The Power of Partnership:
What global research universities bring to the innovation economy

Thank you, Phil.

It’s an honor and pleasure to be with you all again this year here in Shenzhen, one of the most innovative cities in the world, hosted by SUSTech, a university rich in connections and partnerships all around the globe. And the same can be said of all the universities represented here. Together, all of our institutions are doing so much to shape their home cities and regions and build bridges across the world. These global connections have become so much a part of our DNA that it’s easy to forget how relatively recent this local and global engagement is in the long tradition of the academy.

Universities are among our most enduring institutions. They transmit knowledge from generation to generation and peer over the horizon to expand our species’ collective understanding. This was – and is – the heart of our mission. For centuries, that mission defined what a university was – and was not.

Take, for example, William Buckland, an English geologist and Oxford professor who first described a dinosaur and pioneered the field of paleontology. In 1823, Buckland was invited to address the Royal Institution, a young organization founded to share scientific knowledge and discovery for the benefit of industries and laymen. But Buckland declined the offer to speak – he feared compromising the “dignity of the university” by speaking to people whose interest in his work would be tainted by commerce.

But change was coming.

By the mid-20th century, collaborations between academia and other sectors were beginning to transform the world. In post-war America, it was partnerships between private corporations, the military and universities that gave birth to the internet. By the 1980s, colleges and universities were beginning to establish internship programs, a far cry from the days when apprenticeships were reserved for tradespeople. Today, it would be unthinkable for a university not to be engaged with local businesses, non-profits and public agencies.

And yet, in some ways, William Buckland’s view of the academy’s separation from the world has persisted in our conception of ourselves. We sometimes see ourselves as being in the world, but not of it – observers rather than participants. But I’m happy to see that with each new generation of scholars, that false dichotomy diminishes as we recognize, with growing urgency, that it is also OUR planet, OUR democracies, and OUR children’s futures at stake.

Education and discovery remain our driving forces, but we also realize that our impact cannot stop at the edge of campus. Our voices must not be confined to the classroom or the pages of peer reviewed journals.
that are read only by other scholars and scientists. The imperative to make our work matter and have impact, to respond to the “urgency of now” can present a unique challenge for universities, because we are enduring, and enduring institutions are not built for quick change. Our culture of scholarship is built on methods that prize care and precision, and measure progress iteratively. Each spring, we proudly put on regalia that was the height of fashion around the 13th century. At times, this can put us at odds with a culture transformed by the maxim that we should “move fast and break things.”

As universities, we can’t always be so cavalier about breaking things when the things we’re entrusted with are students’ futures. But, we can embrace the idea that success requires risk-taking and failure presents us with learning opportunities. We can model that behavior for students who will go out in the world and create new ventures, and enter industries that are being transformed by automation and globalization. We can champion the value of collaboration and the role it plays in sparking innovation. Because the students graduating today probably won’t stay with a single employer or even a single career track throughout their working lives. The world we are preparing them for is global, connected and fluid. The challenges we all face together – like climate change, pandemic disease, bio-and techno terrorism – don’t respect borders or schedules and cannot be tackled by any one discipline or nation and they require us to take our scholarship and research out of the lab and the academy and into the world where it can have an impact.

That impact begins at home. Public research universities have always played a critical role in their local and regional economies and culture. For most of human history, harbors, river confluences and other flukes of geography, like the salt deposits that first attracted humans to Shenzhen, have acted as natural hubs for commerce, culture and community. Today, universities are their modern counterparts, acting as magnets for innovation and innovators.

This was vividly illustrated in recent months as Amazon announced its plans to open a second North American headquarters. While this caused some consternation in Seattle, we feel pretty good about having set the standard for what Amazon looks for in a city. The company specified in its RFP criteria that “a highly educated labor pool is critical and a strong university system is required.”

Seattle, Washington, and the entire Puget Sound region have become a hub for technology and business innovation, and the University of Washington has always been a source of talent, invention and partnership for companies like Microsoft, Amazon, Boeing, Starbucks and many others. In the case of Boeing, our partnership dates back more than a century to Boeing’s earliest days. The leaders of that fledgling company recognized that donating a wind tunnel research facility to the UW would pay dividends when we produced top engineering talent to fill their ranks. Today, that partnership has grown to encompass Boeing’s support for scholarships, mentoring, internships and teaching that takes students from the classroom into every part of Boeing, from its industrial labs to its front offices.

