POLICY FORUM

RESEARCH SECURITY

Managing United States–China university relations and risks

US universities must proactively address potential concerns

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The intensifying geopolitical rivalry between the United States and China is clouding the outlook for cross-border academic exchange and collaboration in science and technology. Technological competition is a principal focus of this rivalry, and pressures are building in both countries to erect higher barriers to academic research collaborations and to restrict the flow of students and scholars between the two countries. A major challenge for US universities is how to manage these pressures while preserving open scientific research, open intellectual exchange, and the free flow of ideas and people. New federal regulations designed to strengthen research security on US university campuses are now being introduced. Yet federal policies, no matter how well crafted, cannot be a substitute for actions by universities themselves. We share an approach developed at the Massachusetts Institute of Technology (MIT) to make clear the lines that should not be crossed and the principles that should govern academic relations with China.

US research universities have long benefited from their ability to attract some of the world's most talented students, scholars, and innovators, many of them from China. Now, as government officials confront the immediate challenges posed by the Chinese leadership's coercive actions at home and around the world, US research universities must prepare for an extended period of adversarial relations and potential conflict between the United States and China. Can the values that underpin the excellence of US research universities survive the struggle with China? What are the nation's goals for these universities? And what role should the universities themselves play in shaping the course of academic relations with China?

Similar questions confront governments and universities elsewhere. Amid concerns about the risks to national security and academic freedom, UK universities have been warned about their "strategic dependency" on Chinese partnerships (*1*). The European Commission has recently published a "toolkit" to help universities mitigate foreign influence in research and innovation (*2*). In Japan, the government has introduced new rules that require security reviews before universities can accept foreign students and researchers (*3*). The G7 governments recently declared their intention to work together to enhance research security without undermining academic freedom and open science (*4*).

Yet governments should not lose sight of longer-term domestic and global interests in research and innovation. For example, senior Biden administration officials have recently underscored the importance of attracting talented Chinese students to the United States (*5*). In 2019, 41% of all science, technology, engineering, and mathematics (STEM) PhDs graduating from US universities were temporary visa holders, with China accounting for more of these graduates than the next nine foreign countries combined (*6*). Most Chinese PhD graduates stay in the United States, helping to advance US research and innovation (*7*). But rising United States–China tensions as well as US border control enforcement and well-publicized investigations into alleged campus intellectual property theft may be affecting Chinese graduate student applications and enrollment in STEM programs at US schools. Although the overall impact of these factors is unclear, some United States–based faculty report that top-rated STEM students at Chinese universities, who in previous years would have applied to graduate departments at leading American universities, are instead choosing to stay in China.

United States–China tensions are also affecting cross-national collaborations between US and Chinese researchers—in recent years by far the most important axis of international collaboration for US researchers when measured by jointly authored publications (*8*). Going forward, US researchers will presumably have even more to gain from such collaborations as China's investment in science and technology continues to grow rapidly (*9*). But some US faculty who have previously collaborated with colleagues in China report that they are now holding back from joint research.

Faculty and student concerns over rising bilateral tensions have been aggravated by a series of arrests and failed prosecutions of Chinese-origin university researchers accused of enabling scientific espionage. These actions have prompted accusations that the US government is criminalizing normal scientific and academic exchange and engaging in racial stereotyping (*10*). Perceptions of bias and discrimination have helped convince many outstanding young Chinese scientists at US universities to pursue their careers in other countries (*11*).

The strained relations between the US government and the US academic community add to the importance of self-initiated efforts by universities, reflective of their institutional values. Some China-related challenges are in any case better addressed by the academic community itself, and university actions—such as upgrading campus research security, identifying clearly the kinds of interactions with China that should be out of bounds, and establishing processes for deciding on difficult cases—can also build confidence among policy-makers and may help to avoid federal government overreach in policies and regulations.

To be clear, there is an urgent need for an integrated government policy framework for academic relations with China that addresses immigration, research security, and research collaboration. But universities should develop their own policies, processes, and risk management frameworks, informed by their deeper knowledge of educational and research practices and institutional values and shaped by their role as guarantors of the intellectual autonomy of their faculty.

Even as the economic and military rivalry between the United States and China continues to build, US research universities and the nation more broadly can benefit from academic exchange with China. Ending academic relations would weaken the foundations of US science, technology, and innovation and would harm US economic development and national security.

