OPENING STATEMENT

Ranking Member Daniel Lipinski (D-IL)
of the Subcommittee on Research and Technology

House Committee on Science, Space, and Technology
Subcommittee on Research and Technology
"National Science Foundation Part II: Future Opportunities and Challenges for Science"
March 21, 2017

Good morning. Thank you Chairwoman Comstock for holding this hearing on the future opportunities and challenges for science. I also want to thank our panel for being here this morning to inform our discussion on the important issues facing the U.S. scientific community.

As a scientist, I chose to be on the Science Committee, and this Subcommittee in particular, because of the key role I would be able to play with my colleagues in promoting and overseeing the National Science Foundation, the world's foremost facilitator of top-quality scientific research. As chair and now ranking member of this subcommittee for more than eight years, I am proud of what I have been able to do to help the foundation fulfill its critical mission.

All of us in this room want to maximize the benefits that we can reap from federal investments in science, but we sometimes differ on the best way to do this. Some believe that federal investments in particular fields of research are a frivolous use of taxpayer dollars and that funding for these projects would be better utilized in other areas of research. I believe that there is unambiguous evidence to the contrary, and that NSF investments across all fields of science and engineering have yielded tremendous societal benefits over the past 70 years.

I want to say a few words about a primary target for some of criticism – research funded through the NSF's Social, Behavioral, and Economic Sciences, or SBE, Directorate. I have heard the argument that, in the wake of proposed cuts to the SBE directorate, if social and behavioral science research adds value to an interdisciplinary initiative – cybersecurity, for example – the other NSF directorates participating in the initiative could fund the SBE element of the project. There are a number of problems with this approach.

First, program officers face strong competition for research funding within their own directorates and are thus very reluctant to divert funding from their own field to researchers in another field.

Second, NSF currently only supports the highest quality SBE research, guided by the expertise of the scientists in the SBE directorate, many of them supported directly by the SBE budget. If SBE research were to be supported only as an add-on to other projects, the quality of the research would inevitably suffer. And an engineering program officer, no matter how good they are in their field, cannot be expected to have the expertise to assess the social science component of a proposal.

Finally, I want to point out that SBE funding accounts for only 4.5% of the total NSF research budget, or $272 million out of over $6 billion.

When I was a political scientist, I was one of the strongest proponents of interdisciplinary research. I believed that fields of study were oftentimes too siloed. But I also understood that groundbreaking interdisciplinary research required that those involved in that research needed to bring the best expertise in their own fields to the table. If SBE funding is gutted, progress in the social sciences will slow and its community of experts will shrink along with its capacity to add value to other research initiatives. As a result, in the long term, America's capabilities in cybersecurity, medicine, military planning, disaster preparedness and aid, and countless other fields will suffer. For interdisciplinary research to be transformative, the core research it draws from must be strong.

The evidence bears out that unfettered research driven by key questions and approaches within a discipline, that is carried out across all fields of science and engineering serves as the best foundation for discoveries and technological innovations. This is the philosophy the NSF has followed and it has produced outstanding benefits for our economic and national security. Perhaps more important, it is that unfettered ability to pursue the best and most compelling ideas that attracts and nurtures our nation's and the world's greatest scientific talent and keeps them here on our own shores, contributing to our nation and developing the next generation of

American STEM talent. If we start to suffer the brain drain that other countries such as the UK and Germany suffered in decades past, we may never fully recover.

We can all agree that we want to maximize the return on federal investment in science and there are ways of doing this that we can agree on. It is important to ensure that research is reproducible and conducted with integrity. We can make certain that data obtained from federally funded research is made available to other scientists and to the public. And we can encourage interdisciplinary collaboration while maintaining support for core research. While Congress should set priorities for our investments in science, it does not have to be at the expense of scientific inquiry or the viability of entire research disciplines.

Madam Chairwoman, before I yield back, I want to ask unanimous consent to put in the record a document that Majority and Minority staff received yesterday from the NSF Inspector General, Allison Lerner, in regard to the number of incidents of research misconduct over the past 12 years. In her testimony before the Committee 2 weeks ago, Ms. Lerner stated that there were 175 cases of research misconduct reported in the OIG semi-annual reports over the last 4 years. Immediately after the hearing, she notified the staff that she had erred in her testimony and there were only 75. At the same hearing, she testified that there had been a "significant increase" in the number of substantial allegations of research misconduct in recent years. Committee staff followed up the same day by asking her for the data, and yesterday she shared a 12-year history of allegations, investigations, and findings of research misconduct at NSF. When you look at the data, you will notice two striking things. First, it would be very hard to discern any clear trend over the last decade, let alone a significant increase. Second, looking just at fabrication and falsification, which are arguably much worse than plagiarism, and what the IG claims to have been referring to her in testimony, you will see an average of 12 OIG investigations per year for the past 12 years, 15 cases per year if you look just in the last 5 years. When it comes to actual agency findings of misconduct, the average is 2.6 per year over 12 years and 3.2 over the last 5 years. It is important to point out that these numbers apply to all NSF proposals, not just funded grants. NSF receives 50,000 grant proposals per year. Fifteen (15) cases of substantive allegations of research misconduct represents 0.03% of all of those proposals. Three point two

(3.2) findings of research misconduct represents 0.0064% of all proposals. Research misconduct is a very serious issue, but I think it is important to keep these numbers in mind.

I look forward to discussing all of these complex issues and I thank all of the witnesses for being here today. I yield back the balance of my time.