TRANSCRIPT

Event
Prospects for China’s Growth and Foreign Relations in an Era of Competition
Panel 2: Charting a Path for Scholarly Exchange in an Era of Strategic Competition

DATE
Tuesday, December 5, 2023 at 1:00 p.m. ET

FEATURING
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Hello, everyone. My name is Scott Rozelle. I'm the co-director of the Stanford Center on China’s Economy and Institutions and a co-director of Big Data China here with CSIS.

Scott Kennedy just got done sort of managing two sessions, one with the ambassador – sorry – with the Chamber of Commerce head from Shanghai, and one on is China’s economy going to grow; and two fantastic sessions.

I’m lucky here, because I got the three best guests here today. And we’re going to be working on scholarly exchange. And, you know, international collaborations drive advancement in research and technology. The rise of the number of co-authored papers, the rise of the number of interacting students in the last decade or two, you know, highlights the importance of these international collaborations and the role of cross-border research networks in creating new knowledge across various fields.

International collaborations aim to facilitate progress to solve problems that we just can’t solve by ourselves. Among by far the most productive research collaborations in all academia, including both those in STIM fields as well as in social sciences, is between the United States and China. Or at least it has been. Many studies have documented the benefits of this collaboration, as well as the costs. We’re going to look at both of those, and we’re going to talk about where the role of national security sort of dives into this and how we can extract it out, et cetera, et cetera.

I’ve been with Deb and about 15 other U.S. academics with 15 colleagues from China in a Track II diplomacy effort led by Scott Kennedy in scholarly exchange. And the issues are not easy. But today, with the three guests we have here today, our three panelists, they’re going to tell us how to figure this out.

Let me introduce them to you and then we’ll get right to it. And the first I’d like to introduce Molly Roberts. She’s a professor in the Department of Political Science and the – I can never say it – the Halicioglu Data Science Institute at the UC-San Diego – she can tell you where she’s from – that holds – and she holds the chancellor’s associate’s endowed chair. She studies digital politics and political methodology with a focus on censorship and propaganda using automated content analysis in the social sciences. Her work is just fantastic.

She’s currently working on a variety of projects that span politics of content moderation, political tension, overflows of information,
ideas, and causal inferences in computation in social science. She’s also written a fantastic paper on U.S.-China research collaboration that I think is almost the defining paper in the field. So we’re looking forward to hearing from you, Molly.

Chenjian Li is now at Stanford, a colleague of mine there. And he previously was a university-chaired professor at Peking University and the Berggruen scholar of bioethics. He has been on the China Advisory Board of Cornell University – I’m a Cornellian, so thank you, Chenjian – the China Advisory Board of Eli Lilly & Company, and Rhodes Scholar Selection Committee; so the whole span of academics there.

Dr. Li’s scientific achievements is in the field of molecular and cellular mechanisms. And parallel to research, Dr. Li is devoted to education reforms for the next generation of global citizen leaders; so scholarly exchange at its heart. Thanks for being here, Chenjian.

And finally, Deborah Seligsohn is an assistant professor of political science at Villanova University. She’s also a nonresident senior associate at CSIS, right here with the trustee chair, with Scott Kennedy, in the Chinese Business and Economic Program. Her research focuses on U.S.-China relations, public health, energy, and environmental politics in China.

Prior to receiving her Ph.D. from UC San Diego, she served as environment, science and technology and health counselor at the U.S. embassy. She has a lot of experience in the field from the politics side, so from working inside China and in other parts of the government.

So thank you, everyone.

Why don’t we get right to it? And what I thought we’d do is go around and I’ll ask one or two or three sets of questions one at a time, and then I’ll let each of you answer. And then, you know, if you want to support something someone said, make it clear or object to it, we’ll do that. And then we’ll sort of keep on going down the line. So here we go.

Let’s go back in time just for a minute and, according to your research or your personal experiences, help us understand the breadth and depth of U.S.-China research relationship. How about let’s think of 2016, right, before the pandemic, before the Trump administration. How did the Chinese – U.S.-China scholarly relationship compare in terms of output compared to collaborations
with – that the U.S. has with scholars in other countries – research collaboration, student interactions, the whole gamut?

Why don’t we start in the order that I introduced you? And Molly, you go first, then Chenjian, then Deb, on this first round.

Molly.

Molly Roberts: Yeah. Thanks, Scott, for having me and us. And this is going to be a really exciting panel to talk about.

So let’s – so in our work, we’re mostly focused on, at least in the paper that you mentioned, documenting collaborations in the life sciences. So we mostly look at the publication database PubMed, which is a life-science publication database run by the National Institute of Health. And if you look at that database, in 2010 China was the fourth most frequent collaborator with U.S. scientists in terms of number of publications. And so they were behind the U.K., Germany, and Canada.

And that changes in 2013, when China sort of overtakes all of the other countries in terms of number of collaborations with U.S. scientists. And in 2016 we’re seeing that go up, and it peaks in 2019 and is now sort of coming down. So the most recent data I think we’ve looked at is 2021. And China is still the most frequent collaborator in PubMed publications with U.S. co-authors or with U.S. scientists, but it’s going down relative to the other countries.

