Good afternoon. Thank you, Dr. Ambegaonker for the introduction. I am indeed excited to be here today exchanging information and ideas with such a distinguished and accomplished group of colleagues...including my illustrious fellow panel members, Dr. Guo and Dr. Pitroda.

In my position as president of the largest public university in the United States...and one that maintains a vast global presence...I am often asked to speak to educators, business leaders, and policymakers in many different parts of the world. And in the course of doing so, I have learned that every nation...large or small...developed or developing...has come to value higher education as the engine of economic growth and prosperity.

Consequently, they have all become increasingly more invested in providing their citizens with expanded access to high-quality academic opportunities...and not a moment too soon, given the sharp uptick worldwide, in the number of new jobs that require some sort of postsecondary certification.

In the United States that number will rise to around 75% over the next five years...at a time when the percentage of U.S. college graduates under 35 is slowly shrinking...because of rising tuitions and even tougher admissions requirements. What's more, at current graduate production rates, the American workforce will be short 16 million college-educated adults by the year 2025.

In looking for ways to reverse these trends, President Obama has made postsecondary education one of his administration's top priorities....challenging every American to commit to at least one year of higher learning. And to help us get there, he has proposed significant changes to student financial aid, along with historic investments in community colleges.

To be sure, these initiatives will alleviate some of the most common barriers we face when it comes to enrollment, retention, and completion. But if the United States is to become a truly knowledge-driven society, it will need to take a radically different -- and certainly far more holistic -- approach to its higher education system.
It is a big step...which will require a fundamental realignment of the attitudes and principles, norms and practices that have traditionally powered our academic enterprise here in the United States. Even so, by thoughtfully evaluating where we are now and ascertaining where we need to go, we can accomplish several critical objectives.

For starters, we can lay the foundation for a more contemporary higher education culture, which values collegiality over competition, and measures quality on the basis of the learning outcomes we produce, rather than institutional assets we acquire.

We might also find a way to integrate the two postsecondary systems we have perpetuated until now -- one for scholarly achievement and one for workforce development. Indeed, a single system would provide American college students at all ages and stages in life with an infinitely more meaningful educational experience...which acknowledges human intellectual development as a product of both "book learning" and practical application.

But even more important...by taking a long, hard look into the future, we will have a chance not only to define what it will actually mean to be "educated" in the 21st century...but also to figure out how we can make that knowledge available to a far greater number of Americans...regardless of where they live and learn.

That speaks to yet another of President Obama's priorities. Using two of America's greatest strengths --- technology and innovation --- to develop a more effective paradigm for postsecondary education. Something like the model we pioneered more than 60 years ago at the University of Maryland University College.

In fact, UMUC has harnessed the promise of technology with the power of teamwork to bring world-class academic programs and applicable learning experiences to the people. Onsite at more than 157 locations in 28 countries around the world...and online through our award-winning virtual campus. And in doing so, enabling learners of all ages, abilities, ethnicities, and economic circumstances...to move easily, in and out of the university environment…at different times…in different places…and for different reasons.

As an open access university, we also place a high premium on ensuring that every UMUC student can succeed academically. So in addition to designing inclusive learning environments and targeted student support services, we have kept our tuitions affordable, and created a culture of continuous assessment and accountability.
What's more, in giving our students both a well-rounded education and a competitive professional advantage, we have developed a number of collaborative initiatives. For instance, our Community College Alliance Program moves students seamlessly from a two-year to a four-year degree program... without losing credits or ever leaving home.

And finally, to build a longer and stronger pipeline for career opportunities upon graduation, we have established a global network of public, private, and institutional partners...which has proven especially useful in meeting the rapidly growing demand for STEM-educated college graduates.

According to Tapping America's Potential - or TAP - a consortium of 16 business associations throughout the United States, these graduates have become absolutely essential to both our economic vitality and our national security here in the United States.

As I said before, America has established an impressive track record when it comes to technology and innovation. Yet we are gradually falling behind both our European and our Asian allies, who have greatly accelerated their investments in STEM education at every level...investments that are now producing a tremendous return.

In 2008, the National Science Foundation reported that only about 17% of American college graduates earned bachelor's degrees in science and engineering. Yet that same year, 69% of all undergraduates in Thailand received their degrees in one of these concentrations...while in Japan that figure was 63%...in Singapore, 59%...and in China, 56%.