Here in Shenzhen, one of the fastest growing economic centers in China and the world, there are more than a dozen colleges and universities, including Southern University of Science and Technology where we are meeting today contributing educated workers and new ideas to the mix.

Whether Boston or the Bay Area in the US, Beijing, Shanghai or Hong Kong in China, name a major economic center and you will find at least one research a university and more often several other
universities or colleges. Given this critical role of universities to their local geographies, it’s incumbent upon us to cultivate the kinds of innovation that cities depend on for growth.

As educators, a big part of what we do is prepare our students for the workforce, but as the definition of work has evolved, the necessary skills and preparation are changing too. As a result, research universities have become powerful incubators for start-ups and technology transfer, not just in order to be good partners with industry and their communities, but in order to provide a good education to their students and to attract the top faculty. A generation ago, it would not have occurred to a young faculty member or high school senior choosing a university to ask what they were doing to support innovation. Today, research universities routinely tout their friendliness to innovation, the number of start-ups they’ve cultivated and the resources they offer for incubating new ideas and getting them to market. (And I’ll just take this opportunity to casually mention that in the last five years, the UW has spun off 86 start-ups.)

Universities are launching pads for technologies that transform the global technology market. Companies like Sun Microsystems and Genentech were born and nurtured by technology transfer centers at universities. By allowing fluid interplay between the academic world and the commercial world, we can turn theory and research into practice, where they can have a direct impact on the world and its people. And it’s not just commercial products; we can and do spur important innovation in policy and the non-profit world as well.

For research universities, our challenge now is how to accelerate and streamline this process. Like an oak that produces thousands of acorns but just a few actual trees, most start-ups will fail. Our job is to try to create fertile ground by removing some of the barriers and making each failure a useful and instructive one.

At the UW, we are tackling this challenge in a multitude of ways. Most recently, through the Global Innovation Exchange, a partnership with Tsinghua University that received foundational support from Microsoft. This partnership is the first instance of a Chinese research university establishing a physical presence in the United States. Through project-based learning, students work with academic faculty and industry experts on solutions to our most pressing global challenges. By connecting the academic and industrial and/or policy sides of innovation, GIX is breaking down barriers between those sectors and crossing cultural, linguistic and political divides. And this partnership is not limited to the UW and Tsinghua – the GIX Academic Network now has eight partners, including universities from Hong Kong, Korea, India, Canada and Switzerland. We are welcoming new partners all the time and with each new partner, the possibilities for collaboration and discovery increase dramatically.

To succeed in our shared quest to drive world-changing innovations that will make the world a better place we must act in partnership. The days of solo inventors single-handedly revolutionizing a field through a discovery or invention are long past. This is not to discount individual brilliance – people with vision, genius and determination will always be a necessary ingredient for progress – but the challenges we have to meet are too complex to be solved with any single eureka moment.

Walter Isaacson, the journalist and technology historian, writing about the history of the Internet, said “most of the innovations of the digital age were done collaboratively…and [the innovators’] ability to work together as teams made them even more creative.” Within our universities, we are discovering how
collaboration can make us more creative all the time, as disciplines that have typically been siloed come together in search of inspiration and serendipity.

We are transcending international borders and crossing oceans to work together on our common challenges and opportunities, like the recent agreement between SUSTech and the University of Birmingham to establish a joint center to study artificial intelligence.

We are engaging with governments at the national and local levels, sharing the data and analysis that our research produces. And more and more, we are actively engaged with our public sector partners not only as advisors, but in devising and even implementing solutions. When the city of Rochester, New York declared that a failing local high school would have to be shut down if it did not improve outcomes for students, the University of Rochester volunteered to re-envision and operate the school through its College of Education. The result has been an almost miraculous turn-around for a school in crisis.

These public partnerships are especially important in light of decreasing public investment in higher education in some parts of the world, including the United States. Our universities can no longer take for granted that their public value is understood or accepted, and we must contend with an anti-intellectual strain of populism. So, it’s incumbent on us to make the case, through our words and actions, for all the ways in which we advance and improve our societies. When we collaborate with both private and public agencies, it’s hard to ignore our impact.

Fundamentally, collaboration is the process of breaking down barriers in order to see a problem through someone else’s eyes. I often refer to this as “inclusive innovation.” In a recent article, Imperial College President Alice Gast addressed this idea as well. She wrote about the genesis of innovation and why immigrants are responsible for so much creation and discovery.

