

August 5, 2014

Chairman Lamar Smith and Ranking Member Eddie Bernice Johnson
House Science, Space, and Technology Committee
United States House of Representatives
2321 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Smith and Ranking Member Johnson,


On behalf of the Materials Research Society (MRS), we wanted to provide input regarding the Frontiers in Research, Science and Technology (FIRST) Act, under consideration before your committee. America COMPETES legislation represents a foundational piece of the federal commitment to the American scientific enterprise, and is one of the few opportunities to drive much-needed investment towards the workforce, knowledge base, and technological infrastructure that will define U.S. competitiveness in the coming decades. We understand that portions of the FIRST Act have separately passed the House of Representatives, and that other sections of the original bill are still being considered.

The fruits of basic and applied research not only drive innovation and unlock new technological potentials, they are a critical piece of the economic puzzle. The percentage of science and engineering (S&E) jobs as a function of the total workforce has doubled since 1960, and individuals engaged in S&E occupations not only experience lower unemployment but also have median incomes nearly double the national average. Moreover, while knowledge and technology-intensive industries represent over a quarter of global GDP, they represent 40% of U.S. GDP. These considerations emphasize the need to maintain our global leadership in these areas.

We are fundamentally aligned with the spirit reflected in the bill emphasizing that federally funded scientific research- ultimately supported by the American taxpayer- should support the national interest by enhancing economic competitiveness, building a stronger workforce, and driving scientific progress. As part of the process, it is also critically important that we address transparency and oversight at the appropriate level while optimizing efficiency so as to maximize the funding that goes directly towards research and innovation.

With this in mind, we would like to address a few areas within the bill where additional clarity on scope and process would be beneficial, as follows:

- Assessing duplicative efforts
- We appreciate the goal of Section 117 in eliminating duplicative funding of the same efforts, and would like to highlight that mechanisms already exist to ensure grant applicants call out existing and pending funded research projects. However, we would like to make sure that any final legislation comprehends today's multi-disciplinary



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research environment and does not stifle the collaborative work spanning multiple experimental approaches, techniques and expertise often necessary to address the technological challenges we face.

- In a similar manner, Section 115 cites processes for investigating dishonest scientific research conduct, for which extensive procedures and processes already exist within the NSF. If it is determined that additional oversight is warranted, we request that the language differentiates between a malicious intent to falsify data, records and conclusions versus cases where new scientific discovery and results lead to a different conclusion that originally postulated.
- Streamlining processes
 - Section 106 requires written justification that the grant meets certain criteria. The method by which this justification should be completed is unclear, and as the NSF already has an extensive merit review process in place, we are concerned that ambiguous language will create a duplicative layer of bureaucracy. If existing processes meet the needs of this requirement, it would be helpful to call this out explicitly.
 - There are existing data management requirements for NSF projects, and we are concerned that Section 303 duplicates existing processes. Additionally, current requirements already come at significant cost, which is born by research as a de facto tax on grants. We recommend that sufficient funds be authorized separately for data requirements to ensure grant funding levels are sustained for generating new science, training future scientists, and producing useful innovations.

It is critical that legislative priorities continue to support the basic sciences in order to ensure that future generations are adequately equipped to enter an advanced workforce, and that SMEs and high-tech companies have access to the skilled labor and resources necessary to compete in an increasingly competitive global marketplace. I appreciate the opportunity to share the views of the Materials Research Society, which is an international professional society of over 16,000 members dedicated to the advancement of interdisciplinary materials research and technology to improve the quality of life.

Sincerely,



Tia Benson Tolle, PhD
MRS President