Consequently, as our country's existing workforce of scientists, engineers, and mathematicians "ages out," we are not replacing it quickly enough with a new generation of professionals. And experts in the field firmly believe that we must add to their numbers if we are to ensure our long-term sustainability as a nation.

In fact, TAP predicts that by 2015, the U.S. will need to award twice the current number of STEM bachelor's degrees...or from 225,000 to 400,000 annually. A sobering thought, indeed, given that, to date, we have made little real progress toward meeting that timeline.

Fortunately, we are making greater strides at the doctoral level, having reached record numbers during the 2008 academic year in almost all of the STEM fields. But of the nearly 32,000 doctoral degrees awarded in science and engineering, a little over 40% of them went to non-U.S. citizens...and most of those students came here to study on temporary visas.
Once again, these trends have prompted President Obama to call for “a renewed commitment to education in mathematics and science” if we are to "tackle the grand challenges of this decade." That said, he has proposed a number of exciting initiatives.

For example, the U.S. Department of Energy and the National Science Foundation will soon launch a joint project...designed to inspire tens of thousands of American college students to pursue STEM careers, particularly in clean energy.

As such, it will include groundbreaking research opportunities for undergraduates....while also providing increased access for women and minorities...who have too often been underrepresented in STEM fields, even though they have consistently proven themselves.

We will also see additional fellowships, along with interdisciplinary graduate programs and partnerships between academic institutions and private companies...for developing a creative and competent 21st century workforce.

Needless to say, the President's commitment is one we all share...regardless of the role we each play in fulfilling it. This is especially true for the academic institutions represented here today....all of which have made STEM studies a high priority, at both the undergraduate and the graduate levels.

At UMUC, we have taken bold steps over the last twenty years to develop state-of-the-art academic programs in high-demand STEM career fields...from software engineering and information assurance...to bioinformatics and environmental management.

Furthermore, working side-by-side with the Maryland State Department of Education, UMUC has reengineered its Master of Arts in Teaching program to help relieve the critical shortage of certified science, math, and technology teachers.

Partnerships such as this one are providing inventive approaches to recruiting and retaining the projected 280,000 educators the U.S. will need in just five years. For example, at UMUC we not only offer our MAT program as an alternative pathway to certification...we also recruit teacher candidates from among our adult students...many of whom are "career changers" and retiring military service members, enrolled in STEM programs or employed in STEM fields.

Private corporations are also getting into the act...teaming up with non-profit organizations and universities to fill the gap. Companies like the Raytheon Corporation, which developed its groundbreaking STEM Education Simulation Model in conjunction with the Business Higher Education Forum.
This powerful tool is designed to help educators, policymakers, and researchers understand the nation's complex education system...identify potential solutions with which to strengthen STEM education and workforce outcomes...and differentiate among the most effective alternatives for investing in STEM education.

And certainly collaborative conferences such as this one are exceedingly valuable in setting the stage for a far more global perspective…in our mutual quest for quality higher education.

Indeed, by strengthening our numbers, we may begin building a global knowledge ecology, of sorts. One that expands our international horizons, while supporting our national interests…by allowing us to identify critical interdependencies…integrate core learning outcomes….and embrace commonly held academic values and standards.

Over the years, my own university has developed a variety of partnerships through which to extend its international horizons. For instance, I have worked several years as the U.S. co-chair of the U.S. China Forum on Distance Education. This forum, which brings hundreds of scholars in the field together from around the world, not only facilitates a unique relationship between our two countries...but has provided UMUC with an opportunity to develop new program offerings in both Asian Studies and Chinese language.

What's more, working with Hughes Communications, UMUC pioneered a graduate certificate program in Global Business Management for students in India....in response to the worldwide demand for managers with international business expertise.

In our graduate school, our faculty selects projects proposed from companies in India and China. Students are supervised by faculty throughout the projects and fly to India or China to present their final reports at the company.

Opportunities such as these foster the entrepreneurial spirit and generate the shared resources we will need to inspire a new generation of global knowledge leaders...individuals who have both the intellectual capacity and the practical skills to tackle even the most complex problems of our era.

My special thanks to Dr. Prakash Ambegaonker for organizing this important seminar. Thank you very much!