American Council on Education's 101st Annual Meeting

National Counterintelligence and Security Center

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Scientific and Academic Enterprise Threats to America's Science, Security and Foreign Interference

Approved for release by ODNI on 01-05-2021, FOIA Case # DF-2019-00259; slide 1 of 16
"Artificial Intelligence is a vital driving force for a new round of technological revolution and industrial transformation. China must control artificial intelligence and ensure it is securely kept in our own hands." — 31 October 2018

Will be able to preempt the rivals and win the advantages..." — 9 June 2014

"In today’s world, S&T innovation has become a critical support for increasing the comprehensive national strength...Whoever holds the key to S&T innovation makes an offensive move in the chess game of S&T innovation and will be able to preempt the rivals and win the advantages."

Statements by China’s President, Xi Jinping

China’s Technology Innovation Ambitions
High Priority Technologies Identified in China's Five Year Plan
Legal and Regulatory
Mergers & Acquisitions
Front Companies
Joint Ventures
Research Partnerships
Academic Collaboration
Talent Recruitment Programs
S&T Investments
Non-Traditional Collectors
Intelligence Services

China’s Tools for Acquiring Technology

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China sets targets for technology and production be held by domestic market share that should be expanded. Lenovo's acquisition of IBM's HPC manufacturer Lenovo Chinese computer

13th Five-Year Strategic Emerging Industries Development Plan
One of top 10 key areas identified in "Made in China 2025" Plan

China's Quest for High Performance Computing

HPC domestic market: Lenovo's share of the business increasing acquired IBM's HPC manufacturer Lenovo Chinese computer

2014-2017 Top 500 Supercomputers, China's HPC Vendor Market Share of US
By 2025, China's goal: Electric vehicles to account for 40% of their auto sales.
China is the world's largest solar energy market, with solar PV capacity reaching 133 GW in 2016. The top 10 countries with solar energy capacity in 2016 are China, the U.S., Japan, Germany, India, France, Italy, Spain, South Korea, and Belgium.

China's government is investing $367 billion in renewable power, with a goal to meet 20% of China's energy needs by 2030. The Chinese government is subsidizing solar energy, and several Chinese companies are accused of stealing trade secrets from American companies.

Sunrun: Bought a majority of Sun Energy Solar
GCL: Sued by California Solar
A Solar: Subsidized by Chinese government
Jinko: Started in 2006, now world's largest solar panel manufacturer

Joint Ventures
Non-Traditional Investors
STV

China's Quest for Solar Technology
resulting in 200 million shared academic papers and with Tsinghua University for big data research, an agreement in 2018: A major U.S. company signed an agreement to re-export the design worth $5 billion. Sensitivity details on the technology secretly back to University scientist who invented metamaterials — a Chinese student studied under Duke University to adopt this mantra, "Study Abroad to Serve the Country” President Xi publicly addressed students, Development (2010-2020) China’s National Plan for Medium and Long-Term Education Reform and China’s Quest for Innovation and Technology Research
academic data, such as journals, theses, dissertations, and electronic books. succeeded in compromising the accounts of about 8,000 professors to steal research and other scientific resources. Between 2013 and 2017, the hackers waged a phishing campaign targeting

To help Iranian universities, scientific organizations, and research groups steal access to non-Iranian terabytes—about 35 billion pages—of academic data. Value of the pilfered research to U.S. universities estimated at $3.4 billion. In all, the hackers stole 3.5

worked at the Milad Institute, an Iranian government-sponsored body set up in 2013. The computer systems of 144 U.S. universities and 76 foreign universities in 24 countries. The hackers

In March 2018, the U.S. Justice Department indicted nine Iranians and accused them of breaking into

It's Not Just China: Iran

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Mitigating Foreign Influence: The Way Forward

Positive Actions Taken by Universities

- Chinese Hackers Target 27 Universities to Steal Maritime Research
- Surveillance Database on Uighurs
- China Obtains Genetic Data From Yale Scientist and Builds DNA Engineers for Possible Recruitment
- China Uses Grad Student in Chicago to Gather Data on U.S. Aerospace

Recent Examples of China Targeting University Students and Researchers

What does this mean for our Colleges and Universities?
of the Chinese state.

Published a statement warning that Confucius Institutes function as an arm

Association of University Professors (June 2014)

and harassed by Chinese officials.

Cornell students campaigning for workers’ rights in China were being intimidated

Cornell University cuts ties with a leading Chinese university after reports that it

Cornell Cuts Ties with Chinese School (October 2018)

company with stealing trade secrets.

Motorola is charged with the US Justice Department that the Chinese

UC Berkeley bans new research funding from Huawei (January 2019)

Huawei and its subsidiaries.

Prohibits any New Sponsored Research Projects, other contracts or gifts from

University of Wisconsin-Madison Issued a Memorandum (February 2019)

Positive Actions by Universities
How do we protect our R&D investment?

NCSC is working with ACE, APLU, to understand the problems from the universities' perspective.
Mitigate Foreign Interference on Campus

- A University-Private Sector-Government Network to Prevent, Identify, and Handle Incidents
- Focused Briefings for University Leadership
- Share Best Practices
- Identify Vulnerabilities: University-Industry-Government R&D Ecosystems
- Campus Conversation about the Risks of Foreign Interference on Campus
- Understand Motivations and Targets of Foreign Interference

Mitigating Foreign Interference on Campus: Working Together