May 15, 2013

The Honorable Lamar Smith
Chairman
Committee on Science, Space, and Technology
U.S. House of Representatives
Washington, DC 20515

The Honorable Eddie Bernice Johnson
Ranking Member
Committee on Science, Space, and Technology
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Smith and Ranking Member Johnson:

The Federation of American Societies for Experimental Biology (FASEB) represents 26 member societies and more than 100,000 scientists and engineers, many of whom are actively engaged in basic research supported by the National Science Foundation (NSF). As such, the consideration of the “High Quality Research Act,” which is currently before your committee, is critically important to our community. While we agree that the stewardship of public funds requires accountability, we are deeply concerned about the approach being proposed in this legislation. The High Quality Research Act would undermine NSF’s mission, and we urge you not to consider this measure or include others like it in future bills.

At the core of the NSF’s mission is the support of basic research, which is carried out to increase understanding of the fundamental principles that govern the world around us. NSF fulfills its mission through the distribution of funding to all U.S. states and territories, reaching 1,895 universities and other organizations, and directly supports approximately 319,000 researchers, teachers, and students. The proposed legislation would threaten that mission, and indeed the missions of all other research-supporting agencies, by requiring all research awards to have an agency-certification of projected outcomes. Such legislation would require the Director to predict the future and set a dangerous precedent for the public’s investment in science. It is impossible to predict the outcome and all the downstream applications of research, particularly basic research. An attempt to do so would be narrow and inherently shortsighted. By their nature, individual basic research projects are not intended to yield direct commercial applications. In the long term and in aggregate, however, basic research serves as a fertile substrate for innovation and commercial application. Recent examples of those applications include 3-D printing, digital wireless telecommunications technology, more aseptic suture coatings, disease resistant honeybees, and, of course, Google. Further, the
bill includes a provision that would prohibit the support of the replication of experiments, a fundamental aspect of all science. Progress depends on building on past discoveries and determining the boundaries and nuance of their applicability, a process that by its very nature involves repetition.

The proposed legislation would also severely weaken and undermine the NSF peer review system, a system which is central to the success of both the agency and the broader innovation enterprise, by superimposing a layer of nonscientific review. The peer review system employed by NSF and its sister federal science agencies is the envy of the world and the model upon which other nations draw. It relies on leading scientists to evaluate applications for funding within their respective fields of expertise. Proposals are evaluated based upon their capacity to expand knowledge. This system identifies research proposals within each area of the utmost quality and scientific importance. A rigorous peer review process is the only standard for determining the quality, importance, and relevance of scientific grant proposals; it should not be subject to subsequent outside influences that would undermine the unbiased assessments on which the progress of science depends. The process of peer review is crucial to maintaining the quality of NSF research and should not be changed.

Further, the proposed legislation’s principles of advancing the national health, prosperity, or welfare, and securing the national defense are redundant with regard to the principles already articulated in the NSF mission and integrated into its merit review criteria. As you know, on January 14th, 2013, NSF implemented a new set of changes to its merit review system in response to an extensive review conducted by the National Science Board. FASEB recommends that any modifications to NSF’s merit review system not be undertaken until the impacts of the recent changes have been carefully analyzed and understood.

Finally, the High Quality Research Act would impose a massive administrative burden on NSF by requiring the review and certification of each of its awards by the NSF Director. Currently, the agency is able to effectively coordinate the evaluation of 48,600 proposals and the distribution and oversight of 11,500 competitive awards with an overhead cost of only six percent. Requiring the certification of each award by the NSF Director would be cumbersome and dramatically expand the portion of the agency’s budget required to cover administrative costs. This would take much needed funding from grant programs and further strain an already weakened research and development enterprise.

We appreciate the opportunity to provide FASEB’s perspective on the High Quality Research Act, which we believe would seriously damage a vital research resource. The bill would compromise the quality of funded research by prohibiting studies that establish reproducibility and add depth to an area of research, undermine the peer review system, and saddle the agency with a massive and cumbersome new administrative burden. Again, we strongly urge you not to consider this measure or include others like it in future bills. FASEB shares your commitment to maximizing the U.S. taxpayers’ investment in basic research and believes that strong support of NSF and its peer review system are the best ways to do so.

Sincerely,

[Signature]

Judith S. Bond, PhD
FASEB President