisation was rich, and dynamic in many fields." (Nesta 2013)
- In that sense, China's contemporary scientific rise is better understood as a Renaissance.
- The epistemic Silk Road connecting EU and China is also centuries old: technological innovations flowed in both directions, while key individuals, such as Li, Mado [Matteo Ricci] (1552-1610), and Marco Polo (1254-1324), were also very important.

China's current scientific rise

- This scientific renaissance has significant, if at times complex, implications for the Europe of Knowledge.
- In particular, it makes China a more attractive partner for EU H. Ed. Systems and HEIs (e.g. recent cooperation between U. Wien and China in sending encrypted quantum messages). China is on the path towards becoming an innovation nation.
- Its research prominence is much more evident in the natural and technological sciences than in the social sciences.
- Although its scientific rise is sometimes said to be more impressive in quantitative terms, than qualitative, this is changing. (more high cited researchers, + networks of mainland scientists are growing) E.g. Cell biology example... From 2000-2014, China's share of top 1% of publications more than doubled (EU's rose by 50%).
- China's rising R&D intensity (ratio of R&D to total GDP) surpassed that of the EU in 2013, and in 2015 it spent 15% more on R&D than the collective EU. But, as in EU, it is very differentially distributed
- NSF 2014 study of science and engineering research productivity shows that China's share of highly-cited articles was still 37 per cent less than expected. (Elsevier 2017, Ryan 2019)

R & D Expenditure, China, EU, US 2000-2015.



China's current scientific rise: Achievements

- Much of China's investment and energy is directed to key area of natural and applied sciences.
- Nanoscience, Artificial Intelligence, Robotics, and New Materials are pillar projects of China's signature *Made in China 2025* scheme, designed to position the country as a leader in these fields within the coming years. Bio- tech, including genetic engineering, is another area of major investment.
- China recently overtook the US in overall scientific output, and lies second in both Patent Cooperation and Treaty (PCT) patents and overall citations.
- The pressure to publish internationally, esp among leading HEIs, is helping propel China's research output: over the decade 2001-2011, its share of total Science and Engineering articles rose by 267%, relative to the EU's decline of 11.4% (and the US decline of 13.3%).
- Chinese scientists and engineers were cited 19 million times in the Web of Science, 2007-17. While far behind the US total of 66 million, it is rising far faster by 30% in 2017 alone. China's share of world scientific output, as measured by WoS, rose from 5% in 2002 to 13 % in 2011. The UK's declined from 9% to 7.5%.

China – Europe relations

- China-EU relations are diverse and complex. To some extent this reflects major differences within Europe (Mitter: N-S differences greater than E-W?), as also in China. (e.g. Yunnan's GDP per capita is ¹/₄ of Beijing, which is ¹/₄ of Haidian)
- E.g. Chinese firms such as Cosco are behind major *Yi Dai, Yi Lu* investments in Europe's southern ports: Piraeus (Greece) Noatum (Spain) and Genoa (Italy) although it also has interests in Rotterdam, Zeebrugge, Antwerp and Hamburg. Chinese investment has helped revive Piraeus. Given Italy's parlous budgetary situation, no surprise it was the first G7 nation to join BRI, March 2019. (US unhappy; China's response: "mind your own business")
- China is also investing in Eastern Europe, under the 16+1 scheme. While this has aroused concerns in parts of W. Europe, (esp. Germany?), eastern European states argue that Chinese investment only takes the place of missing input from W. Europe. China emphasises: ".. complementarity of "16+1" with China-EU relations."
- China now invests more in EU, than reverse. But overall, China's interest in Europe is more than financial. A significant rationale for *Yi Dai, Yi Lu* is strategic and geo-political: to help China resume its central place in the world, after more than a century of humiliation at the hands of outside powers. Its diplomatic and cultural roles are also expanding, including in Europe.
- But EU's 10 Point Action Plan, stressing more balance between EU and China, data security, and more protection of EU industry, is an expression of frustration at Chinese market distortions, overcapacity technology transfer, and slowness to open market. Will be part of Li Keqiang's EU meetings, today (April 9), but not subsequent 16+1 meetings in Croatia?

