Remarks at a White House Science Fair

October 18, 2010

Thank you, everybody. Everybody, please have a seat. I am having so much fun. [*Laughter*] It is great to see all of you here for our first White House science fair. I have been looking forward to doing this for a long time. One of the great joys of being President is getting to meet young people like all of you and some of the folks in the other room, who I just had a chance to see some of their exhibits and the work that they were doing. It's inspiring, and I never miss a chance to see cool robots when I get a chance. [*Laughter*]

We are joined by several Nobel laureates, including our Energy Secretary, Dr. Steven Chu. These are obviously the older folks who have helped to expand the frontiers of human knowledge. But we're also joined by a few people who inspire young people to pursue that knowledge. One of them is the one and only Science Guy, Bill Nye, who's in the house. I'm also pleased to welcome Jamie Hyneman and Adam Savage, known as the MythBusters. I can announce today that I taped a special guest appearance for their show, although I didn't get to blow anything up. [*Laughter*] I was a little frustrated with that.

I also want to welcome and congratulate Subra Suresh, who was sworn in this morning as the Director of the National Science Foundation, and who's here with his family. Please stand up. We are very grateful to have Subra taking this new task. He has been at MIT and has been leading one of the top engineering programs in the country, and for him now to be able to apply that to the National Science Foundation is just going to be outstanding. So we're very grateful for your service.

But the main reason I'm here is, I just want to recognize all the incredibly talented young men and women who've traveled here from every corner of this country to demonstrate their experiments and their inventions. And I just had a chance to meet with some of them, and it's hard to describe just how impressive these young people are. Their work—from cancer therapies to solar-powered cars, water purification systems, robotic wheelchairs—all of it is a testament to the potential that awaits when we inspire young people to take part in the scientific enterprise: tackling tough problems; testing new hypotheses; to try, and then to fail, and then to try again until they succeed.

And it's hard to single out any of the folks that I saw—who I met with, because everybody was so impressive. But just to give you one example, the last young lady that I talked to, between her freshman and sophomore years in high school, taught herself chemistry, and then decided that she wanted to see if she could create a new drug to deal with cancer cells using light activation and won the international science competition and is now being contacted by laboratories across the country to see if this might actually have applications in terms of curing cancer.

Now, if that doesn't inspire you—[*laughter*]—if that doesn't make you feel good about America and the possibilities of our young people when they apply themselves to science and math, I don't know what will.

And so that's just one example. Now, another example, in Tennessee, there was a team that decided—up in Appalachia, sometimes it's hard to get purified water. And so they constructed an entire system, self-contained system, powered by—with a water wheel that

would purify water and could potentially be used for an entire community, so a very practical application of the knowledge that they had gained in the classroom.

You just saw example after example of that, and it's incredibly impressive. The importance of tapping this potential is why we're here. It's why I wanted to host this fair, which culminates this weekend in a science and engineering festival on the National Mall and across the country, where more than a million people are expected to participate.

So we welcome championship sports teams to the White House to celebrate their victories. I've had the Lakers here. I've had the Saints here, the Crimson Tide. I thought we ought to do the same thing for the winners of science fairs and robotic contests and math competitions, because often we don't give these victories the attention that they deserve. And when you win first place at a science fair, nobody is rushing the field or dumping Gatorade over your head. [*Laughter*] But in many ways, our future depends on what happens in those contests, what happens when a young person is engaged in conducting an experiment or writing a piece of software or solving a hard math problem or designing a new gadget.

It's in these pursuits that talents are discovered and passions are lit and the future scientists, engineers, inventors, entrepreneurs are born. That's what's going to help ensure that we succeed in the next century, that we're leading the world in developing the technologies, businesses, and industries of the future.

And this is the reason my administration has put such a focus on math and science education. Because despite the importance of inspiring and educating our children in these fields, in recent years, the fact is we've been outpaced by a lot of our competitors. One assessment shows that American 15-year-olds ranked 21st in science and 25th in math when compared to their peers around the world. Now, obviously, the young people who are here all boosted our averages considerably. [*Laughter*]

But the point is, is that there are tens of millions of talented young people out there who haven't been similarly inspired, and we've got to figure out how do we make sure that everybody who's got that same talent and inclination, how do we give them the tools that they need so that they can succeed, so that they're entering international science competitions, so that they're up to snuff when it comes to math.

