

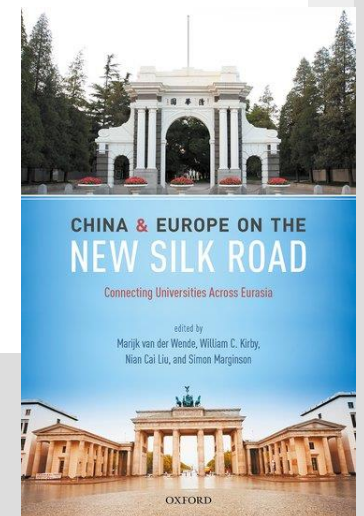


CGHE SEMINAR 191

Eurasian relations in higher education in the context of the fast moving world scene

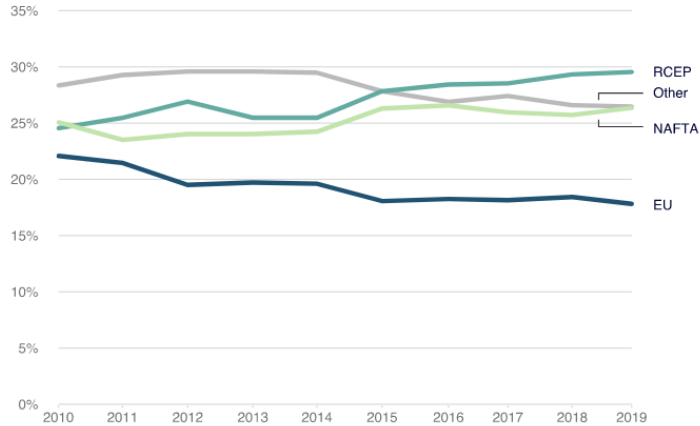
Marijk van der Wende

25 February 2021



The Eurasian relationship in perspective

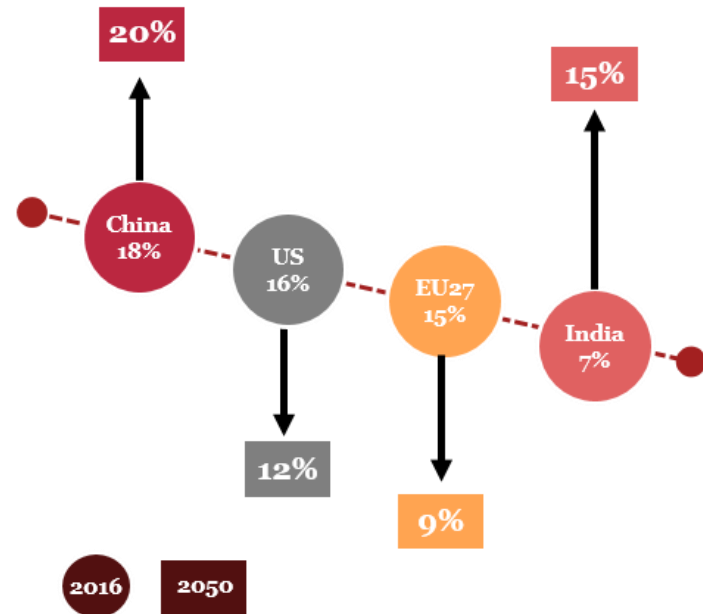
Figure 1: Percent of World GDP



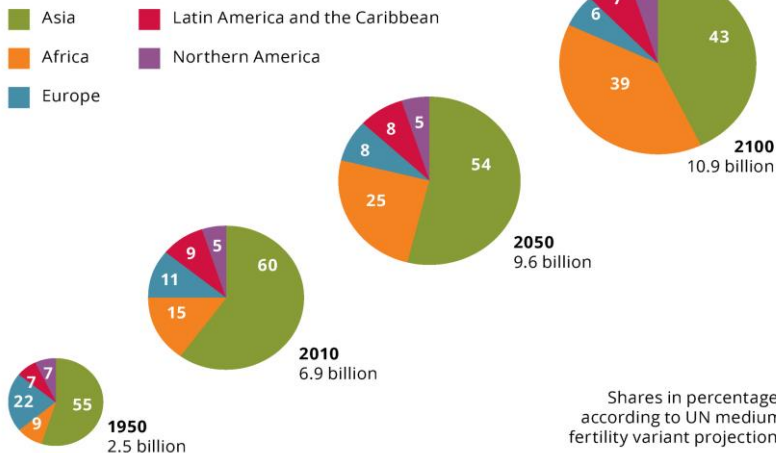
Source: World Bank

The US and Europe will steadily lose ground to China and India

Share of world GDP (PPPs) from 2016 to 2050...