Chinese Knowledge Diaspora in EU (1)

- As part of China's rise, its scholars and students play an important role in EU, including the signature *Europe of Knowledge* policy.
- Such individuals form an important epistemic and cultural bridge between China and the EU. An incomplete survey revealed 120,000 Chinese students enrolled in EU HEIs (cf. US 127,000, Australia 60,000). Same Survey listed 6,697 academic staff from China working in EU universities, principally in the UK and Germany, and across a range of disciplines. Cohort was strongly gender biased: very large majority of recruits were male.
- This is boosted by China's development of a range of Foreign Talent programmes, that, while in principle open to all, in practice often attract a high proportion of *hua qiao* (overseas Chinese). (Welch and Cai) E.g. *Bairen Jihua, Qianren Jihua, Yao Yao Yao, Haiwai Mingshi, Yangtze River* scheme etc. Wealthier eastern provinces have parallel schemes, that provide higher salaries, grants for laboratories, and assistance with children's schooling, as incentives to recruit foreign talent. Leading universities, too..
- China has taken note, instituting key policy reforms regarding high-skilled *hua qiao*, notably from *huiguo fuwu* to *weiguo fuwu*.

Chinese Knowledge Diaspora in EU (2)

- Europe has also taken note, with several states instituting a range of bi-lateral scholarship schemes.
- For Germany and the UK, Chinese students represent the largest source of international enrolments. For France, China was the second largest source of international students, (after Morocco).
- 2011 survey showed Germany and the UK attracted the largest cohorts of Chinese academics, each with over 2,000. More recent German data recorded 1,878 Chinese Visiting Scholars and 1,571 researchers employed in its universities and research organizations (2015).
- Education is a key bridge in China-EU relations: in 2016, 73 per cent of all first permits issued to Chinese people migrating to the UK, France, Germany, Netherlands, Spain, and Italy were granted for education, while only 7 per cent for work (Eurostat 2018).
- By the end of 2015, 303,451 Chinese students and scholars were studying/working in the EU (24% of all Chinese studying or researching overseas). 123,018 Chinese students and scholars went to the EU in 2015, (29 % increase from previous year).
- UK by far the most popular (95,000), followed by France, Germany, Italy and The Netherlands (NB all Northern Europe). In 2018, cf. US 291,000, Australia 112,000, Canada 61,000, Japan 71,000.
- The outlines of a China-EU New Silk Road of Knowledge are increasingly visible; and growing.

QA in EU-China Cross Border H. Ed.

- Cross-border programmes also part of the Silk Road in H. Ed. While QA is an issue in most H. Ed. Systems (often divided into EQA and IQA), its of greater complexity when considering (expanding) Cross Border H. Ed. (CBHE). Norms and cultures re QA often differ significantly, across countries.
- QA mechanisms exist in both China and EU. European QA systems generally include internal self-evaluation; visits by external expert review panel; external evaluation; and public reporting.
- Asian QA systems often caught between the rhetoric of autonomy, and reluctance by central authorities to relinquish control. Also, the acute pressure to publish in several Asian systems, including China, (esp @ leading HEIs) reduces the weight attached to Teaching, and Service. (Hanafi; HEP Special Issue)
- China's QA system comprises audit and accreditation processes, and now, often, external panels to evaluate Self-Evaluation Reports (e.g. Zheda experience) The intense competitiveness of the Chinese system sometimes leads to perverse effects: corruption, concentration on compliance, and results, rather than quality improvement. (Liu 2005, Zhang 2008, Qiu 2009) IQA sometimes uncertain? New processes for teacher evaluation introduced recently.
- Student input? A survey of Beijing HEIs showed student satisfaction higher in 985 HEIs, then 211, and lowest at 'other' HEIs (Zhang & Yue 2009).
- QACHE (2015) underlined varying issues in EU systems re. QACBHE: lack of specific agency for QACBE (Spain), status of university's own degrees; numerous agencies makes it difficult to assign ultimate responsibility; differing understandings between HEIs; uncertain distinctions between double degrees, joint degrees, degrees abroad, & partnerships; status of *Diplômes Universitaires* (France); who/which agency is responsible for accreditation (if a German partner's degree is not granted); differences re. length of study programmes, no. of credits awarded, modularisation, or degrees offered (Germany). How far has development of EHEA dealt with such issues re CBHE? Language issues are not uncommon in CBHE programmes, as also finance, and continuity of foreign teaching staff.