And as you think about, like, overall total, at the peak in 2019, it’s something like 8 percent of publications in PubMed that have an author – a U.S. scientist author have a collaborator at an institution in China.

Dr. Rozelle: Chenjian – thank you. You’ve got to read that paper. It’s – it actually, in one paper, sort of shows the costs and benefits.

Chenjian.

Chenjian Li: Yeah, thank you very much.

I want to echo what’s just been said. I think the collaboration has been really, really deep and wide up until 2018 or ’19. And then it really goes down.

I want to add to that. The returnees to Mainland China’s top universities, actually you can see that trend too. At the level of
Postdoctoral fellows turning into assistant professor, at that level it’s been hot. It’s even hot today. However, if you count senior members – I mean, people who are tenured full professors – at that level, the total number dropped quite a bit. There used to be four or five meetings just to look at these candidates, and then now there are a few, but the number really drops. And cross-border collaboration really drops quite a lot. And I think that is partially, at least, because of the China initiative and the NIH accompanying policies, as well as on the China side, there are restrictions too. So I think the trend is there.

However, I want to add something. The total output of scientists or social scientist from Chinese universities – their publications on major scientific journals – has not been stopped. It’s been up, in a sense that the student learns from the teacher well and then the student becomes as good as the teacher, sort of in that way. If you look at the Nature Index, major Chinese universities, including where I am at Peking University, and Tsinghua, Fudan, Xi’an Jiaotong, you look at their Nature Index, which is a fairly good indicator of the true influence, impact of their researchers’ achievement, it’s been a straight line up. So I want to add that piece of data to today’s discussion. I’ll stop here.

Dr. Rozelle: Yeah, Chenjian, I just want to make – I want to make clear. So what you’re saying is that, in the return the returnees, that young students that study in the U.S. going back to China has gone up or stayed the same. But what about older – these are – I wasn’t clear what you said about older professors. These are tenured professors. And what’s the trend, that they’ve gone back to China at increasing rates?

Dr. Li: No. I think after 2018 – it started around 17-18. And that number, compared to before, has decreased. There are a few great professors going back, but the number – if you look at that number – it drops quite a lot.

Dr. Rozelle: I see. OK, good. Good, good.

Deb.

Deborah Seligsohn: So let me sort of expand the breadth here a little bit, and maybe the length too. So the U.S.-China science relationship really gets going in 1979 with the signing of our Science and Technology Umbrella Agreement, the first treaty signed after normalization and therefore of enormous symbolic importance in China. You know, you start in the ‘80s, with huge interest in physics. If people remember the huge
stream of students coming out of Hefei to the United States, and then that expands around the country. Things like dinosaurs. Inner Mongolia is an enormously wealthy area for finding cool bones, and the Smithsonian has been active with Chinese partners since that time.

So it I think people tend to think about sort of tech. It’s great that we have a focus here in this group on life sciences. But it’s so much broader than that. And the other thing to realize is it’s not only about the volume of publications, where lots of other countries are also important partners. But it’s the sort of policy influence that the research has, that the U.S. and China work – have worked together on climate change, on sort of public health. And the U.S. CDC was actually the primary mover in helping to create the China CDC. And so – environmental stuff. We’ve had U.S. EPA active with Chinese partners over this long period.

All of this work blossomed particularly after the year 2000. President George W. Bush was very committed to this. And then it continued to expand under the Obama administration. So we have lots of academic scholar-to-scholar work, which is really important. But we also have a lot of work that sometimes leads to peer-reviewed papers, occasionally leads to patents, especially on the climate side. That was actually a goal in the Obama administration. But often leads to massive policy, including sort of the Chinese ability to measure air pollution, to measure climate gases, to measure and track – all of the track and trace stuff that they actually did extremely well at the beginning of COVID comes from collaborations that happened back in 2003 during SARS.

So the collaboration has been exceptionally rich and varied, and in terms of actually helping our understanding of what’s going on in China both by social scientists but also by scientists who then inform – you know, work with the U.S. government on issues like public health. It’s been incredibly valuable over these years. And was at a peak, I’d say, in about 2015. The friction actually starts at the end of the Obama administration, but I think another administration might have chosen to manage that, and the Trump administration chose to start a withdrawal process that lead funding to kind of drop and drop, so that I think Chenjian’s describing it sort of peaking in 2018 is about right.

Dr. Rozelle:  
Good. Good. Well, there’s a lot more out there. It’s very rich. And we’ve also – there’s also this enormous amount of student interaction with 4-500,000, U.S.-Chinese undergrad students coming to the United States and at least learning about what’s here. But also
Ph.D. students and postdocs coming here. I know with the decline of this relationship since 2018, the labs in some of our key universities, STEM universities, have been, you know, screaming that they – you know, they don’t have those Ph.D. students. So there’s also the people – it’s the other side of the people flow that Chenjian talked about coming here.

So I want to follow on that, and tell you – just quote, Mike Gallagher. He’s the Chairman of the House Select Committee in China. Many of you know him. And he has said – he said this. This is, quote, “For decades, the Chinese Communist Party has exploited the very openness of the heart of China’s American society, academics, and our higher education system in particular, twisting this strength to the party’s own advantage. The party’s goal is not mutual benefit.”

