Committee on Science, Space, and Technology
Subcommittee on Research and Technology

"Private Sector Programs that Engage Students in STEM"
January 9, 2014

Ranking Member Daniel Lipinski (D-IL)
Opening Statement

Thank you, Chairman Bucshon, and thank you to all of the witnesses for being here today. One of the reasons I joined this Committee is because of my strong interest in working to improve math and science education in this country. I am one of only a dozen members of the House and Senate who has an engineering degree. My wife was a math major in college and – unlike me – her STEM training led her directly into a career as an actuary. From our own family experiences and what I have seen over the years, I am very aware of how important it is that we do a good job of engaging and educating our students at all levels in STEM fields.

But with the release last month of the latest PISA results, we were reminded yet again of the troubling statistics on the state of U.S. math and science education. U.S. K-12 students rank in the middle of the pack in international comparisons of math and science aptitude. We see the problems at all job levels. I constantly hear from manufacturers back home that they have a hard time finding employees who have even basic math and science skills. In higher education we have far too few students pursuing and completing degrees in certain STEM fields to meet the needs of domestic industry. For example, less than 2.4% of college students graduate with a degree in computer science, despite tremendous demand for these skills, and that number has dropped over the last decade.

Our troubles start from the earliest grades and are part of a negative feedback cycle that we must break. Students who aren't learning the necessary skills by the time they graduate high school are much less likely to pursue, and to succeed, in STEM fields in college. When we lose an undergraduate student from a STEM field, we lose a scientist or engineer who could potentially pursue a career in teaching the next generation.

We know these to be complex problems with no easy or one-size-fits-all solution. That's why partnerships between the private sector, Federal and state governments, colleges, universities, local school districts, national labs, science museums, zoos and aquaria, and all types of nonprofits are more important than ever. The U.S. still has some of the best K-12 schools, colleges, and universities in the world, and our top students at all levels compete easily with the top students from around the world. That's why I'm glad we have witnesses here today that can speak to the types of STEM partnerships needed to engage young minds at an early age and keep them engaged in STEM fields. In particular, Northwestern University's Office of STEM Education Partnerships connects K-12 teachers and students to the world-class STEM resources of Northwestern University and corporations in the state of Illinois such as Boeing, Baxter, Google, Hewlett Packard, IBM, and more.

Today's hearing focuses on private sector and university STEM engagement programs. I look forward to hearing from these accomplished individuals who have dedicated their careers to improving STEM engagement and learning in their communities and across the nation. I also look forward to hearing from the students who have participated in the FIRST Robotics competition.

But I also want to say a few words about the federal role in this partnership. The Federal Government invests $3 billion in STEM education across 14 agencies. While that is a large dollar figure, it's important to put that number in perspective. Less than half of that is focused at the K-12 level. Federal investments in K-12 education overall account for only 10 percent of total U.S. funding for K-12 education, and the federal share of STEM funding is likely much less than 10 percent. So the federal role is limited, but it is also unique and necessary. The National Science Foundation is the single most important source for research, development, and testing of innovative new models for STEM education.

The Federal Government also has an unrivaled ability to convene stakeholders and to leverage private sector investment in STEM education. Entrepreneurs like Mr. Kamen and Mr. Partovi did not have to start from scratch. They are smart businessmen investing in, perfecting, and expanding evidence-based ideas and programs. So while the Federal Government cannot begin to solve our STEM education challenges alone, we would be remiss to ignore the important role the government does play. I hope that this Committee will continue to exercise its oversight authority to ensure that we get the most out of our relatively small, but critical federal STEM education programs.

I want to thank Chairman Bucshon again for calling this hearing, and the witnesses as well for taking the time to offer their insights and experiences with us today.

And with that, I yield back.