

bring us closer to that goal. That's the reauthorization of the Child Care and Development Block Grant program. I want to thank bipartisan Members of Congress who are here today.

This law is going to do several important things. It's going to improve the quality of childcare by requiring more training for caregivers and more enrichment for children. It's going to improve child safety by instituting background checks for staff and better inspection of facilities. It's going to give working parents a little more peace of mind. If you receive subsidies to pay for your childcare, you know that if you get a raise on your job or you find a job, your kids aren't automatically losing their care because your status has changed mid-stream.

I first proposed legislation to accomplish some of these goals back in 2010. When we couldn't get it through Congress, we began a rulemaking process to try to do this through executive efforts, and Sylvia Burwell, the HHS Secretary, is here. Because the legislation has now passed, we are actually ending the rule-making process because we've now got a law, and we're going to be able to focus on implementing the law.

And I want to thank all the legislators here. It's a good step forward. It shows that Democrats and Republicans, when it comes to making sure our kids are getting the best possible

education, are united. And that's good for our kids, and that's good for our country.

So with that, I'm going to make sure that I sign this properly, using all these pens. [Laughter]

[At this point, the President began signing the bill.]

*The President.* I love signing bills. I'd like doing it more often. [Laughter] What do you say, guys? [Laughter] Yes, it's good.

[The President continued signing the bill.]

*Senator Thomas R. Harkin.* Well, I would note for the record that this is the 21st bill from the Committee that Lamar and I chair and have ranking membership on—21st bill that you've signed into law in the last 2 years.

*The President.* Well, the—that's because you and Lamar are some pretty productive legislators who actually are focused on getting stuff done. And we're very proud of you, and we're proud of all the legislators who are here today. So congratulations, everybody. Good. Good job. [Applause] Great job, guys.

NOTE: The President spoke at 11:58 a.m. in the Oval Office at the White House. In his remarks, he referred to Sen. A. Lamar Alexander, Jr. S. 1086, approved November 19, was assigned Public Law No. 113–186.

## Remarks on Presenting the National Medal of Science and the National Medal of Technology and Innovation November 20, 2014

*The President.* Thank you, everybody. Please, please, have a seat. Well, hello, everybody. Welcome to the White House.

If you've ever been in a situation where you're a little self-conscious because you feel like maybe everybody in the room is a little smarter than you—[laughter]—today you are right. [Laughter] That's how I'm feeling, because it—today it's my pleasure to welcome a truly extraordinary group of men and women, some of the world's greatest scientists and re-

searchers, and I've got the extraordinary honor of presenting them with our Nation's highest honor for scientific and technological achievement, the National Medals of Science and the National Medals of Technology and Innovation.

Now, to join us in celebrating these innovators, I want to welcome the Members of Congress who are here with us. We also have Interior Secretary Sally Jewell. We've got my Science Adviser, John Holdren; National Science

Foundation Director France Cordova; Deputy Director of the U.S. Patent and Trademark Office Michelle Lee, who—whose work helps to oversee the granting of these awards; and our National Science and Technology Medals Foundation Chair, James Rathmann.

Now, as many of you know, every year I host the White House Science Fair. These boys and girls are as young as 6 years old. Sometimes, their projects are a little messy. [Laughter] There was the cannon that fired the marshmallow into the White House wall—[laughter]—and left a little mark, which is still there.

Earlier this year, I also hosted the first White House Maker Faire. The participants there were a little older. And I met a giant, 17-foot-tall, 2,000-pound robotic talking giraffe. [Laughter] We had a little chat, and that was unique. [Laughter]

But the boys and girls and all the makers and thinkers across the country who I welcome here are an inspiration. It's one of the favorite things that I have the pleasure of doing as President. They're often at the beginning of a lifetime of asking questions and pushing boundaries and discovering things that hadn't been discovered before and innovating in ways that transform our world. And ultimately, that's what America is about. That's one of the things that makes America exceptional: this sense that we push against limits and that we're not afraid to ask questions. And when that spirit, that sense of possibility, is truly unleashed, then you get the remarkable men and women that you see here today.

Their achievements span disciplines, span industries. There is a common thread, though, that runs through their stories. At a young age, an encouraging parent or captivating teacher was able to whet their appetite for the scientific process.