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LINES THAT WILL NOT BE CROSSED

In 2021, the authors of this article were asked by MIT President Rafael Reif to chart a path for MIT's future relations with China. The resulting approach (*12*), now being implemented, was designed to help MIT advance knowledge and the needs of the United States and the world—without damaging US interests in national security or the economy, without endangering human rights, and in ways consistent with the core values of our institution.

In developing this approach, our group consulted extensively with experts in academia and government both in the United States and internationally, as well as with many members of the MIT community. We assumed that the complex and challenging international security environment will persist and that relations between the United States and China may deteriorate further. We recognized that, although continued academic relations with China will bring benefits, engagement brings its own risks, and that new approaches to managing these risks are needed.

We take seriously the concern that the Chinese government—and some other foreign governments—are targeting US university research and technology to gain advantage, mostly through legal means but sometimes illegally or improperly. We also take seriously the obstacles to academic collaborations presented by Chinese government policies that restrict academic autonomy on Chinese university campuses, increase the risk of seizure of intellectual property deemed to be in China's national interest, and attempt to exert influence over Chinese students and scholars in the West. We recognize too that when researchers at US universities collaborate with individuals or institutions in countries with authoritarian or autocratic governments, the good intentions of their direct collaborators are not enough to assure good outcomes.

Our new strategy is the latest stage in the ongoing development of policies for China at MIT that began several years ago. An important milestone occurred in 2019, when a process was introduced for case-by-case reviews of all proposed China-related research, educational, and other formal engagements, as well as engagements with certain other countries, from the perspective of risks to national security, civil and human rights, and economic competitiveness (*13*). In some cases, government regulations prescribe how these risks should be managed. For example, federal regulations require principal investigators (PIs) supported by US government funding agencies to demonstrate that their work for the government is adequately protected against theft and to disclose international collaborations that are related to that work. But regulatory compliance is often not enough to determine whether the proposed activities should be undertaken at all. MIT's elevated risk review process provides guidance on proposed activities that would not violate federal rules but nevertheless require careful assessment of risks and benefits to determine whether they should proceed. An important aspect of the process is to consider the risks of not undertaking proposed engagements as well as the risks of doing so.

Lines that will not be crossed

The Institute and its faculty are called:

- Not to train students and researchers who are known to be employed by Chinese military and security institutions or who are graduates of China's civilian national defense universities
- Not to enter into research collaborations with China's civilian national defense universities, military research institutes, or national defense key laboratories at civilian universities
- Not to enter into relationships with Chinese corporate or other entities that are known to provide systems, products, or services with military applications to the Chinese armed forces, or for which there is credible evidence that their activities are contributing to the suppression of human rights in China
- Not to participate in Chinese talent recruitment programs that are designed to transfer US technology to China

The reviews involve faculty and administrative committees, and the process is coordinated by the Office of the Provost (the Associate Provost for International Activities). The toughest cases are referred to a small group of senior administrators, and decisions are necessarily based on judgment rather than precedent or standard rules. For research collaborations, decisions are made with the active participation of the PIs, who typically have the best understanding of the benefits of the proposed collaboration for research as well as the technical capabilities of their partners. A key role of the PIs is to describe the benefits that all the participants in the proposed collaboration might expect to realize, as well as potential benefits to the nation and the world.

But PIs are generally not as well informed about national security and human rights risks. Information is also needed to understand the context in which the potential Chinese collaborators are operating, including the ways in which organizations and individuals in China are connected to the Chinese government or the Chinese Communist Party and the obligations they have to them. Again, PIs usually do not have this information and do not know where to get it. The process relies on inputs from country and regional experts at MIT and elsewhere; from MIT's Washington, DC, office; and occasionally from ad hoc faculty committees that may be convened for advice on difficult cases. As a result of this process, some proposed engagements have been rejected, many have been approved, and for others, specific conditions have been applied or modifications required—in some cases, to ensure reciprocity.

The new strategy goes beyond these ex ante risk assessments and covers all aspects of MIT's interactions with China, including research security on campus, informal collaborations, the appointment of postdoctorates and visiting scientists, and executive and professional education. It provides practical guidance to the MIT community on these and other issues within a framework defined by the core mission, goals, and values of MIT. The principal goals include ensuring that all members of the MIT community, including those of Chinese origin, can thrive and do their best work without fear of external influence, bias, or discrimination; enabling our faculty, staff, and students to work with leading Chinese researchers and institutions on problems that are important to both countries and to the world; and educating our students about Chinese science, technology, innovation, business, history, culture, politics, and economics—knowledge whose benefits to our students, and more broadly to the United States, will only grow.