Like we’ve sort of – there is – we’ve seen all the mutual benefit there. But that’s not the point. How do you assess the risks for the U.S. when it comes to scholarly exchange with China? So that opposite side that one of those powers that’s really hampering this exchange? Why don’t we – Chenjian, do you want to start, and then we’ll go to Deb, and back to Molly?

Dr. Li: OK, Scott. That’s a sensitive topic, but I’ll be frank. If I may, I want to start by saying I myself is a beneficiary, or even a product, of this cross-border globalized collaboration. I studied at Peking University for undergraduate and went to Peking Union Medical College, PUMC, which was established by Mr. Rockefeller. Arguably, it’s the number one or, you know, the best medical school. And then I came to the States. I went to Rockefeller University, and then became a faculty member at Cornell Medical College. So if you look at my trajectory, the whole growth of my career life was a product of collaboration. And then, of course, I went to Peking University to perform educational reform. So in that sense, I want to make that clear.

The argument that was described, I think there’s some truth to it. But I want to raise another thing. Don’t forget, people who learn here and went back to China to do research, don’t forget these are also people – they are seeds for changes. Because bringing with them is not only STEM. It’s also a deeper fundamental view of the world, for example, science itself. It’s about seeking truth through data evidence rather than doctrine, rather than propaganda, right?

So when I was the vice provost and the dean at Peking University, my committee recruited more than 30 young faculty members from – you know, to be assistant professors. I counted, only three of them did not get Ph.D.s from the United States. So 27 out of more than 30. And these people, I think they are terrific. They’re bright, budding,
great young scientists. And although almost none of them participated in political reform in all that, they just do their own research, but I see them – the majority are exposed to the Western civilization. They do accept the universal human value. So these are seeds for changes. Let’s don’t forget that. So that’s my one argument.

And for people-to-people exchanges, Scott, you yourself is one of the greatest examples of how the presence of you and your project there, and your collaboration, your students there, it's a positive change. So I want to raise that point. It’s not all bad, we’re being used, the other side is taking advantage of us. I think today's China is very different from 30 years ago, and a big part of that is due to the work of people like you, and many of the returnees.

So I'll stop here for now.

Dr. Rozelle: Okay. So, Deb, go on. Yeah. So, I took away from Chenjian that the risks are overstated for Mr. Gallagher. Deb, your turn.

Dr. Seligsohn: I think there’s enormous risk to decoupling. So the first thing is, it’s kind of an ironic puzzle that at the moment when Chinese collaborators are at the level where they can contribute equally to any project, we’re now worried about losing knowledge, right? Because, you know, as one of the scholars I respect most in China commented to Science magazine sort of early in the COVID discussions, you know, it used to be you were the teachers and we're the students, but that’s not true anymore. And he wasn’t saying we’re now the teachers. He’s saying we’re now equals, right? And you have to actually respect that we know what we’re doing.

But the result of that is just like working with a British collaborator, or a Canadian collaborator, or a Japanese collaborator. There’s just enormous productivity gains, which are the things that Molly documents, from working with the best and the brightest wherever they are. And so we’re at a moment where we actually can gain a lot from working with Chinese partners.

Now, in fact, over decades where China was very much in learning mode, we also felt we were gaining a lot because there were a lot of other things we gained: access to all those brilliant Ph.D. students, access to data, access to samples and diseases and dinosaur bones and all kinds of things, right? By the time of the whichever IPCC assessment on climate change came out in 2003, fully 10 percent of the global co-authors were from China, because of the huge emphasis on modeling and calculation in Chinese academic institutions. And so we just have gained an enormous amount in terms of science.
And so the question comes, what happens if we cut off what has become the richest single connection between U.S. and Chinese scientists? And I think what happens is that global science as a whole becomes weaker, as it has at any era in global history where people start cutting themselves off from each other, whether we want to talk about the Middle Ages, or whatever, that it’s not that China will become the center of – the U.S. is the center of world science right now. It’s not that if we cut off from China, that China becomes the center of world science, because, quite frankly, most scientists in the U.S. and Europe and Japan don't want to base themselves in China. But what happens is China becomes – I mean, science becomes more fractured, that there will be more sort of centers of things happening in many different places and less of this agglomeration that we have in the United States. and the eras of the richest science have been when Paris was the center, or when the United States was the center. And so the question becomes, if we decenter ourselves – and I think this is true more generally of international relations – we don't create a separate center. What we create is a more fractured world which in other areas can be dangerous. In this area, I think it's going to slow progress.

Dr. Rozelle: Yep, so neither Chenjian or Deb sort of said there’s risks out there. I mean, you might think so, but I think what you’re saying is that the cost of doing this is much higher than the risks of – some of the risks that Mike Gallagher’s talking about. What do you think, Molly?

Dr. Roberts: Yeah so I agree that with Chenjian and Deb that both – that there are risks of decoupling. Let me just sort of talk about the risks that the community is talking about, about what the risks of collaboration might be. And then we can try to figure out like, well, where might the balance lie.

So I think the risks that people are worried about are national security risks, so risks of research collaborations. On some things that could be dual use, some things that could be used by the military, U.S. and China are adversaries, I would say, and so that could be a risk where that could hurt U.S. security. Okay, so that’s one risk that people are worried about. And we have seen instances that have come up in the news where people have gotten really worried about this stuff.

