Security focus is setting back science in both China and the U.S.

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Researchers are finding it more difficult to live and work in the two countries

Technology has emerged as a central front in the geostrategic rivalry between China and the U.S.

At the 20th National Congress of the Chinese Communist Party in October, President Xi Jinping devoted a whole chapter of his opening address to science and technology, describing it as "the primary productive force" of the country.

The U.S., on the other hand, wants to maintain technological leadership. The administration of President Joe Biden has committed to maintaining "as large of a lead as possible" over China on strategic technologies such as semiconductors, biotechnology and clean energy. It is now actively looking to choke off China's access to advances in these technologies.

Since technological progress relies on the knowledge of scientists and researchers, both governments are putting effort into attracting top scientific talent. Xi has called talent the "primary resource" for China.

Yet despite China's emphasis on attracting talent, my research has found that its efforts have ultimately been undermined by other policy priorities. Notably among them have been the country's zero-COVID policy and a renewed focus on ideological education in universities, which has curtailed academic freedom.

China has admittedly become a more attractive place to work for scientists over the last 20 years, as research and development spending has risen sharply. Beijing's spending now comprises a quarter of global R&D outlays, second only to that of the U.S.

On top of this, Beijing's prioritization of talent attraction has induced local Chinese governments and universities into competition, driving up salaries and conditions for foreign technologists.

For example, the Beijing city government's talent-attraction program offers personal bonuses of up to 1 million yuan ($143,000). Shanghai city provides housing. Universities are adding their own incentives, including assistance with finding schools for children and jobs for partners.

The higher education system in China has improved over the years, which makes the attraction and retention of talent easier. In the three years to March 2021, more than 10% of academics in Chinese universities were returnees from overseas.

Among the highest-profile returnees is Zhu Songchun, an artificial intelligence researcher who left the University of California, Los Angeles, in 2020 to set up the Beijing Institute for General Artificial Intelligence at Peking University. Last month, structural biologist Yan Nieng gave up her tenured professorship at Princeton University to become founding dean of a new research center in Shenzhen.

Yet Beijing believes its efforts so far are insufficient, and it is doubling down on talent attraction. As Xi has said, "the competition for comprehensive national power is fundamentally a competition for talent," and therefore, in the current strategic environment, talent is desired "more than at any other time in history."

Yet over the last two years, Xi's zero-COVID policy has severely damaged the country's attractiveness to talent. Extended and unpredictable lockdowns discouraged many from working in China and even prompted some researchers already in the country to leave. Chinese people have also become less welcoming of foreigners in recent years, including those of Chinese ethnicity.

Widespread protests last month, including on university campuses, showed people's discontent with the harsh and inhumane restrictions associated with China's COVID lockdowns. These restrictions resulted in a noticeable deterioration in quality of life for most people living in major cities.

The effects of the zero-COVID policy are likely to last for some time, even as the restrictions are unwound.

The policy demonstrated China's willingness to sacrifice economic growth and international exchange for security for an extended time. But beyond COVID controls, Beijing's focus on ideological education and the deterioration of academic freedom under Xi has made China less attractive to academics.

Scholars have been questioned by police about their research. Universities have found it difficult to juggle the government's competing priorities.

Both the zero-COVID policy and the emphasis on ideology are symptoms of the authorities' prioritization of security and control over all else. As long as security and control remain Xi's top concerns, as appears likely for the indefinite future, China will find it difficult to attract and retain top academic talent.

This is not a problem confined to China, as the U.S. faces a similar dilemma.

In its quest for security, Washington has overreacted to the challenge posed by China's talent recruitment programs.

The U.S. Department of Justice's now-defunct China Initiative led to prosecutions of and discrimination against scientists of Chinese heritage while contributing little to American security. Many researchers left the U.S., fearing surveillance and a potential loss of funding, with some going back to China.

A survey last year of 658 scientists of Chinese origin in the U.S. conducted by the University of Arizona and the Committee of 100, a group of prominent Chinese Americans, found that 42% had considered leaving the country. A study by the Asian American Scholar Forum, meanwhile, found that 1,490 U.S.-trained scientists of Chinese heritage had swapped affiliation with a U.S. organization or institution for a Chinese one during 2021.

As technology is expected to continue to be at the center of geostrategic competition for years to come, governments must remember that an exclusive focus on security and control can be detrimental to attracting and retaining talent. Yet talent is what fuels technological advances.

Both China's failure to consistently attract top talent as well as the U.S. experience with the China Initiative should serve as warnings of what not to do.

Yun Jiang is the inaugural AIIA China Matters Fellow.