Limits to Collaboration

- Corruption: an issue in both EU and Chinese H. Ed. Relates to both research collaboration, and CBHE.
- Guanxi: listed by some Chinese scholars abroad as a barrier to their return, and/or greater engagement. Too much time 'schmoozing' officials. (Rao & Shi 2011)
- Trade (Tech) War effects, and growing nationalism, both in Eastern Europe, UK (Brexit) and China? Will recent US restrictions on Chinese hi-tech scholars induce similar restrictions among EU systems? (Tsinghua example)
- Chinese discomfort: recent survey of Chinese scholars in EU: 20% reported discrimination in Holland, and discomfort re. questions about, and criticisms of, Chinese politics. Similar in Germany: "I feel that I have to defend my country"
- Patriarchy: more men than women gain the chance at mobility. Mobile female Chinese scholars often come second: "I did not dare take the offer. I did not dare leave my child behind longer... My husband was very busy." (Germany, 2019) Is the Silk Road (mostly) male?
- QA issues. MoE recently terminated 234 Sino-Foreign programmes. Blending diverse QA systems not simple.
- Will rising EU concerns re Chinese investment and industry translate into greater checks on acad exchanges? E.g. recent collaboration between CAS and AAS, Vienna 2017: world-first transmission of quantum cncrypted data.
- Overall, the new China-EU Silk Road of Episteme has great promise but some practical obstacles. Collaboration and good will on both sides is needed in overcoming these, and take full advantage of China's rise, despite global uncertainty, and rising nativism.

Beijing, Tisghua University 9 April 2019



The New Silk Road & Balancing conflicting interests EU law perspective

Professor of EU Single Market Law & Fundamental Rights – Jean Monnet Chair – Centre for Global Challenges

Sybe A. de Vries

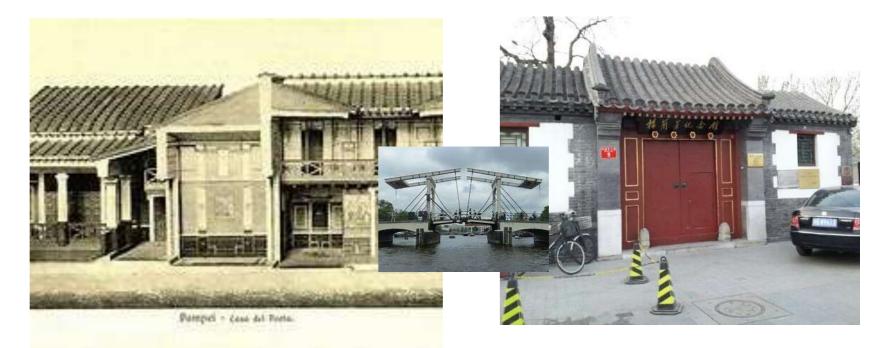
Balancing conflicting economic rights & public values within the EU

- Preliminary point: EU limited competence in field of education
- > Education as a service?
- BUT: EU (Digital) Single Market & Trade → broad scope & competence
- ✓ The Four Freedoms are not absolute
- ✓ Balancing (see also Professional Qualifications/GDPR
- Key role for the proportionality principle
- Growing role and challenges of Fundamental Rights in the EU (academic freedom, nondiscrimination, social rights, privacy & data protection)



Balancing conflicting economic rights and public values in relationship China & EU

- How to guarantee high standards of security, public health, safety, consumer protection of fundamental rights?
- Which standards should prevail and which principles should be applicable?
- Common ground?
- ▶ (Personal) data → particularly strict EU regime extra-territorial effects? (e.g. Adequacy decision Japan)





Thank you for your attention!

Sybe A. de Vries s.a.devries@uu.nl