President Qiu, Chairperson Chen, Provost Yang, distinguished faculty, students and guests. Friends.

It is a tremendous honor to speak to you today, representing the 55,000 students and nearly 5,000 faculty of the University of Washington. This is my first visit to China, and the welcome I have received ensures that it will not be my last.

It has been a whirlwind year for our two universities. It was only a few months ago that I first met Provost Yang, back when I was interim president. I then had the privilege of welcoming President Qiu to Seattle to launch the Global Innovation Exchange in June, and the honor of welcoming Chancellor Chen in August as we continued to forge this partnership between our institutions.

And, of course, all of Seattle was so proud to welcome President Xi Jinping to our city in September, where he presented President Qiu, Microsoft President Brad Smith and me with a dawn redwood tree as a symbol of the growing bond between our two universities, and our two nations, through GiX.

So after this past year, to stand here, on the campus of the pace setter for innovation in China – a university that just beat out MIT for the top spot in the U.S. News & World Report Global Engineering rankings – is a distinct honor. I thank you for this opportunity.

The partnership we have created, and that we strengthened this morning with a new academic agreement that further grows the Global Innovation Exchange, benefits both universities. But it does so much more.

It breaks down boundaries between our students, who will get to learn from each other, and see how the American Dream and the Chinese Dream are different – but also similar. It
brings our faculty closer together, as they team up to tackle global challenges. And it benefits our nations, which may have disagreements – as all nations do – but which are inexorably tied together.

Brad Smith often says that it is hard to imagine a future in which any of us would want to live where China and the United States are not cooperating. The future health, prosperity, and well-being of our nations and our planet depend on our ability to cross boundaries and build relationships. Relationships between our students, who are the future leaders of our nations; between our faculties, who are driving innovation around the world; and between our countries, as leading players on the global stage.

As a result, partnerships such as the Global Innovation Exchange, and the agreement we signed in September to collaborate on low carbon cities, are crucial to the future of our world.

As universities we have a unique role in setting the course for our future, because we have the ability to take issues above politics. I have been a proud member of the University of Washington faculty for nearly 30 years, starting as an assistant professor of psychology. As a faculty member, I am a teacher and I am a researcher. In my research, as in yours, the goal is not to confirm an opinion, but to test a hypothesis. To follow the evidence wherever it leads, even if – and especially if – it leads somewhere unexpected.

That is different than politics, and it is why universities have such a vital role to play in the future path of our nations and the world. We can take an issue – from climate change to public health to traffic gridlock – and present the facts and evidence our leaders and citizens need to be able to make informed decisions.

That can be a challenge, as the evidence may question preconceived notions and long-held beliefs. But it is also a tremendous opportunity, because only by questioning these notions can we change the world.

At no point in human history – and I say this knowing that I come from a nation whose history is but a fraction of the history of yours – at no point in human history have we had the opportunity to know more, to learn more, to share more that we do right now. And tomorrow, and the day after that, the opportunity will be even greater, thanks in part to the innovations of the students, faculty and alumni of our universities.

Just last week, for example, the University of Washington was chosen by America's National Science Foundation to co-lead one of four Big Data Regional Innovation Hubs, along with UC Berkeley and UC San Diego. NSF recognizes the UW's strengths in this area and the opportunities that exist when we access, analyze and draw insights from massive amounts of data.
Big data is already driving innovation in fields from medicine and manufacturing and on to the way entire cities are managed. We must seize this opportunity, because at almost no point in our history have the challenges we faced been this great, or been so unchecked by borders and boundaries. A changing climate causing crippling droughts, followed by devastating downpours. The risk of pandemic in our interconnected world. Refugees fleeing war and extremism. Children dying of disease, of malnutrition, of neglect.

These are the challenges of our time and we are the ones who are best positioned to solve them.

I want to focus on public health, because this is an area of particular emphasis for the University of Washington, and an area in which we have been proud to collaborate with scientists and researchers all over the world, including here in China.

In medicine, to cure a patient you first need a diagnosis. But how do you diagnose a city? Or a country? Or a planet? There was once no way to know how many mothers died in childbirth, or how many children went to bed hungry. There was once no way to see a pandemic forming before it was too late, or to truly know the effects of pollution.

Until now.

By harnessing big data we are now able to identify threats and trends far earlier than we ever could have – if we could have. We are able to diagnose a city. A country. A planet. And these diagnoses have very real and lasting benefits for the people, the communities – the patients – involved.

One example: researchers in the University of Washington School of Public Health are identifying previously unknown adverse events related to pharmaceuticals. They are analyzing millions of patient records, in a modern form of public health surveillance, looking for reactions to medicines. Not only is this more effective in identifying problems than the passive reporting approach regulatory agencies have taken in the past, but it also happens in real time. Trends can be identified, drug regimens modified or stopped, and patients’ lives saved.

This same model can apply to studying the effects of pollution on communities, or tracking down the causes of cancer clusters. Or even using Internet searches and social media to track the spread of the common cold.

This is just the beginning. And the reason big data holds so much potential is because our researchers draw strength from each other, and from the different expertise they bring together across academic disciplines. We are uniting medicine and mathematics, epidemiology and engineering, biostatistics and ecology, computer science and, my field,
psychology. And through our partnerships with institutions such as Tsinghua University, we are bringing together expertise across national boundaries.