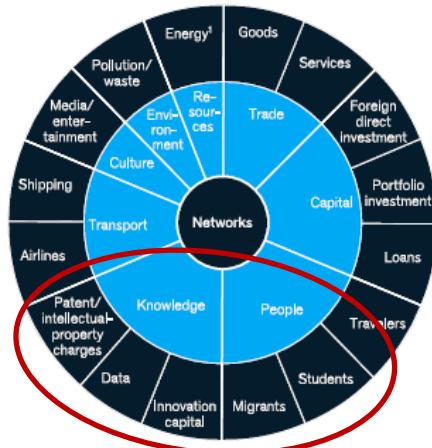
Sources: IMF for 2016 estimates, PwC analysis for projections to 2050



Patterns of globalization are changing

A quarter of the world's best universities is expected to be Asian by 2040

Asia has gained scale on seven of eight types of flows over the past decade.



Asia's share of global flow, 2005–07 vs 2015–17,² %



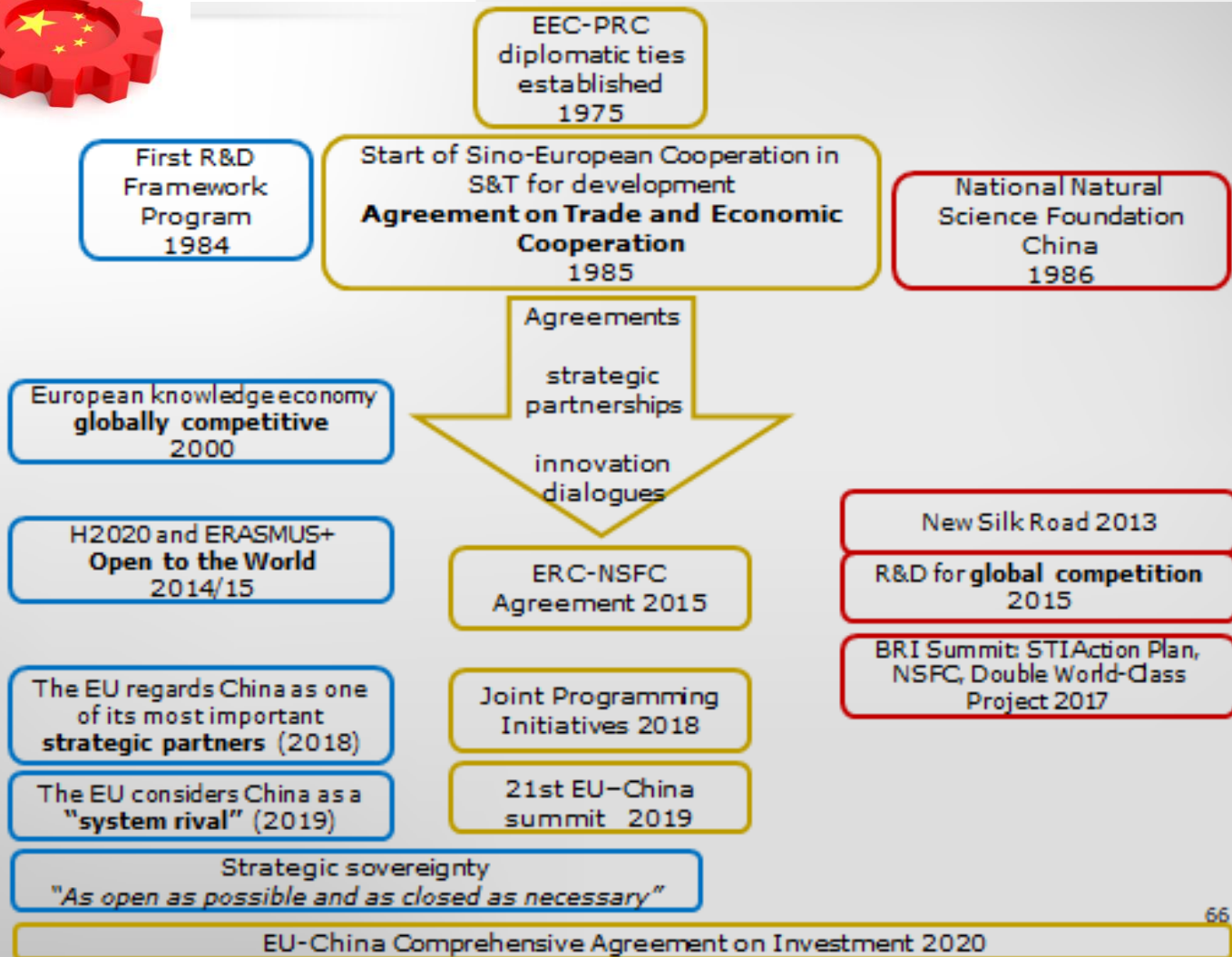
ALL ROADS LEAD TO CHINA

China's modern-day silk routes are reshaping science around the globe.

