I’m pleased to welcome all of you to Atlanta to the fourth conference of the EMERGE consortium. It is exciting to see so many of you here, and Georgia Tech is proud to serve as your host for this conference.

When the Georgia Institute of Technology opened its doors in 1888, it was an exclusively white, male institution. And for many years it stayed that way. Then, in 1952, we enrolled the first women and in 1961 the first minority students. In fact, Georgia Tech was the first university in the Deep South to integrate voluntarily without court order. Students, faculty, and staff agreed that anyone who could do the work belonged here.

Today, white males at Georgia Tech have slipped below the 50 percent threshold to become a plurality rather than a majority as an increasing number of women and minority student enroll. More than 53 percent of our student body is now female, minority or both.

As I was preparing to come and speak to you, I thought back to the very beginning of this program. We spent hours at Georgia Tech talking about our frustration over the tiny number of minorities represented in the science, engineering and mathematics leadership of this nation. And we didn’t see how things were going get better in light of the little trickle of minority students who were going to graduate school in these disciplines.

Georgia Tech is a national leader in educating minority engineers. But it was clear to us that no matter how successful we became in attracting and graduating minority students at Georgia Tech, it would still not be enough to solve the problem. This issue is much bigger than any one university, and it will take all of our collective efforts to address it. No college or university anywhere can leave the education of minority students in science, mathematics, and engineering to others to address. We all must do our best, and if we collaborate and share best practices, we can make the whole greater than the sum of the parts. That realization was the inspiration for pulling together a larger group of like-minded institutions and creating EMERGE to tackle the issue of increasing minority participation in mathematics, science, and engineering in graduate education.

When Martin Luther King, Jr. was a college student, he wrote that “the function of education is to teach one to think intensively and to think critically.” It was a lesson he learned well, as he went on to pursue a Ph.D. at Boston University and a divinity degree from Crozier Seminary. Then he combined that ability to think intensively and critically with the courage required to translate his thinking into action. He launched the most sweeping social reform that American had ever seen, changing both the nation and the world in the process. He accomplished so much that we tend to forget how young he was. He was only 34 years old when he won the Nobel Peace Prize, and did not live long enough to see age 40.

Today, we very much need minority students to follow in his footsteps – to pursue graduate studies and develop a capacity to think intensively and critically. The challenge of our time is to
compete in a rapidly changing global economy. And as technology becomes ever more pervasive, scientists and engineers are gaining power and influence.

It used to be the MBAs who ran things, while the scientists and engineers tinkered in the labs and back rooms, but that is changing. As society looks for the next generation of leaders, it is increasingly turning to those who can create, apply and manage technology. Today scientists and engineers can control their own destiny, and the broader leadership opportunities for experts in science, math, engineering and computing are growing astronomically. Minorities need to be full partners and participants in these opportunities, and not be left behind. There is a line in the Strategic Plan for Georgia Tech that explains why this is true. It says, “In a global environment that thrives on innovation, diversity is … a competitive advantage, providing a broader, richer, more fertile environment for creative thinking and problem solving.”

EMERGE is not about simple altruism. We are here because we need the talents and perspectives of minorities in science and engineering. The United States is a rich mix of racial and ethnic groups, and that diversity is an asset and a strength in this 21st century global economy. But we will not realize our potential to lead the world in innovation if that rich mix is not reflected in engineering and the sciences.

The United States used to graduate more scientists and engineers than China, India, and the European Union, but all of them have now surpassed us. Europe began producing more Ph.D.s in science and engineering then the United States in 1989, and by 1998 Asia had passed us as well. An article this summer in Fortune magazine reported that at the bachelor’s degree level, China will produce more than 600,000 engineers and India 350,000 this year compared to about 70,000 in the United States.

The rapidly growing technological workforces of China and India work for much lower salaries, which has attracted many companies, who have shifted jobs there. And as these nations also develop their research capabilities, companies are finding new attractions beyond payroll savings. Dan Scheinman, who is senior vice president of Cisco put it this way: “We came to India for the costs, we stayed for the quality, and now we’re investing for the innovation.”

India and China are positioning themselves to compete with the United States in the innovation space, making the task of building human capital much more critical. We need to build up the base of scientists and engineers in the United States, and in the process, we must make that base much more diverse and inclusive than it has been in the past.

We are making progress. According to data collected by the National Science Foundation, the number of Ph.D.s in science and engineering awarded to African Americans and Hispanics grew from 1,047 in 1994 to 1,365 in 2001 – an increase of 30 percent. Unfortunately, even with that increase, only 8 percent of the Ph.D.s in science and engineering awarded in 2001 went to African Americans and Hispanics.

So, even as we celebrate progress, we need to renew our efforts to continue the forward momentum. And that is the goal of these three days together – to empower bright Hispanic and African American students to become the scientists, engineers and innovators of tomorrow.
Previous EMERGE conferences and workshops have fostered partnerships, shared ideas, recruited new players, and generated enthusiasm. And we are going to build on that momentum at this conference. Over the next three days you are going to see undergraduate and graduate competitions in science and engineering that are bigger and better than ever. You are going to hear discussions between K-12 educators and college faculty about how to stimulate the interest of minority students in science and engineering, and nurture their talents to prepare them for college. You will hear keynote addresses from dynamic industry and government leaders who are interested in strengthening the ranks of minority scientists and engineers. And you will have a chance to participate in cyber-enriched sessions that highlight the improved, updated EMERGE Cybernetwork which was developed to increase the number of students in the STEM pipeline and strengthen our ability to serve them.

EMERGE, together with its affiliate bodies, the National Science Foundation and the American Association for the Advancement of Science, with the assistance our conference corporate sponsors, have all worked very hard to make this conference a great experience, and I want to recognize their efforts and thank them.

Working together, we can inspire young minority students to become the scientists, engineers and innovators of tomorrow.