Now, those boundaries may not always be visible. The city gradually becomes countryside, or one dialect ends and a new one begins. And of course the challenges we face often transcend boundaries, as in the case of disease or pollution. But usually natural and sometimes human boundaries are there, and big data has the potential not only to see them, but to help us do something about them. And we must do something about these invisible boundaries if we are to create a healthier, more prosperous world.

In every country on Earth – rich or poor – a divide exists. Where you’re born determines how long you’ll live, and whether you’ll even make it past infancy. It determines how healthy you’ll be. That correlates with how educated you’ll become and that determines your income. The cycle starts over with your children. And their children. And on and on.

Where you’re born matters. And by harnessing big data we’re able to see for the first time just how much it matters, to identify the hidden boundaries between us, and to do something about them.

You have been able to see this in dramatic fashion in the last few weeks because of a unique partnership that started two years ago here in Beijing.

Researchers from the UW’s Institute for Health Metrics and Evaluation met with researchers from the Chinese Center for Disease Control and Prevention, China Cancer Registry, and the National Office for Maternal and Child Health Surveillance. The occasion was a review of the UW’s ambitious Global Burden of Disease project, an attempt to make comparisons over time and across countries of all the things that cause death and suffering, and how this project can be applied at the provincial level in China. At that meeting a powerful collaboration was born.

Two years later, researchers from institutions throughout China and researchers at the University of Washington released the fruits of that collaboration. For the first time, China can see with great specificity what people are suffering from and what people are dying from in every province.

The findings were just published in the Lancet in October. They show that some parts of China enjoy lifespans that are long and healthy. In fact, even though the United States used to enjoy some of the highest life expectancies in the world, now, people in parts of China live lives that are longer than people in the United States.

But elsewhere in China we can see levels of mortality that are more characteristic of low-income countries in South Asia. And in these places, we also see this double burden of infectious diseases and neonatal causes, and high levels of chronic diseases, too. Through
similar collaborations in the United Kingdom and the United States, we have seen these same patterns. And with them, we see the opportunities.

If a province in China has a lower life expectancy than a neighboring province, we can now look to see what's working on the province where life spans are longer and healthier and find ways to replicate that success.

The collaborators went even farther. They looked at what’s killing the most vulnerable population: children under the age of five. What the researchers found reveals that declines in the child mortality rate have been much faster than expected. Between 1996 and 2013, the mortality rate for Chinese children under five decreased by 70 percent. That was far faster than the target set by the Millennium Development Goals.

But the researchers also looked at the differences in child mortality for 2,851 counties in China and found the places where child mortality was declining the fastest, and where progress was much slower. The research shows that even though most Chinese counties are on track to achieve the Millennium Development Goal target by the end of this year, there are still more than 300 that will not achieve the target. What is holding them back? And what can they learn from the counties that are on pace? That's where we'll turn from using big data to identify problems to using it to solve them.

Through a newly created Collaboration Center in Beijing with the Chinese Center for Disease Control and Prevention and the University of Washington’s Institute for Health Metrics and Evaluation, we are committed to working with China to create healthier communities throughout the country.

China has an incredible opportunity to take the rich amount of data it has collected over the years and make smart health policies that can then become models for the rest of the world to follow. Just as the barefoot doctors became emblems of primary care that are still referenced in medical schools worldwide today, China’s big data collaboration with the UW’s IHME can become the model for how governments spend precious health resources in the future.

These stories of using big data to address big challenges, of collaboration that is undaunted by boundaries, are at the heart of my vision for the University of Washington, and of my vision for our partnership with you.

That vision has at its center the Global Innovation Exchange, a revolutionary new institute that will bring students from around the world together in a project-based, globally focused environment. They will team up with faculty, entrepreneurs and experts to pursue solutions to the challenges of our time. It is truly a vision for learning without boundaries, and I want to again thank our partners here at Tsinghua for sharing that vision. As well as to thank Microsoft for its generous support.
GIX is only the beginning.

Just today, our two universities signed another agreement to conduct research and develop imaging technologies in precision medicine to help diagnose and treat cardiovascular disease, cancer and neurological disorders. And in September, as part of President Xi’s visit to Seattle, Tsinghua University and the University of Washington joined with Sichuan Province and the state of Washington to sign an agreement encouraging the development of climate-smart, low-carbon cities. Climate change is an issue that truly transcends borders, as was evidenced by the landmark agreement President Xi and President Obama signed last year. By bringing two innovative universities and two innovative governments together, we can use our research to guide the growth and development of our cities, creating a more sustainable future for us all, and serving as a model for future collaboration.

The University of Washington, Seattle, and the surrounding communities in the Puget Sound are known for innovation. But it is a unique kind of innovation – inclusive innovation. It is a belief that the answer does not exist in a single nation, a single industry, a single university, a single mind. Innovation occurs when we cross boundaries and let our ideas merge – and sometimes collide. It is those collisions that create the sparks of discovery.

Inclusive innovation is also a belief that we is greater than me, and that our futures are intertwined. The future of the University of Washington is now intertwined with that of Tsinghua University, just as the future of China is linked to that of the United States. Let us recognize that the boundaries between us are smaller than we think, and the opportunities for partnership greater than we can imagine.

This is just the beginning of a long and mutually beneficial partnership between our universities, our nations, and our peoples. And it is an honor to stand before you today as we continue to strengthen that partnership.

We can create a world of good. And together, we will.

Xiè xie nîmen.