Nature, May 2019



A (short) history of Sino-European collaboration in R&D



China's research publication output and its share in top 10% highly cited scientific publications increased ten-fold in this century

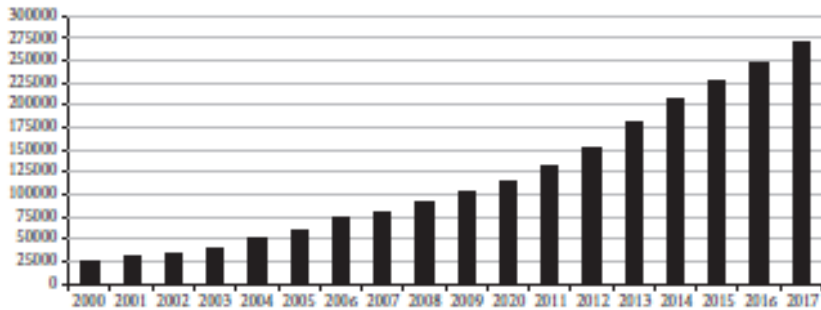
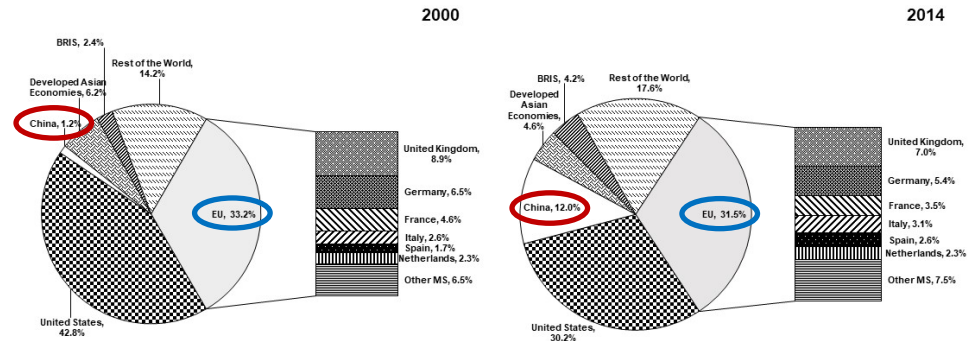


Figure 4.1 China's research publication output has increased ten-fold in this century

World share of top 10% highly cited scientific publications: 2000 (citation window: 2000-2002) and 2014 (citation window: 2014-2016)



China's research: more collaboration, but unequally distributed across global regions and subject fields

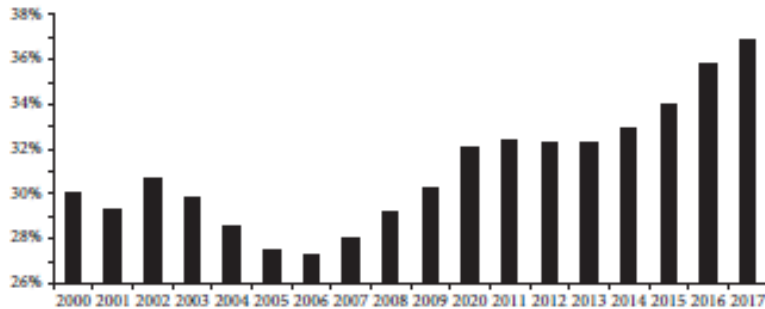


Figure 4.2 Chinese science has also become much more internationally collaborative in recent years

Table 4.1 Chinese international co-publications are unequally distributed across global regions (2010–2018)

	Share in Chinese international co-publications (%)	CAGR (%)
North America	35	14
Europe and Turkey	31	16
East Asia	9	10
Oceania	7	19
South East Asia	4	15
Middle East	3	26
South Asia	2	25
South and Central America	2	18
Africa	2	26
Central Asia and Russia	2	18

Table 4.2 Chinese international co-publications are unequally distributed across major fields of worldwide science (2010–2018)

	Share of field in Chinese international co-publications (%)	CAGR (%)
Science, Technology, Engineering, Mathematics	64	21
Medical, Life, and Health	30	15
Social Science and Humanities	6	15

Sino-European research cooperation profiles differ per country; preferred fields mostly in STEM

Table 4.4 Sino-European research cooperation profiles differ per country (2010–2018)

	Scale of co-publication output with China	GAGR* (%)	Share of bilateral in all co-publications (%)
Iceland (IS)	Small	12	17
Latvia (LV)	Small	50	2
Luxembourg (LU)	Small	27	22
Belgium (BE)	Medium	16	35
Bulgaria (BG)	Medium	21	3
Finland (FI)	Medium	17	32
Netherlands (NL)	Large	16	37
Spain (ES)	Large	19	23
United Kingdom (UK)	Large	16	57

* Includes bilateral and multi-lateral co-publications (2010–2018).