She wrote, “Something happens when brilliant people move and cultures collide and collaborate…the key ingredient is not migration alone, but the ability to work with people from different backgrounds, cultures and nationalities.” And she noted that more than half of America’s billion-dollar start-ups were founded by immigrants, a quarter of whom arrived in the United States as students. And since the year 2000, immigrants have made up 40 percent of the United States’ Nobel Prize winners in Physics, Chemistry and Medicine.

Universities are crucibles for this kind of intermingling – in 2014, almost 900,000 international students came to the U.S to study at American universities, and more than 300,000 American students studied outside the United States. All of them, and all of us, are richer for this exchange of knowledge and perspectives.

Right now, our world is facing truly tremendous challenges. We know this in part because better tools give us the ability to see and understand the scale of those challenges with unprecedented accuracy. We can see how significant the threat of desertification, the process by which fertile land becomes arid, is thanks to partnership between researchers here at SUSTech and the University of East Anglia.

And we know more about epidemic diseases and their unequal distribution around the world because of partnerships emanating out of the Institute for Health Metrics and Evaluation at the UW. We now know the human cost – roughly 2,000 children dying every day – of unsafe drinking water. With that
knowledge comes a moral obligation to partner with global health organizations like PATH and China CDC to prevent those deaths. And to engage with the global philanthropic community to amplify and scale our efforts.

We urgently need the fizz and pop of innovation that occurs when people cross borders, virtual and real. Because these challenges are global and complex, our task seems daunting, but by the same token, when a problem is shared by everyone, everyone has a stake in solving it, and that is how we will succeed.

Universities have a special role to play in fostering the kind collaboration needed to address global challenges because our organizations are free of some of the constraints that governments and industry contend with.

Unlike the private sector, universities aren’t required to turn a profit, and we have fewer barriers to cooperation with our “competitors.” Unlike governments, we can – at least attempt to – put aside politics to work together without fear of the voting public. We are mission-driven, committed to public service, so our resources, energy and ingenuity are directed toward innovation that betters the world, rather than the convenience and amusement of the most privileged. Lacking those constraints, we can blaze a trail of collaboration that creates linkages and bonds between cultures and nations.

As the University of Washington, one of the key ways we create those linkages is through our Population Health Initiative. This multi-decade project’s goal is to create a world where all people can live healthier, more fulfilling lives. This encompasses freedom from disease, the environmental conditions in which a person lives, and the effects of poverty and social inequality on individuals and communities. Through the Population Health Initiative, we seek to understand the intersection of those three pillars: For example, how does climate change affect people’s health, and which groups of people are feeling the effects most severely – and why.

In Seattle and the Puget Sound, we are fortunate to have a rich concentration of organizations doing public health work, but no city or region can meet this global challenge alone. So we need collaboration with other universities doing work that benefits everyone.

At the University of Queensland, for example, researchers are creating the world’s first crowd-sourced “molecule bank,” a necessary resource for developing the next generation of antibiotics to fight drug-resistant superbugs, a growing threat that challenges every nation on earth.

Initiatives like these can only succeed through collaboration – across nations and academic disciplines, across the public and private sectors, and among the vast constellation of researchers, educators, philanthropists and health advocates working on these challenges. By serving as a convener and a bridge-builder, research universities have an extraordinary opportunity to help shape a future that is more collaborative and better serves the goals we all share: less poverty, healthier children, longer lives, cleaner air and water, safer cities, quicker disaster recovery.

All of the universities represented in this room are producing vital discoveries that may one day benefit everyone on the planet. We have the opportunity to show the world what a collaboration for the common good can accomplish.
Before I close, I want to say that despite the many global challenges I’ve referenced today, my outlook – and my message – is optimistic. How could I fail to be optimistic when I see brilliant and promising minds working to tackle these daunting issues? Melinda Gates, who has inspired me and so many to strive for a healthier world, said that “Optimism…isn't a passive expectation that things will get better; it's a conviction that we can make things better,” and that’s the kind of optimism that I believe we all share here.

We have come a long way from the cloistered scholarly communities that preceded us. We carry their legacy: academic rigor, dedication to teaching and learning, a thirst for discovery. In the modern era, we’ve added a commitment to public service and a growing engagement with the world and with each other. Our power to inspire each other is our greatest strength. By working together, inspiration can become innovation, and innovation can become a better future.

Thank you, and I look forward to continuing the discussion.