The other is IP commercialization. So some – there are some people, I think, who are worried that there could be – in these collaborations there could be that maybe the collaborators in China would commercialize something first, and that would have a negative effect
on the U.S. economy in this era of economic competition. Actually, Ruixue Jia and I did this survey of policymakers, members of think tanks, and social scientists about where people thought the risks were – and we're writing this up, so we'll have it available soon – and people thought this was actually the least concerning. So I think, in general, that's my opinion, too.

And then the third is human rights risks. So the ethical questions around collaborations on technologies that could be used for human rights abuses, I think people are worried about this. And I think that there is some legitimate risk in some areas on that.

And I think the question that we have is like, how do you balance those risks with the reward, which I think Deb and Chenjian laid out very well, of collaboration. And I think that – I think where policymakers have sort of erred, maybe especially in the 2016 to 2018 era was sort of saying any research with a collaborator in China could be dual use, and so we should have no collaborations. But is that really – is that really minimizing risk? In my opinion, it's not. In my opinion, minimizing risks would be encouraging collaboration on projects that are not relevant to national security and are not – don't have human rights risks. You know, and I think that that is – gets to be a little bit tricky, because how do you define those things? But I actually think that, you know, a lot of the national security relevant research in the U.S. is done in classified labs anyway, that are very protected.

So if we're talking about open science here, things that are going to be published anyway, we have to sort of start thinking about, okay, what are the costs of trying to, say, minimize that research versus the benefits of being really open. And I think there are conditions maybe that U.S. policymakers could set on research or universities. So MIT has come out with some guidelines for researchers on engagement with China to sort of think about these benefits and risks. And I do think there are ways to minimize it without just sort of saying there should be no U.S.-China collaborations in science, which seems to be – you know, that would be – that's quite strong, I think, for the amount of risk – which I think those risks are real, but can be minimized in other ways.

Dr. Rozelle: Chenjian. Certainly, Chenjian.

Dr. Li: Yeah, can I follow up? I do agree with that. And I do not want to downplay the potential risks. I want to counterbalance myself, because there is a clear competition, and I think the uncertainty and the sort of conflicting feeling for myself is the big framework is
uncertain. Let put it in a most blunt way. Our two nations, you know, competitors, pretty friendly competitors, or more strategic rivals, or even worse, adversaries, or even just enemies. So that question is huge, because if it were in the adversary and the enemies sort of category, then you should not do anything with each other, right? I mean, imagine in Second World War, would Oppenheimer pick a phone and call Heisenberg and say, dude, your calculation is off by 10-fold and you correct that and you will get your bomb. You won’t. So now but the problem is, are we there? So that a lot of people have different opinions. People look at South China Sea, Taiwan, and say, yes, it is that urgent. Other people say, no, no, no, no, no, it’s way overexaggerated. So I don’t know.

But I do want to mention another thing, which is – Deb already mentioned. So open-source science republished and even patents – remember, the criteria for a good patent to be admitted, to be approved, is people with reasonable expertise can repeat and really get results, right, in scientific papers republished. We have to write the materials and methods section so much that – in detail – that people can repeat that. Therefore, to provoke open-source science, technically it’s very difficult. That’s first.

Second one is, if you look at universities, what are you going to do to approve or disapprove collaborations? There are clear case ones. For example, people are making, you know, military technologies, sure. But my difficulty is, remember, today theoretical work, practical work, and translational work are united and merged. And I have a phrase to describe that, which is: From E=MC2 to mushroom cloud, the distance is much shorter than we thought. So as a university leadership team, what are you going to do if someone is studying mathematics? You approve it or you disapprove? Because mathematics used to be pure, pure science; now it’s the foundation of all the practical ones, including AI. What are you going to do? Material science, physics, and all that.

So in the practical sense, it raises a serious question for selected, nuanced process. In reality, I would imagine it’s very hard to do. The MIT guideline is a good start, but in implementation I would love to follow up and see how they are doing that. Because on my side, I look at that and say: Whoa, it’s hard to do it in practice. I’ll stop here.

Dr. Rozelle: Deb, please.

Dr. Seligsohn: So I agree with almost everything Chenjian just said except for the part about that you don’t work with your enemies.
So I think the correct analogy isn’t a hot war with Germany, but it was the Cold War with the Soviet Union. And as I’ve been working on this question of the renewal of the U.S.-China S&T agreement, I’ve wound up having the pleasure to talk to some, you know, truly great elderly scholars who were involved in the Pugwash process with the former Soviet Union. And they make the point that it was physicists talking to physicists that, first of all, helped us understand where capabilities were. So it actually improves our national security by knowing what’s going on, and second of all was critical to actually being able to come to arms control agreements. So cutting ourselves off just because things are difficult, I think, is extremely risky, actually.

And of course, on other areas, it was during the height of the Cold War that the U.S. and the Soviet Union collaborated to eradicate smallpox, so we were actually also able to generate global public goods in the midst of actual hot proxy wars around the world. So I don’t think we have to necessarily be more pessimistic about science. I think we can still be more optimistic.