Table 4.5 Preferred fields of Sino-European research cooperation differ per country

Country	Cooperation	Field of science	CARG** (%)
NL	Multilateral	Electrical Engineering and Telecommunication	66
NL	Multilateral	Energy Science and Technology	69
NL	Multilateral	Environmental Sciences and Technology	72
NL	Bilateral	Information and Communication Sciences	78
NL	Bilateral	Instruments and Instrumentation	105
NL	Bilateral	Mechanical Engineering and Aerospace	54
ES	Bilateral	Agriculture and Food Science	78
ES	Multilateral	Agriculture and Food Science	70
ES	Bilateral	Basic Medical Sciences	106
ES	Bilateral	Biological Sciences	96
ES	Multilateral	Civil Engineering and Construction	106
ES	Multilateral	Mechanical Engineering and Aerospace	87
UK	Bilateral	Civil Engineering and Construction	43
UK	Multilateral	Civil Engineering and Construction	75
UK	Bilateral	Energy Science and Technology	59
UK	Multilateral	Energy Science and Technology	73
UK	Bilateral	Environmental Sciences and Technology	46
ES	Multilateral	Agriculture and Food Science	70
UK	Multilateral	Mechanical Engineering and Aerospace	69

Research focus of academic articles published in the Chinese journals between 2002–2015 based on research funded by EU framework programmes

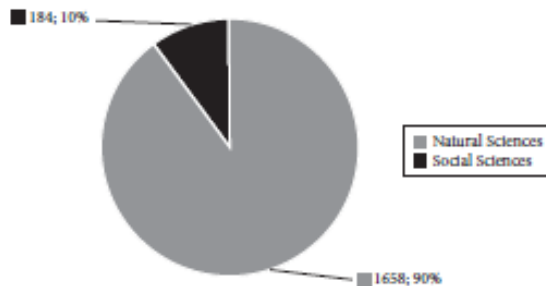


Figure 3.4 Focus of publications in Chinese journals from EU-funded research



Chinese universities rise on global rankings explained by their strength in STEM

Table 1.1 Subject fields in which China holds number 1 position and/or more than 20 percent of global top 50 (based on ARWU Academic Subjects Ranking 2017–2019) excluding Hong Kong

Subject field	Number of institutions in top 50 2017/2018/2019	Highest position 2017–2018/2019
Instruments S&T	15/19/20	1/1/1–5
Mining	13/16/15	1/2/1
Transportation	—/12/15	—/1/1
Telecom engineering	11/11/14	1/1/1–5
Marine/ocean engineering	8/8/14	1/1/1
Metallurgical engineering	15/11/12	1/1/1
Aerospace	—/10/10	—/1/1
Remote sensing	7/8/10	1/1/1
Civil engineering	8/9/9	1/1/1
Mechanical engineering	10/13/12	8/2/2
Chemical engineering	10/13/16	4/3/3
Energy S&E	10/13/16	13/6/3
Nano S&E	14/11/17	6/6/3
Biomedical engineering	—/10/13	—/3/2
Automation & control	—/12/13	—/4/4
Material sciences	15	11
Chemistry	10	14
Biotech	—/10/6	—/5/4

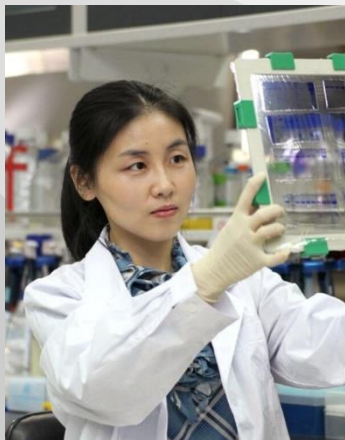
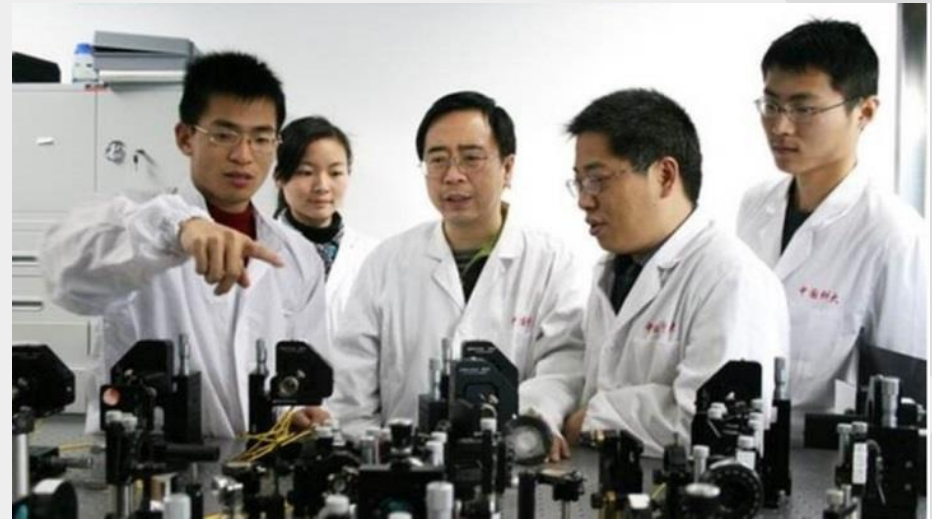