Unmatched opportunities and generous funding at American universities drew some of them here from distant shores. Because the American scientific community empowers young researchers, some of today's honorees, at a very young age, conducted their own experiments, ran their own labs, published their own findings. Our country's diversity, our—its

infrastructure, its universities, and our willingness to take risks on new ideas made America the place to start new businesses and new ventures.

And the results of the work of the people we honor today have transformed our world. Because of these men and women, we can use a thumb drive to store a universe of information on a postage-sized gadget, unconnected to a power source, and have the data intact a century later.

In fact, I've got a little gift here. [Laughter] Apparently, this was for my library. I was going to—I was told I could store all my documents on this thing. [Laughter] So I'm keeping it in my pocket.

We can manufacture better blood-clotting agents and water filtration systems, like those used in the aftermath of the Fukushima nuclear accident. Using breakthrough algorithms, we can model our planet's future climate and the tiny valves in our own hearts. And we can treat cancer, strokes, macular degeneration. In short, because of these innovators, our lives are healthier, our economy is stronger, our futures brighter.

Today's honorees are also a reminder of the power of perseverance. They achieved their most meaningful gains when they were optimistic in the face of skepticism and doubt, when they crept out onto that farthest limb, and equipped with scientific reason to believe in their own theories and because they weren't afraid to fail once in a while. They figured that eventually they'd crack open some mystery that hadn't been solved and the world would catch up.

So, 1 month after Neil Armstrong landed on the Moon, Eli Harari came to America from Israel to study the effects of radiation on electronics in space. The physics he learned as a Ph.D. student at Princeton led him to cofound SanDisk, and eventually, to the creation and commercialization of flash storage technology. And today, his technology is in millions of portable electronic devices, which our lives would be completely different without. Certainly, Malia and Sasha's lives would be completely different without them. [Laughter]

At the time he invented it, though, his technology was too early for consumer goods, and SanDisk almost went out of business. But with patience, he drove costs down, opened large-scale markets. Describing his experience in America, he said, “We could not have done it anywhere else in the world.”

Mary Shaw stumbled into computer science in high school, and as a college student, she walked into a busy engineering building in search of the computer lab. And she says, “When I first showed up, they handed me a user manual and told me to go read it, and silly me, I thought it was an invitation, so I did read it, and I came back.” [Laughter]

She applied to Carnegie Mellon the same year they formed a graduate degree program in computer science, and she’s been there ever since, pioneering new ways to educate students in computer science and converting the emerging field into a curriculum and also textbooks used all across the Nation.

Douglas Lowy and John Schiller have collaborated for nearly 30 years. And together, they developed the technology that led to the vaccine to prevent the cancer-causing HPV virus. When they presented their research to drug companies, many told them that while their data looked good, a vaccine against this sexually transmitted disease just wasn’t going to work. But with the help of NIH research funding, they helped create one of the most successful preventive treatments in decades, potentially saving the lives of millions of young women and girls.

So the story—I’m just giving you a sample—the story of these trailblazers reflect our larger American experience: our story of constant transformation, pushing against limits. These folks represent the spirit that has always defined us, one of restless inquiry, searching for the right solution to any problem; an inclination to dream big and to tinker and to pull things apart and put them back together again; an insistence on making our dreams come true.

As Thomas Kailath, one of our honorees today, says, “Scientists are intrinsically hopeful and believe in grand answers and that if we work hard enough, we can find some of them

in our lifetime.” And that’s a good phrase: “intrinsically hopeful.” I’m intrinsically hopeful. [Laughter] I am. I—[applause]. That’s who I am. That’s who we are as a people, as Americans, as a nation. We’ve had to fight to make stories like the ones here in this room not only possible, but sometimes likely.

Now, that can’t happen when half of our Nation’s high schools don’t offer calculus and more than a third of our high schools don’t offer physics. So that’s why we’re going to need more science classes on the course schedule. That’s why we need teachers with math and science backgrounds, educators who can show their students how chemistry and computer science can open the door to a whole new world.

That’s why, 5 years ago, I launched my campaign to get more kids in STEM classes and later set a goal of training a hundred thousand new STEM teachers over the course of the next decade, not just to teach, but to teach math and science. And we partnered with 200 organizations like the Carnegie Foundation in New York and AT&T to pursue that goal. Today we’re announcing that our many partners will invest an additional \$28 million toward increasing the number of STEM teachers in the classroom across the country. And that’s worthy of applause—[applause]—because we need to be focused on that.