And I think that gets back to thinking about how to manage risk appropriately and to really consider narrowly what is a national security risk. So I think Chenjian’s absolutely right that most things are dual use. I mean, in fact, all health is. I mean it was only maybe World War II that you had more soldiers dying in war than of disease? Disease control is core to hot wars, actually. So I do think that we’re never going to get around this dual-use issue, and so we really do have to think about what is classified research and what is open source, because, as he explained so well, that’s just available to everyone anyway.

And so the issue of classified research and China’s access to it, that goes all the way back to the Cox Report in the 1990s and lots of allegations that were all untrue that U.S. national labs were vulnerable; in fact, they’re very well protected. But there have also been critical places where U.S. national labs actually saw it in the U.S. national interest to work with Chinese contacts.

For example, we want to – we know that China is a nuclear state. We want to make sure that they are protecting their nuclear weapons and keeping them safe and ensuring they don’t get in the wrong hands. That is the kind of thing that we have discussed with the Chinese over decades, right?

So this fear of interaction, I think, can be very harmful. But even more, as – and so I think the analogy to the nuclear situation during
the Cold War is actually AI today. I am not an AI researcher by any stretch of the imagination – (laughs) – but what people in the AI field say to me is the only way we're going to know what's going on in China is actually by working with them. And so not only will our AI be much weaker if we don't, but we will also be blind.

And I think the other thing to realize is that the Chinese often invest in different parts of science than we do. And so for our scientists to really reach their full potential and find everything they need to find often requires working with Chinese collaborators.

I have a colleague here at Villanova who works on carbon sequestration in wetlands and mangroves and things like that, super important for climate change. Turns out that these wetlands sequester way more CO2 than dryland forests. Well, where is the big experiment that she's really able to look at this in the field? It's in Fujian. She is not a China hand. She has nothing to do with China. But she is busy collecting data on mangrove trees in Fujian. Could we be doing this in Florida? A hundred percent. Are we doing it? No. Neither the state of Florida nor the federal government is spending the kind of money that it requires to plant hectares and hectares of mangroves.

And so – and you know, Steve Kivelson, who led one of the letter-writing drives supporting the S&T agreement, his thing is about manufacturing access that he needs in China to support what his lab does in the U.S. There are all these examples where we only get to our full potential when we're working together. But when we do that, we learn more not just about science, but about China.

Dr. Rozelle: Yeah. Deb, thank you. Yes.

So – and I just – I think Deb got to the heart of the problem, that, you know, we aren’t going to have pure open access, and Mike Gallagher wants total control – (laughs) – total shutdown because everything is national security. So the question becomes how do we – and I think the thing is, is we are going to worry about national security. I mean, that’s – that is de-risking. So the question – and the question that we worked with in this track-two diplomacy on scholarly exchanges – how do we define that? How do we get leaders to define it? They don’t want to define it. And if they don’t define it, then lower-level visa – the people who grant visas, the administrators that give interviews to our – to our academics, the whole gamut, they start being more risk-averse and scholarly exchange contracts. And so I think that’s what I heard and that’s difficulty.
Why don’t we – why don’t we sort of step on from that and ask sort of what do you think, then, are the most problematic obstacles? Is it the laws? Is it the funding curves? Is it travel restrictions, investigations – (laughs) – that the two governments have sort of put up in recent years that are reducing collaboration and exchange, rightfully or wrongly, right, depending, you know, where we are? And so what’s the U.S. losing by putting up these barriers and China losing? So we’ve sort of gone there, but, really, how is this happening? And so if we want to – if we want to keep scholarly exchange going, you know, what mechanism do we want to look at? Deb, you just finished there, so why don’t we do maybe Molly and Chenjian and Deb?

Dr. Roberts:

Yeah. So what are the barriers that are influencing this right now? So I think one of the things that you just mentioned that’s really important is I think there’s not a lot of clarity in the minds of scientists about what is OK and what is not OK. And because of the history now with the China Initiative, which is obviously now not happening anymore, investigations from U.S. funding agencies, there’s a lot of worry that there will be increased scrutiny for academics who collaborate with China.

And because of this increased scrutiny, they might be found to have done something wrong. And so it’s better just to stay away completely and not do any collaborations because you could – things could happen, like, to you, like, you could be investigated. You could lose your job. You could lose your funding. Those things are all sort of the center of, you know, your work, right?

And certainly there are a lot of scientists who feel like they were targeted unfairly or were treated unfairly in this process. And so I think what needs to happen is a reduction in policy ambiguity. Right now there’s a lot of policy ambiguity, and some of it is hard to get around because, for example, we don’t know what administration will be coming in in 2024. They’re going to have very different policies.

There’s – I mean, there’s – some of that is difficult to get around, just by the structure. But others, I think there could be a lot more clarity around shaping what are the things that policymakers think shouldn’t – open science shouldn’t be applied – shouldn’t be allowed in U.S.-China collaborations or in international collaborations more generally.

I mean, policymakers really need to carve that out very explicitly, because the problem with not doing that is right now there’s this sort
of widespread chilling effect where people don’t want to do those collaborations. And I think, you know, we’ve laid out the cost of that pretty clearly already in this panel, but the costs are not being on the edge of science, because being part of these international teams is where a lot of the science is happening.

