



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY

Opening Statement

Chairman Bill Foster (D-IL)
of the Subcommittee on Investigations and Oversight

Joint Investigations & Oversight and
Research & Technology Subcommittee Hearing:
Balancing Open Science and Security in the U.S. Research Enterprise

Tuesday, October 5, 2021

Good morning, and welcome to our members and our panelists. Thank you for joining us today.

Collaboration is the lifeblood of scientific discovery. Scientists build upon one another's work, across time and around the globe. Openness in science allows reproduction and replication of work, increasing the reliability of conclusions and building public trust. It fosters cooperation across disciplines, brings in new perspectives, and sparks ideas that wouldn't come from one solitary lab, or even one country.

The COVID-19 pandemic has driven home the importance of international collaboration in science. In those early months, before the virus had been detected on our shores, American scientists and health authorities were dependent upon researchers in impacted countries to share what they knew about the virus, how it spread, and how it killed. Over a year in, collaboration with international partners is still vital to detect emerging variants as early as possible and assess vaccine efficacy. International problems require international solutions. And there are real costs to closing off your research from the rest of the world.

In the House Science Committee, we recently held a subcommittee hearing on the origins of the Coronavirus. At the time, a potentially very significant fact was that the closest known relative of SARS-COV-2 was a bat virus from southern China which had been studied at the Wuhan Virology Lab. Since then, it appears that closer relatives have been identified, by an open international collaboration, in bats from caves in Laos. If that discovery had been made by an open collaboration with access to bat virus samples throughout the world, it would have been a triumph for international science that would have strengthened China's claim that their lab's activities were not the source of the Pandemic. However, because of China's insistence on only a closed and controlled investigation of the pandemic's origin, rejecting participation by even the World Health Organization, serious questions will remain, questions that can only be resolved by a full and open international collaboration.

And beyond just the pandemic, we can thank the openness of the research enterprise for groundbreaking discoveries. At Fermi National Accelerator lab where I spent 22 years working as a particle physicist, for most of that time we held the dominant position because of the technology of Fermilab's Tevatron, the world's first giant superconducting particle accelerator. But we did not keep that technology to ourselves; we shared it with the scientific public, and welcomed its use to build similar particle accelerators first in DESY in Germany and then the CERN Large Hadron Collider, the current record holder. We also benefited from the use of Antiproton Cooling technologies developed in both CERN and Russia. And the experiments were performed with international collaborators from dozens of countries.

Together we improved our understanding of the universe with the discovery, among other things, of the most massive elementary particle: the top quark. The work continues at the CERN particle collider, and CERN is making significant contributions to Fermilab's world-leading LBNF/DUNE neutrino program. Fermilab and CERN were created in the depths of the Cold War. Fermilab's founding director, Bob Wilson, was forever proud of the fact that the first experiment performed at Fermilab, in the depths of the cold war, included Russian collaborators.

But politicians tend to see everything through the lens of international competition. When pressed by a Senator at a hearing to explain what Fermilab's research into subatomic particles had to do with National Defense, Bob Wilson famously replied that it had nothing at all to do with National Defense, except, perhaps, to make our nation more worth defending.

But not all technology is created equal. While the discovery of the Top Quark or the Higgs particle do not seem to have any near-term military or commercial applications, the same is not true of the latest breakthroughs in Artificial Intelligence, gene editing, or quantum cryptography.

As we will hear today from our panelists, openness does come with risks. Foreign adversaries can take advantage of it, investing in programs that incentivize researchers to exfiltrate sensitive information to get a leg up in a competitive research environment. While classified research is protected through existing mechanisms, we still do not have a comprehensive understanding of what the risks are to fundamental research.

Today's panelists will share their perspectives on the risk awareness within the scientific community, and how the federal government can do a better job of protecting taxpayer-funded research from improper exfiltration. This is a crucial discussion that must bring together the science, law enforcement, and intelligence communities, to come to a common understanding of the threat and the appropriate response.

We must not let the solution be worse than the problem. International collaboration and welcoming scientists from around the world have been key to the United States' scientific leadership.

The United States attracts the largest share of international students worldwide, and three-quarters of them stay in the U.S. a decade after graduation, contributing to our economy. However, even before the COVID-19 pandemic, enrollment of international students was on the

decline. And creating a hostile environment for foreign-born researchers will only exacerbate the problem. Asian-American advocacy groups, scientific societies, and universities have raised the alarm that prosecutions related to academic espionage have disproportionately targeted researchers of Chinese descent.

A recent whitepaper found that defendants with Chinese surnames were twice as likely to not be found guilty or to have all charges dropped, as compared to those with Western names. I'd like to ask unanimous consent for a summary of this whitepaper to be entered into the record. Now, we know China invests money in incentivizing researchers to hide connections to Chinese institutions, and to improperly use grant funding to benefit Chinese institutions. This behavior is wrong and must be investigated and punished.

However, we must not create a hostile environment for scientists who want to relocate to the United States to work at our world-class institutions and bolster our national competitiveness.

I look forward to hearing from our distinguished panel about the current landscape of threats to research security. And I believe the Science Committee is the perfect place for this discussion, since we understand the value of collaboration in science and take seriously any threat to our national competitiveness.

I now yield to Ranking Member Obernolte for his opening statement.