Table 1.2 Scientific impact per field (based on Leiden ranking, Centre for Science and Technology Studies 2017–2019) excluding Hong Kong

Field	Impact (number of publications)		Impact (number of top 10% publications)		Impact (percentage of publications in top 10%)	
	Number of institutions in top 50 2017/18/19	Highest position(s) 2017/18/19	Number of institutions in top 50 2017/18/19	Highest position(s) 2017/18/19	Number of institutions in top 50 2017/18/19	Highest position(s) 2017/18/19
Math & Computer sciences	21/27/30	1–8/1–9/1–12	14/18/24	1/1–3/1–7	1/4/4	42/11/9
Physical sciences & engineering	25/28/30	1–5/1–7/1–9	17/20/23	3/1/1	—/—/—	—/—/—
Life and earth sciences	—/12/13	—/4/2	—/6/9	—/16/11	—/2/2	—/18/—
Biomedical & health sciences	6/8/10	8/5/4	1/1/1	48/45/36	1/—/—	40/—/—



Unbalanced situation

In China: very different conditions for STEM – SSH

STEM bias in EU-China cooperation:

- co-authored publications
- 2/3 of researcher mobility in EU programs with China
- 2/3 of joint masters degrees

Flows of students and researchers:

- Fewer Europeans to China than vice versa

Contributions to EU-China

- but higher financial contributions to collaboration from EU.

New Silk Road: just another layer of university networking?



Figure 6.1 The map of sample alliances along the New Silk Road

>50% established before

66 countries

Europe only 18%

Broader focus: e.g. economics, transport, trade, tourism, languages, law, governance,

Chinese initiated

More control by MOE

Comparison with Europeanisation of HE

Similarities:

instruments
economic rationale,
soft power

Differences:

Top down, state ideology
"Xi Jinping thought",
bilateral

Bottom-up, pluralistic
views on EU identity,
multilateral

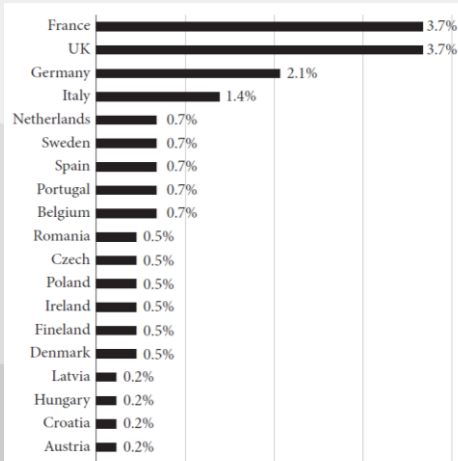


Figure 6.2 Percentage of membership from EU countries

Table 6.2 Top ten membership from Road and non-Road countries

Top 10 Road Countries	Percentage of Membership	Top 10 non-Road Countries	Percentage of Membership
China	16.9	US	9.2
Russia	7.3	Australia	4.6
Singapore	3.0	Japan	4.3
India	1.8	France	3.7
Kazakhstan	1.6	South Korea	3.7
Italy	1.4	UK	3.7
Kyrgyzstan	1.2	Canada	2.3
Jordan	1.1	Germany	2.1
Philippines	1.1	New Zealand	1.6
Switzerland	1.1	South Africa	1.4

Exceptions: the case of Hungary

CEEC 17+1: Cooperation between China and Central and Eastern European Countries




Bilateral New Silk Road agreements – challenging the unity of the EU



Hungary:

- Central European University banned (2018)
- Fudan University welcomed (2020)





Court of Justice of the European Union
PRESS RELEASE No 125/20
 Luxembourg, 6 October 2020