We’re not – if our scientists are worried about going to China to go to conferences, they might lose out on some of the conversations that are happening there. If our scientists are worried about recruiting talent from China, they’re going to lose out on some of the top talent. And that’s – and just generally that openness that Mike Gallagher referred to is why U.S. science is leaving. And so that is what we have to protect, and so being very clear about and very transparent in the spirit of science about what is OK and what is not OK. I think that’s, like, the most important barrier right now with the U.S.

I also think there are barriers in China. I think that especially in social sciences, but also in science as well. Like, the national-security law has made it more difficult for people to travel and feel comfortable traveling. I think the data-protection law has also created some challenges for academic exchange in a lot of different areas. There are very few students studying in China.

And what Deb has said before about the problem with that is that, you know, it’s very important, especially as U.S.-China tensions get more tense, that the U.S. has people who understand China and who are able to advise policymakers on China. And not having that exchange is important in, you know, making sure that the relationship doesn’t end up in, you know, a really bad place that could be bad for everyone.

So I think that there are barriers from China policy. There are also barriers from U.S. policy. I think a general principle of openness with, like, the small yard, high fences, really clear definition of what is – what should be off limits, I think that’s where we need to go.

Dr. Rozelle: Yeah. It’s very – yes. I think a lot of people know this, but it was – I just had a meeting with Nicholas Burns, the ambassador from the U.S. to China, and he’s very, very much behind trying to increase the flow of American students to China. There’s 300,000 Chinese students studying in America today. Last year, 2022, there were 300 U.S. students. This year it’s expanded greatly to 800.

Now, Xi Jinping told Joe Biden in the recent APEC meetings he wants it to be 50,000 over the next five years. And, you know, I think that, you know, if the China side opens up, we now need to really identify
the barriers that are keeping U.S. students from going. And I thought your comments were perfect.

Chenjian, what do you have to say?

Dr. Li: Well, to follow the argument one step more, I think, to use a metaphor, when we are supposed to use a scalpel, don’t use a sledgehammer. (Laughs.) So if we are going to make clear what are allowed, what are not allowed, clearly to the scholars and students, I think it’s also up to us to participate, the scholars and students. We should not push the responsibility to senators and White House and say, hey, you guys tell us. No, no, no. I think it’s the other way. We are supposed to come with a plan that, look, this will balance the national-security issue and open-science issue and the benefits for us and the global citizens.

So I would advocate for scientists like us. We actively participate, because it is difficult. It is a scalpel kind of work. That’s what I want to advocate at this point.

Dr. Rozelle: Deb.

Dr. Seligsohn: So I agree that there are things that are barriers in both sides. It’s absolutely the case that people in China are also much more nervous about sort of whether the government is going to approve or disapprove of what they’re doing. That really varies a lot by topic, as I think both, Scott, you and I know, because if you’re working on a topic that is a Chinese-government priority, things are a lot easier.

Of course, you do get insights into things that aren’t, which helps inform the United States. So I think even though there are limitations, it’s still incredibly important to do the work.

One thing I think was positive on the Chinese side is they came out with clarifications to the data law that were in draft in October. And I don’t know whether they’ve been fully adopted yet. That’s something that I should check. But if they’re adopted as written, I think they’re going to be a big help to academics. They don’t solve a lot of the problems that companies have with data, but they do encourage academic exchange.

But our ability to, you know, change Chinese policy is probably relatively limited. But I think there are some very specific things the United States could do, because I think – so the first is if Nicholas Burns is really serious that he wants more American students to go
to China, they have got to change the travel warning. It’s currently at a level three, which says reconsider travel.

Many universities will automatically advise their undergraduates that they shouldn’t travel to a place with a level-three travel warning. And undergraduate students are not particularly at high risk of arbitrary detention in China relative to other places. Most undergraduates who get in trouble in China do so for bar fights, and they could just as easily get in trouble for that in many other countries of the world. So it’s – I think they really need to think about that.

The second thing concretely I think the United States could do is send an NSF representative back to Beijing. We had a National Science Foundation representative in Beijing from about 2005 until early in the Trump administration, when they pretty much sent all of the NSF reps around the world home in a sort of general cutback of global science.

In terms of having really good dialogues on science policy with Chinese, NSF was invaluable. NSF also ran a summer program that was specifically about helping American Ph.D. students spend a summer in a Chinese lab. They had done this in Japan. They’ve done this in France. And the concern is that, unlike most other countries in the world where there actually is encouragement that people who go through a Ph.D. program spend part of their time, whether it’s part of their Ph.D. or a postop, in another country, most American scientists spend all their time in the United States. So NSF has long had efforts to try to ensure that American scientists know more what’s going on in the rest of the world. That program was cut off in the Trump administration.