It is unacceptable to me, and I know it's unacceptable to you, for us to be ranked, on average, as 21st or 25th, not with so much at stake. We don't play for second place here in America. We certainly don't play for 25th. So I've set this goal: We will move from the middle to the top in math and science education over the next decade. We are on our way to meeting this goal.

We're doing it in a couple of ways. Under the leadership of my Secretary of Education, Arne Duncan, we've launched an initiative called Race to the Top. And through Race to the Top, States are actively competing to produce innovative math and science programs, to raise standards, to turn around struggling schools, and to recruit and retain more outstanding teachers.

And when budget cuts across America threatened the jobs of countless teachers, we fought some tough opposition to save the jobs of hundreds of thousands of educators and school workers, because nothing is more important than the investment we're making in education. These are the folks in the classroom right now who are there because we refuse to accept a lesser education for our children, even when the economic times are tough.

But what I've said for a long time is, is that success is not going to be achieved just by government. It depends on teachers and parents and students and the broader community supporting excellence. And that's why last year, I challenged scientists and business leaders to think of creative ways that we can engage young people in math and science.

And it was interesting, when I was talking to some folks—how did you get interested in this? How did you first enter a robotics contest? And a lot of times it turned out that a young person had been inspired because they had seen some older kid involved in a robotics contest. Or there had been a teacher who had connected up with some international contest, and it gave them a focal point for their energy and their attention and their interest.

This is a challenge that will determine our leadership in the 21st century global economy. So we need all hands on deck. Everybody has got to be involved. And I'm pleased that there are a lot of people out there who are answering the call. Companies, not-for-profits, they're coming together to replicate successful existing science programs.

We've got new public-private partnerships that are working to offer additional training to more than 100,000 current teachers and to prepare more than 10,000 new teachers in the next 5 years. Businesses are working with nonprofits to launch robotics competitions and other ways for kids to make things and learn things with their hands. And more than 100 leaders from some of the Nation's top companies have launched a new organization called Change the Equation to help us move to the top in math and science education.

As of this moment, more than $700 million has been committed by the private sector to this historic effort. And today I want to announce two new public-private initiatives.

The Defense Advanced Research Projects Agency, also known as DARPA—and I think those of you who are interested in science and technology know what an extraordinary role DARPA has played in all sorts of innovations that we now take for granted—DARPA is launching a campaign to inspire young people in science and engineering, to help create what DARPA Director Regina Dugan has called a "renaissance of wonder."

So, for example, teams of students in a thousand schools will be able to use advanced 3–D printers to manufacture unmanned vehicles and mobile robots for competitions. In addition, leading CEOs are going to be part of a new online campaign to show young people the array of jobs that their companies offer scientists and engineers. And they ought to know. This is an interesting statistic, particularly at a time when young people are thinking about their careers: The most common educational background of CEOs in the S&P 500 companies—all right—the Nation's most successful, most powerful corporations—the most common study of CEOs is not business, it's not finance, it's not economics, it's actually engineering. It's engineering. So I want all the young people out there to think about that. Nothing can prepare you better for success than the education you're receiving in math and science.

And this is a difficult time for our country, and it would be easy to grow cynical and wonder if America's best days are behind us, especially at a time of economic hardship and when so many people, from Wall Street to Washington, seem to have failed to take responsibility for moving this country forward for so long. But when you have a chance to talk to these young people that I had a chance to meet with, these incredibly bright and creative young men and women, it can't help but leave you optimistic about our future.

They remind us that this country was not built on greed; it wasn't built on reckless risks; it wasn't build on short-term thinking; it wasn't built on shortsighted policies. It was forged of stronger stuff, by bold men and women who dared to invent something new or improve

something old, who took chances, who crafted and built and who tested our assumptions, and who believed that in America, all things are possible.