Judgment in Case C-66/18
 Commission v Hungary

Press and Information

The conditions introduced by Hungary to enable foreign higher education institutions to carry out their activities in its territory are incompatible with EU law

European Court of Justice (2020): expelling CEU incompatible with

- **EU Law:** CFREU's articles regarding academic freedom
- **GATS (WTO):** free movement of services commitments

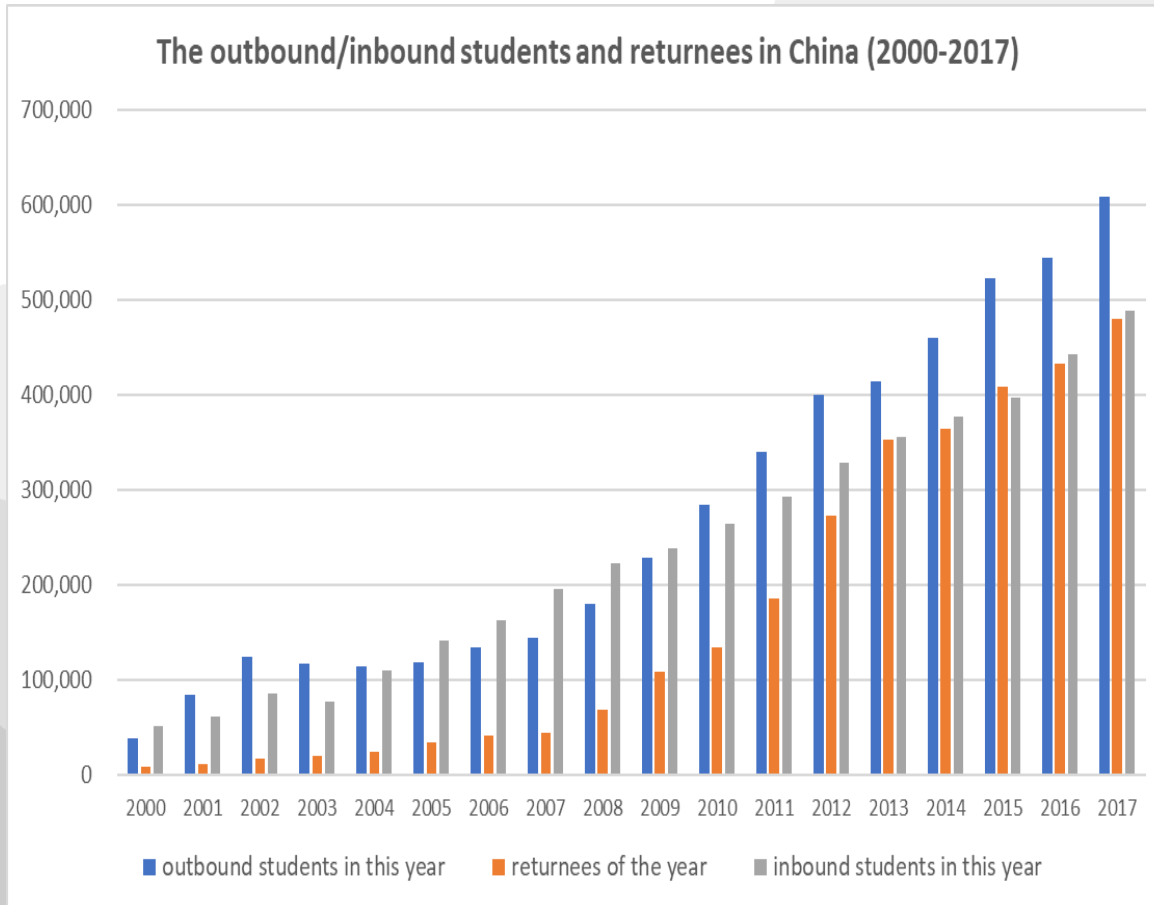
Important case law

Expected to set precedent in strengthening academic protections across Europe

Brings GATS (WTO) back on stage.

Shifting flows:

Outbound stagnates, surge in inbound and returnees



Source: MOE China; Centre for China and Globalization



A Sputnik effect?