There are things that we could do that are specifically about helping us have those greater interactions in China and learn more about what’s going on. And those are things that U.S. policy can do unilaterally. I completely agree with Molly about the ambiguity and how I think it’s really affecting young scholars, especially of Chinese origin. That it is perceived nowadays as very risky to work with Chinese collaborators if you have Chinese family connections, if you spent part of your life growing up in China, because of those NIH investigations, because of the China Initiative. I think that absolutely has to be clarified and it’s going to require a lot of work. And the truth is, it’s part of what’s dissuading Chinese Ph.D. students from applying for U.S. Ph.Ds., because 20 years ago you could imagine a career where you’d be able to have one foot in each country. And
you’d be able to comfortably go back to China and do some work there, and have a life in the United States. And it looked really nice.

Now, I think a lot of scholars of Chinese origin feel like they have to choose. And if they go and they do their Ph.D. program in Germany, or in the U.K., or in Canada, they don’t feel they’re going to have to choose as much. And so I think that’s hurting us as well. So it isn’t enough to just say the China Initiative is over. Things like the U.S. attorney in Boston actually apologizing to Chen Gang for that ridiculous indictment. It’s more than Chinese alleging that there have been improper prosecutions. We’ve now had multiple cases, some of which had been fully proven in court, where there were improper prosecutions. And some apologies for some of those I think my go away to making it clear what is going on inside the FBI. Because I think most people don’t trust it, even now.

Dr. Rozelle:

Yeah. I think, just expanding on both what Molly and – all three of you said, is making things clear. You know, that last year, the number of applicants from Chinese to the U.S., Ph.D.s and postdocs, went way down. And, of course, what the U.S. government said was – you know, what people were saying was, well, they’re afraid to come to the U.S. because, you know, both, yes, there has been the China Initiative and, yes, you know, it’s advertised within China that there’s a lot of negative sort of portrayal of U.S. society. It’s violent. It’s anti-China.

But if you go to the websites, and my colleague here at Stanford just scraped the web and looked at the web of people talking about this, basically young Ph.D. candidates or, you know, want to be postdocs, they aren’t applying to the U.S. because they aren’t getting visas. That’s the number-one reason. And it’s right back to what Molly says. It’s because, you know, hey, they’re going to engineering or life sciences, and that is national security, or might be, or dual use. And I think that this is where you need to be very, very – I think we need to be very, very clear, is that, you know, this is the academic sphere here. Yeah, sure, this is – this is perhaps those labs that are doing national security, but most of it’s not. And so I still think that that is one of the real barriers that I heard all three of you sort of talk about.

We’re getting towards the end here. But let’s sort of step back. Tell me whatever you want to think, but – (laughs) – sort of the U.S. is the world’s leaders in scholarly output. By limiting scholarly exchange with China, the U.S. is ensuring its comparative advantage in science, innovation, knowledge production for the foreseeable future, right? Right? Put another way, the U.S. may lose something when limiting scholar change, but China loses more. We’re in a competitive situation. It’s – yeah, I think you’ve all
addressed this. Maybe thinking if this as sort of what the audience should take away. What do you think? I wanted – Chenjian, and then Deb, and Molly, you can sort of wrap it up. But then you can jump on the other person if you don’t agree.

Dr. Li: OK. I am, I will say, less adamant than Deb, because I do see more the factor of the risks in terms of national security. I do acknowledge a little bit more than Deb. However, still I would advocate for what I call the principled exchange in engagement. We do need to vet. We do need to look at our detailed projects and their dual use. However, I’m much more on the side of keep the exchange because of the following facts. First of all, don’t forget, for Chinese students who obtain the Ph.Ds. in the United States, 90 percent of them stay. So United States gets the better part of – end of the bargain, by overwhelming benefit in that sense. So I think we should keep that to make a strong – the United States is strong because it’s a global talent place. Everybody comes here and develop. So I want to keep that.

And second is, I want to advocate a nuanced approach to even Ph.D. and postdoc vetting process. Currently, I think it’s really by the word. The same – my student, if he says, I studied mathematics, great. If he says, I will study and pursue AI, probably he is going to be rejected. (laughs.) But it doesn’t mean anything. We need to do a better job. But the job is really difficult, I acknowledge that. How do we actually do that? At Stanford, for example, it’s really challenging. But I agree with Deb that because it’s difficult, that’s why we need to get to work hard sort of in those aspects.

But I would love to keep a healthy level of exchange. Unless, of course, the situation deteriorates further. It’s really becoming adversarial or even worse than that, then I will definitely rethink about it. Other than that, let’s keep the exchange at a healthy level. I think that’s the best to everybody.

Dr. Rozelle: Deb.

Dr. Seligsohn: So the percentage of students going back to China has actually gone up in recent years. I think it’s about 25 percent now instead of 10 percent. But your larger point is real. My point about national security is that I think it is manageable and has been manageable for years. It’s not that in fact the traditional national security establishment has not known how to protect U.S. national security. And I think everybody else getting involved in it, which is sort of what’s happened with the securitization of the China relationship in Washington, and people who know nothing about science and very
little about national security suddenly deciding this area is a security issue and that area is a security issue, has muddied the waters.

I mean, our national labs are well protected. We have clear delineation between published science and classifying science. You know, there’s a lot we already have. And so we’re not reinventing the wheel here. I 100 percent agree with Molly that what we need is far greater clarity. And we also need to ensure – I mean, because, you know, I don’t know if any of you read Mara Hvistendahl’s book, I think it was called “The Scientist and the Spy,” about this. I mean, it actually was a story about the gang that couldn’t shoot straight, right? I mean, it’s these guys running around trying to steal seeds all over America, when it turns out if they actually had the scientific skills they needed they could have reverse-engineered the whole thing in a lab in Beijing. But the thing is, this was actually a Chinese private company that had – you know, one of these wonderful bootstrap companies, where the CEO, you know, had been a taxi driver, or something.