The new strategy also describes lines that should not be crossed in MIT's engagements with China (see the box). Other guidance for the MIT community covers technology licensing, data protection, and travel to China. Regarding upgrades to campus research security, although PIs are generally responsible for ensuring that all members of their research groups understand the norms and expectations concerning the sharing of information outside the group, the university should provide training and other guidance to help PIs with these tasks.

MAPPING SPACES FOR COLLABORATION

Many academic leaders in the United States and Europe have expressed interest in our report, and some are developing and implementing approaches of their own. A challenge for all of them, even those with extensive in-house specialist knowledge, is how to acquire the information needed for risk assessments, especially concerning China's policies, regulations, and practices in research, education, and innovation. There are opportunities for universities to work together to develop shared information resources. They may also soon be able to consult a new unclassified information service under development by the National Science Foundation that covers foreign research partners and projects that could pose security risks (*14*).

By helping to map out spaces for productive exchange and collaboration, these measures by universities will assist their own faculty, who otherwise will be less and less inclined to pursue connections with China. Each institution needs to develop an approach adapted to its own culture and internal processes. But there is value in cooperation, and MIT is working closely with university associations such as the Association of American Universities and the Association of Public and Land-grant Universities on this issue.

Although motivated by the particular context of China, many of these issues and approaches are also important for systematically managing collaborations that involve a broader range of countries in what is an increasingly complex and dynamic international environment. Again, the likely benefits must be clearly identified and the risks managed effectively, and for most universities, this will entail the development of new risk management capabilities.

Alongside this risk management agenda, US research universities must also advocate effectively to preserve two key factors that have contributed to their global leadership but are now themselves at risk as United States–China tensions mount. First is the ability to continue admitting the best and most promising students in all disciplines from around the world. When these people come to the United States to study and work, it strengthens US research and education immeasurably; investing in these students builds trust, friendships, and confidence in US research and innovation that can last a lifetime. Ensuring the greatest possible access for individuals of great ability, regardless of nationality, is the strategy that will allow US universities to produce the highest benefits for the United States and for people everywhere.

Second, the system of open scientific research that is the foundation of knowledge, education, and innovation in US research universities must be sustained and strengthened. Restricting scientific discourse stymies scientific progress by preventing researchers from building on and challenging each others' work. Erecting barriers around specific areas of academic research will deny the United States, as well as others, the benefits that result from scientific progress. Although special precautions may be needed in some new areas of research because of national security concerns, the United States has more to lose than to gain if sweeping restrictions on the conduct and publication of academic research are implemented.

To that end, we urge federal agencies to avoid blurring the distinction between open and unrestricted research. For example, they should exercise caution in expanding the reach of the Controlled Unclassified Information program (15), which establishes an intermediate category of government-owned information that is unclassified but subject to extra safeguards. Federal agencies should also give up the growing practice of requiring universities to apply nationality or national origin criteria to determine who should be permitted to work on their research projects. The government can and should vet which individuals are admitted to the United States, but once admitted, they should be able to participate in any unclassified research project, except if participation would violate export controls (which restrict the transfer of certain sensitive technological information to foreign persons in the United States). Preventing certain members of university communities from working in specific research fields or from studying particular academic subjects because of their nationality is deeply problematic and corrosive.

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In the current geopolitical environment, there is a risk of self-inflicted damage to the principles of openness, tolerance, and nondiscrimination that differentiate the United States from its rival. In this difficult environment, US universities have an important role in articulating and defending the values that have enabled them to flourish, in welcoming excellent Chinese students and scholars to their campuses, and in enabling their faculty and students to work safely with Chinese peers on shared intellectual challenges. Even if the overall trend in relations between the two countries is toward less rather than more engagement, there are important areas of research and education in which the academic community, the nation, and the world would be better off with more rather than less United States–China scientific collaboration.

US research universities should now work to establish a comprehensive, ongoing dialog with the federal government on the China issue. Universities should be proactive in addressing new problems as they arise, while vigorously advocating for themselves as institutions with values to uphold and with value to provide to the nation and the world. ■

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