2016



2019



UNITED KINGDOM

Intelligence agencies warn universities of China threat

Brendan O'Malley 02 November 2019

CHINA-UNITED STATES

China is 'systematically stealing US research' – Senate

Brendan O'Malley 22 November 2019



Universities, neo-nationalism and the 'China threat'

Jenny J Lee 09 November 2019

CHINA-EUROPE



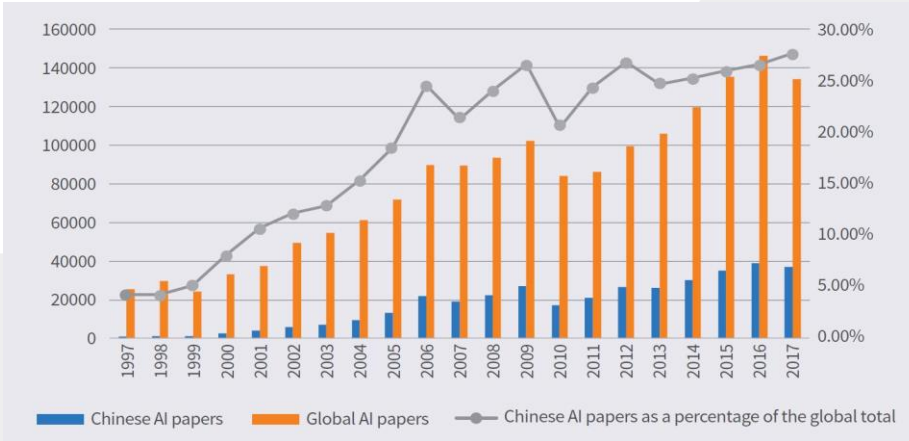
Will US-China trade war hinder Europe-China HE links?

Marijk van der Wende 22 June 2019



Growing concerns in collaboration

Figure 13.3 China's AI paper output and as a percentage of the global total 1997-2017 (CISTP 2018)



- Artificial Intelligence
- Non-civic purposes (dual use)
- Minorities & human rights
- Research ethics & integrity
- Academic freedom
- Protection of IPR
- Unwanted technology transfer
- Privacy in the exchange of personal data (GDPR)
- Data security
- Reciprocity in data access

CHINA DEFENCE UNIVERSITIES TRACKER

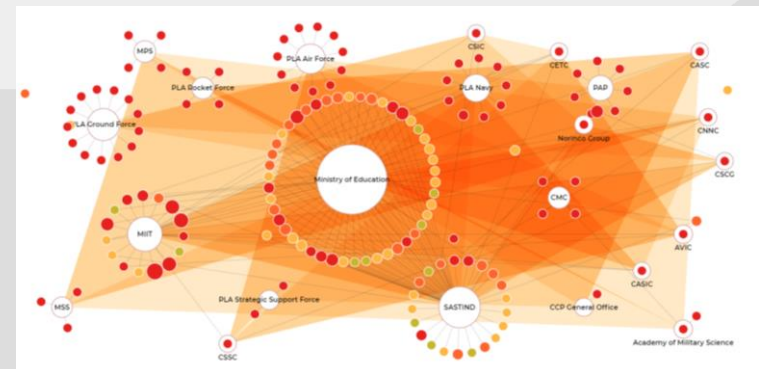
Research areas
Defence labs
Terminology
About
Report
Connect



Research areas

Explore entities by field of defence research.

This page lists universities involved in different areas of defence research. These areas of research are organised according to the PRC Ministry of Education's [classification system](#). Universities are only included here if our research has indicated that they are carrying out work in an area, such as cyber security, specifically for defence purposes. This primarily draws on the designated defence research areas and defence laboratories identified at each university.

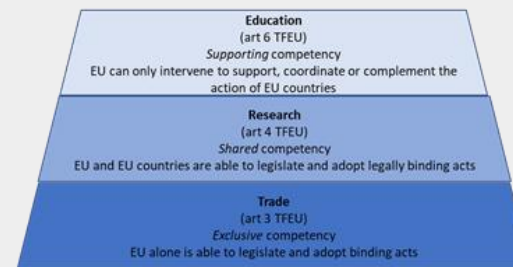


How open can it be?

- Geopolitics should not be confused with (or undermine) academic work which is based on mutual trust and exercised in an open and transparent global science system.
- The EU has a key role to play in rebalancing cooperation with China; making it more sustainable by leveling the playing field and mitigating risk.



Competencies of the EU in relevant domains



Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Aa%0020>

EU to protect universities against foreign interference by “surveillance states”, or threats from “surveillance capitalism”

01 Oct 2020 | News

EU expands powers to block Chinese and US companies from Horizon Europe

EU compliance guidance for research involving dual-use items

HR Excellence in Research Award label: Guidelines to increase the awareness of foreign interference

EUROPE

New EU law needed to protect universities from big tech

Jan Petter Myklebust 16 January 2021

Share Tweet Share 36

Rector Magnificus of the University of Amsterdam, Professor Karen Maex, has called on European Commissioners to propose a 'Digital University Act' to secure universities' status as independent education and research institutions and vital building blocks for the organisation of knowledge and to defend them against pressures from big tech companies.