Four years ago, we called on business leaders from America’s leading companies to join us in this effort. And since then, this coalition has raised tens of millions of dollars to help strengthen many of our country’s most effective STEM education programs and get them broadened out across the country. And today we can announce that over the next 2 years, this coalition will help bring these programs to an additional 1 million student students across America. So this is extraordinary work.

Finally, part of preserving America’s scientific edge is making sure we continue to welcome the best and brightest minds from around the world. So Thomas Kailath came to this country from India at the age of 22, with a research assistantship that took him to MIT and then Stanford, where he made critical

contributions in information theory and statistics and mentored more than a hundred scholars along the way.

After he came here as a foreign student from Israel, Eli Harari cofounded SanDisk with two colleagues, one from India, another from China. Alexandre Chorin, whose accomplishments led to a sea change in the way a generation of mathematicians use computers, sums up his experience this way: “I came here as a foreigner on an American fellowship, received the opportunity to study at great schools and work at great universities, and have been treated as if I belonged.”

Treated as if I belonged. You do belong, because this is America and we welcome people from all around the world who have that same striving spirit. We’re not defined by tribe or bloodlines. We’re defined by a creed, an idea. And we want that tradition to continue. But too often, we’re losing talent because, after the enormous investment we make in students and young researchers, we tell them to go home after they graduate. We tell them, take your talents and potential somewhere else.

So part of staying competitive in a global economy is making sure that we have an immigration system that doesn’t send away talent, but attracts it. We want them to initiate new discoveries and start businesses right here in the United States. So that’s what I’ll be talking about a little bit tonight. [Laughter] It’s part of keeping America prosperous and keeping America strong. The—[applause].

So I want to congratulate these extraordinary men and women for their accomplishments. I want to thank each of you for the contributions that you’ve made to our country and the world: your passion, your persistence, your “intrinsic hopefulness.”

And it is now my privilege to present the National Medals of Science and the National Medals of Technology and Innovation.

So we’re going to read some citations here.

[At this point, Lt. Cmdr. Timothy J. Myers, USN, Navy Aide to the President, read the citations and the President presented the medals,

assisted by Lt. Cmdr. Jillian C. Malzone, USCG, Coast Guard Aide to the President.]

*The President.* Let’s give a big round of applause to all our awardees. We are—we couldn’t be prouder of all of you.

And I hope, for those who are watching or those who read stories or reports about this, that we’re all reminded once again of the role of science and discovery and invention and reason in our lives. Sometimes, we spend a lot of time lifting up sports heroes, and nobody is a bigger sports fan than I am. We extol the virtues of our singers and our movie stars, and I like entertainment too. But we have to remind ourselves constantly that so much of what has set us apart economically, culturally, is our commitment to science. And we have to continue to broaden opportunities for young scientists, especially girls and minority students, to enter into the field, and we have to remind them of how exciting it is to be able to shape the world, unlock its secrets, make new stuff. That’s who we are.

So, hopefully, in addition to being able to highlight the extraordinary work of some extraordinary individuals, that we’re going to go out there and remind ourselves once again about why science and discovery and invention is so important. All right?

I hope all of you have a wonderful reception. I hear the food here is pretty good. [Laughter]

NOTE: The President spoke at 11:30 a.m. in the East Room at the White House. In his remarks, he referred to Sanjay Mehrotra, cofounder, president, and chief executive officer, and Jack Yuan, cofounder, SanDisk Corp. Participating in the ceremony were National Medal of Science recipients Bruce Alberts, Robert Axelrod, May Berenbaum, David Blackwell, Alexandre J. Chorin, Thomas Kailath, Judith P. Klinman, Jerrold Meinwald, Burton Richter, and Sean C. Solomon; and National Medal of Technology and Innovation recipients Charles W. Bachman, Edith M. Flanigen, Eliyahu Harari, Thomas J. Fogarty, Arthur Levinson, Cherry A. Murray, Mary Shaw, Douglas Lowy, and John Schiller. The transcript released by the Office of the Press Secretary also included the reading of the citations.