We can think of Einstein, Edison, Franklin, Tesla, and the founders of Google and Apple and Microsoft. But now we've got some other people to think about, like Mikayla Nelson, who's here today. Where's Mikayla? Is she here? There she is, right there. Mikayla—I had a chance to—Mikayla is from Billings, Montana. She works with an entire team. I'm sorry to embarrass you here, Mikayla. [*Laughter*] She's like, "Oh, God, he called on me." [*Laughter*]

She's representing Will James Middle School. She and her classmates built a solar-powered car that won the design award in the National Science Bowl. She's in ninth grade. She's already trying to earn a pilot's license, and she's working on building an actual plane. She wants to be an engineer. There's no doubt we can expect great things from her.

We can think of Diego Vazquez and Antonio Hernandez, representing Cesar Chavez High School in Phoenix. Where are those guys? I met them earlier. There they are, right there. They developed a new motorized chair to help a classmate with disabilities and won a grant competition as a result. They did not have a lot of money to do this. They didn't have a lot of advantages in life. In fact, the first time they were ever on an airplane was when they flew to present their invention. But they did have a desire to work together to help a friend and to build something that never existed before.

And by the way, the way they funded their project—they had—they and their folks made tamales. They had a huge tamale-making session and were selling them. And they were showing me the video of how they raised the funds to be able to enter in this competition. Unbelievable.

That's not just the power of science. That's the promise of America. Anybody with a good idea can prosper. Anybody with talent can succeed. That's why we're here today. That's what we're all celebrating. And that's why it's so important that we promote math education and science education, on behalf of not just this generation, but all the generations to follow.

So to all the young people who are here, I could not be prouder of you. I expect some of you to be back here as Nobel Prize winners and whatnot. In the mean time, just keep on doing what you're doing.

And to the parents and the teachers who have helped to inspire these young people, thank you. What you're doing is paying huge dividends not just for the young people themselves, but for the country. We're very proud of you.

Thank you, everybody.

NOTE: The President spoke at 12:30 p.m. in the East Room at the White House. In his remarks, he referred to Nobel Prize winners Baruch S. Blumberg, John C. Mather, and Harold E. Varmus; William S. Nye, television personality and executive director of the Planetary Society; science fair student participants Amy Chyao of Plano, TX, Mathilda Lloyd of Kingston, TN, and Samuel Snodgrass and Sonja Solomon of Oak Ridge, TN; Sergey Brin and Larry Page, cofounders, Google Inc.; Steven P. Jobs and Stephen G. Wozniak, cofounders, Apple Inc.; and Paul G. Allen and William H. "Bill" Gates III, cofounders, Microsoft Corporation.

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Locations: Washington, DC.

Names: Allen, Paul G.; Blumberg, Baruch S.; Brin, Sergey; Chu, Steven; Chyao, Amy; Dugan, Regina E.; Duncan, Arne; Gates, William H. "Bill," III; Hernandez, Antonio; Hyneman, Jamie; Jobs, Steven P.; Lloyd, Mathilda; Mather, John C.; Nelson, Mikayla; Nye, William S.; Page, Larry; Savage, Adam; Snodgrass, Samuel; Solomon, Sonja; Suresh, Subra; Varmus, Harold E.; Vazquez, Diego; Wozniak, Stephen G.

Subjects: Decorations, medals, and awards : Nobel Prize; Defense, Department of : Defense Advanced Research Projects Agency (DARPA); Diseases : Cancer, research, prevention, and treatment; Economy, national : Recession, effects; Education : Global competitiveness; Education : Parental involvement; Education : Public-private cooperation; Education : Science and math programs; Education : Teachers; Education jobs and State funding assistance legislation; Education, Department of : Race to the Top Fund; Education, Department of : Secretary; Energy : Solar and wind energy; Energy, Department of : Secretary; Environment : Water quality, improvement efforts; Science and technology : Global competitiveness; Science and technology : Robotics; Science Foundation, National; White House science fair.

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