Dual-Use Export Control, Human Rights, and Academic freedom

EU compliance guidance for research involving dual-use items

Internal Compliance Programme (ICP)

Effective, appropriate and proportionate policies and procedures, adopted by research organisations to facilitate compliance with the provisions and objectives of the EU dual-use Regulation and additional national measures.

“Academic freedom is a fundamental right guaranteed by the CFREU, however, not exempting researchers and research organizations from complying with regulations that are established to safeguard the security interests of the EU and of its Member States”.

How will the EU’s mandate to facilitate convergence of its dual-use export control with human rights and fundamental freedoms work out in the field of higher education?

- (How) will academic freedom be affected?
- (How) will teaching and (collaborative) research be affected by export control?
- (How) will the “obligation to exercise human rights due diligence” affect universities as “exporters”?

How will the EU’s Common Commercial Policy (CCP) be exercised in areas over which the EU’s internal mandate is much weaker; i.e. for education (supporting competency art 6 TFEU), research (shared competency art 4 TFEU) as compared to an exclusive legal competency for trade (art 3 TFEU)?

Are the values and freedoms that the EU is defending externally understood in a sufficiently coherent way within the EU? And how is it being viewed in this area / respect from outside?

How are the normative and the regulative pillar in EU law being brought together in functioning higher education collaboration both internally and externally?

Converging Dual-Use Export Control with Human Rights Norms: The EU’s Responses to Digital Surveillance Exports

MACHIKO KANETAKE*

Competencies of the EU in relevant domains

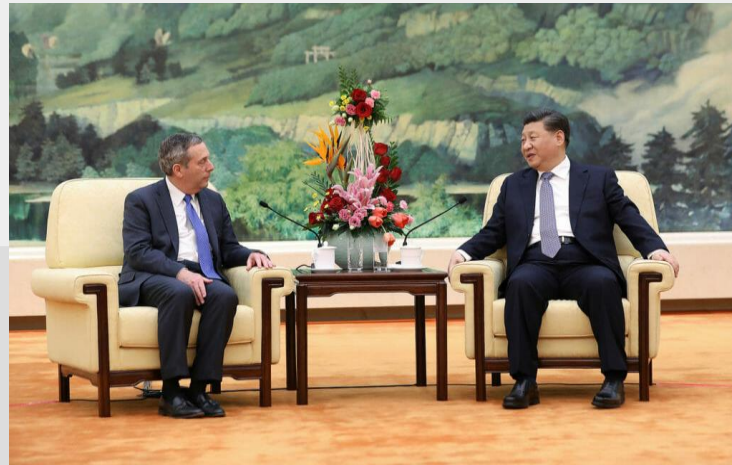


Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISUM%3Aa02020>



This is not a time to be silent

- International history of higher education shows that universities broadly share the same values and objectives in advancing knowledge and learning.
- Scientific cooperation and academic exchange with China should be continued. It is an essential response to the rising political tensions.
- Universities have a distinct role in society, especially in domains where governments may be less effective, in sustaining the global common good. Hence, they have an inherently international agenda.



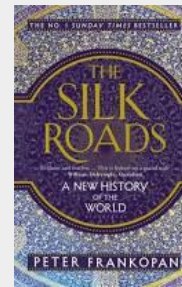
Harvard President Bacow affirms academic freedom in
"THE PURSUIT OF TRUTH AND THE MISSION OF THE UNIVERSITY"
March 20, 2019, PEKING UNIVERSITY, BEIJING, CHINA

Challenges for Higher Education

Nationalist responses in the West risk to provoke government interventions in universities jeopardizing institutional autonomy and academic freedom; measures for which China is criticized by the West.



Strong investments and efforts in education are needed to overcome Europe's knowledge gap about China and to match China's understanding of Europe. Such understanding requires a global rather than a purely Eurocentric perspective.

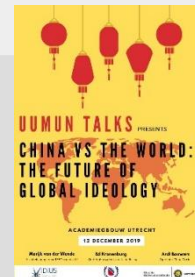


“It is important that Europe refrains from looking at China from a solely western viewpoint, because China can only be understood through its own history and culture. Only then does Europe have a chance to remain relevant in the global economy of which the center of gravity is shifting ever more to the east”.

(Martin Jacques, 2017).

Antagonistic frames and “cold war rhetoric” can be detrimental to the openness of global research and learning communities.

World views of no use in educating the next generation, which will have to solve the global challenges together. Precisely because they are global!



“Beyond the Covid pandemic, the three most important “existential threats to humanity” are: global warming, nuclear war, and a “deteriorating democracy.”

Internationalism and an engaged and educated population are the only hope for dealing with these major crises.”

(Noam Chomsky 8.12.2020)



Thank you