And yet, this gets turned into this national scandal that our agricultural security is at risk. And this is actually a kind of crazy story with no larger implications. And there have been a number of these that get hyped in the media, that really don’t tell us anything about our real risks. And I think that there are people who understand what our real risks are and are managing them pretty well. And maybe we need a few more things here and there, and I also think we can decide which fields we want to work on more in which we want to work on less. But what we don’t want to do is, you know, throw out the baby with the bathwater and cut off all science when we could be doing highly productive things on areas that – where we face massive global risks and we need the wealth of both U.S. and Chinese science to address it, like climate change, like the next pandemic – which is coming way sooner than any of us want. And so I think we need to be realistic and also accept the fact that there are larger risks than some Chinese scientists getting a patent, right? That there are actually global risks that need science to move faster, not slower.

Thanks.

Dr. Rozelle: Molly.

Dr. Roberts: Yeah, so the question asked about, you know, competition, so will cutting off collaborations with scientists in China make U.S. science more competitive. And I kind of think this in – I think of science in an international trade framework, that there are gains from trade, from
trading, right? There are comparative advantages. There are ways in which science gains from more openness, from more collaboration, just as trade. And then there are also risks that we have to manage, right?

But I think if the U.S. wants to compete with China, that we should compete. And that means that we should fund the science more within the U.S. We should compete at home. We should fund science more in the U.S. We should be better at attracting the best talent. Like that should be a fundamental goal of U.S. science, is to attract the best talent from around the world, not just from China, but from everywhere – right? – and to maintain our advantage in attracting talent. It should also be to double down on what we do best in science, which is openness, transparency, making sure, you know, integrity in science, research integrity. I think all of those things that the – that this is why the U.S. is leading in science and has led in science for the past decades. You know, peer review, taking politics out of science, academic freedom, all of these things are things that the U.S. needs to double down on. If we doubled down on more funding in science, more academic freedom, more transparency, more academic integrity, all of this, then we will continue to lead science.

But I think that this let’s stop this collaboration with scientists in China as a way of keeping the U.S. more competitive, it’s really a red herring. I mean, if you want to get the U.S. more competitive, let’s invest in science, let’s reinvest, let’s invest in universities, let’s invest in R&D, all of the things that we need to be on the forefront of technology. And that’s where I think the policymakers in this space have sometimes – not always. There are a lot of policymakers working really hard to do that science investment. But sometimes I feel like China – you know, stopping China, it shouldn’t be the answer. It should be building the U.S. That’s the answer.

Dr. Rozelle: Right.

Dr. Li: If I could add one more point.

Dr. Rozelle: Yes, Chenjian.

Dr. Li: Yeah, following that, I want to leave with a positive note. I think the dominant position the leadership of the United States universities, top-tier universities all over the world is still strong and it’s stable. We are not in a panic mode, and saying everything’s falling apart. No, it’s not. I’ve been to the best universities here and in China. The
United States is really strong and in leadership position that is stable. So we can deal with things with nuanced patience.

Thank you.

Dr. Rozelle: Wow, that hour went by fast. I’ve been taking notes the whole time, and I’ve really learned a lot. You know, just to try to summarize very quickly, you know, there’s huge benefits to exchange and collaboration, gains from trade. I like to think of it that way as an economist. You know, U.S.-China relations has been a huge sort of mechanism for trade over the past several decades and has created a lot of benefit for the world, for the United States, for China. You know, things are down. There’s barriers there. We’ve heard the barriers. You know, they’re investigative of people fearing to come – they’re losing funding. There’s visa problems to get in here. On the China side, there’s laws, there’s data laws, there’s securities laws. On the U.S. side, you know, we sort of scare students off from going and, you know, there’s a handful of students over there while, you know, we need more.

I think that as we’ve stepped back and say, well, let’s – you know, let’s revise the laws and let’s get rid of the investigations and not tie funding to it, but I think what everybody said what we really, really need to do is to establish clarity. And you know, I think our track-two – (inaudible)– team came up with the exact same result, is that the top leaders of the country have to say, you know, that these things are not national security and then, you know, we should have stopped, right? We should have Chenjian give his final words before he said that, but then Molly’s say, right, we have, you know, freedom, open system with integrity and we need support for that. And you know, that’s the system that’s made America and made the world, and we need to keep those collaborations going.

So I want to thank everyone, Molly for doing all your research. Keep it going. You’ve got to send us this next paper soon.

Chenjian, you know, having you as my colleague here is fantastic. There’s lots we can learn from him.

And Deb’s done so much. I mean, she’s working so hard now on the science and technology agreement as well as just keeping the relationship going.

So thank you, everyone. We’re going to take about a 10-minute break, and we’ll be back and Ilaria will be basically hosting the next session. You don’t want to miss it. Thank you, everyone.
Dr. Li: Thank you.

(END.)