

## **Guiding Principles for the America COMPETES Act Reauthorization**

*The business, higher education, and scientific and engineering communities greatly appreciate efforts by the Congress and the current and past Administrations to respond to issues raised in the National Academies' 2007 report, *Rising Above the Gathering Storm*. Driven in large part by Congressional approval of the America COMPETES Acts of 2007 and 2010, there has been some progress toward achieving the goals set forth in that report. However, there is still much to do, and, despite the tremendous fiscal challenges currently facing the nation, now is not the time for us to back away from our commitment to increasing the productivity of our national science and technology enterprise. Indeed, maintaining our commitment is critical if the United States is to successfully compete, prosper, and be secure in the global community of the 21st century. With this in mind, we have delineated the following set of principles for consideration by the 113<sup>th</sup> Congress as it drafts legislation to reauthorize key federal research agencies and the America COMPETES Act.*

### **I. Funding for Science and Engineering**

The National Academies' report, *Rising Above the Gathering Storm*, and both the America COMPETES Acts of 2007 and 2010, set goals and established funding targets aimed at doubling funding for key federal research agencies within seven years. We recognize the difficulty of achieving the doubling goal in the current fiscal environment, but we believe that any new bill to reauthorize the America COMPETES Act should:

- a) Make a strong statement that the United States sees funding across all disciplines of basic scientific research as a top national priority.
- b) Set targets that provide for steady and sustained real growth in funding for all of the major federal research agencies. The COMPETES bill should specifically strive to set such targets for the National Science Foundation (NSF), the DOE Office of Science and the National Institutes of Standards and Technology (NIST).
- c) Support funding increases without offsets that would force significant and potentially detrimental tradeoffs between one field of science and another. To ensure our national competitiveness, we need to maintain a strong foundation of basic research across all scientific disciplines, from the physical, mathematical and life sciences, to engineering, to the social, economic and behavioral sciences.
- d) Within the context of strong federal support for basic research, ensure that federal scientific agencies, guided by their scientific advisory committees and boards, continue to set priorities for funding within and among the full range of scientific disciplines. This principle has served the nation well for decades.

### **II. Education and Workforce**

Maintaining and promoting scientific literacy for all to prepare our young people for 21<sup>st</sup> century jobs and citizenship, and strengthening the pipeline of scientists and engineers who will propel science and innovation forward, were essential goals of the *Rising Above the Gathering Storm* report and of previous America COMPETES Acts. Maintaining and enhancing our STEM literacy and talent base is essential to continuing U.S. scientific, technological and economic global leadership. To this end, we believe that a bill to reauthorize COMPETES should:

- a) Support innovative and effective education programs to promote the broad-based scientific literacy necessary to equip all citizens with the scientific and technical knowledge required to meet future national and global challenges, as well as to train future generations of U.S. scientists and engineers.
- b) Support the National Science Foundation’s mission of improving science, engineering and math education at all levels by sustaining robust support for programs and core research of the NSF’s Education and Human Resources Directorate. This directorate supports research critical to our understanding of how students learn STEM, how best to teach students in STEM fields, and how to increase participation of women and underrepresented minorities in STEM fields. It also plays a critical role in ensuring support for undergraduate and graduate students interested in pursuing STEM or STEM education careers.
- c) Support proven STEM education programs at other federal research agencies aimed at ensuring an adequate STEM workforce in direct support of the fulfillment of their respective agency missions.
- d) Support high-skilled immigration reform and other policies to ensure that the United States has access to, and is fully able to take advantage of, the best and brightest talent in STEM fields from around the world.

### **III. Research Excellence and Opportunity**

The U.S. system of scientific research has been tremendously successful throughout the years because: 1) unlike in many other countries, it has remained insulated from political pressures and interference; 2) key scientific focus areas have been determined by federal agencies and guided by the scientific community through a strong system of merit review and advisory committees; and 3) research results have been widely distributed and accessible. We urge that any bill to reauthorize the America COMPETES Act take steps to:

- a) Preserve our system of support for basic research based upon excellence, competitive scientific merit and peer review. In addition, it is important to preserve and support programs that seek to stimulate competitive research capabilities and opportunities in particular states and regions, such as the EPSCoR program.
- b) Reduce or eliminate unnecessary or duplicative federal regulations and reporting requirements that increase research costs, impede research productivity, and needlessly divert researchers’ time from directly conducting scientific research and mentoring students. This principle aligns with recommendation #7 of the National Research Council report “*Research Universities and the Future of America.*”
- c) Ensure that any new programs, reporting requirements and/or other mandates contained in the bill are provided with the funding necessary to carry out such additional requirements and that they are accompanied by an analysis that details the cost of the new requirements.

Principles Developed By:

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Endorsing Organizations (as of July 12, 2013):

American Association for Dental Research  
American Association for the Advancement of Science (approved by the AAAS Board of Directors)  
American Association of Physics Teachers  
American Astronomical Society  
American Chemical Society  
American Council on Education  
American Educational Research Association  
American Institute of Biological Sciences  
American Mathematical Society  
American Physical Society  
American Political Science Association  
American Psychological Association  
American Society for Engineering Education  
American Society of Agronomy  
American Society of Civil Engineers  
American Society of Plant Biologists  
American Sociological Association  
American Statistical Association  
ASME  
Association of American Medical Colleges  
Association of American Universities (approved by the AAU Executive Committee)  
Association of Population Centers  
Association of Public and Land-grant Universities  
Banning Science and Technology Center, Inc  
Battelle  
Boise State University  
Boston University  
Business Higher Education Forum  
California Institute of Technology  
Campaign for Environmental Literacy  
Carnegie Mellon University  
Columbia University  
Computing Research Association  
Consortium for Ocean Leadership  
Consortium of Social Science Associations  
Cornell University  
Council on Competitiveness  
Crop Science Society of America  
Ecological Society of America  
Emergent BioSolutions

Emory University  
Energy Sciences Coalition  
Entomological Society of America  
Federation of American Societies for Experimental Biology  
Federation of Associations in Behavioral & Brain Sciences  
Federation of Materials Societies  
Florida Institute of Technology  
Florida State University  
Geological Society of America  
Georgia Institute of Technology  
Human Factors and Ergonomics Society  
Indiana University  
Information Technology Industry Council  
Institute of Electrical and Electronics Engineers, Inc (IEEE-USA)  
International Economic Development Council  
Ioxus, Inc.  
Lehigh University  
Massachusetts Institute of Technology  
Materials Research Society  
Mathematical Association of America  
Minnesota State University – College of Science, Engineering and Technology  
National Academy of Neuropsychology  
National Action Council for Minorities in Engineering, Inc. (NACME)  
National Association of Colleges and Employers  
National Association of Graduate-Professional Students  
National Association of Marine Laboratories  
National Ecological Observatory Network  
National Science Teachers Association  
Natural Science Collections Alliance  
New York University  
North Carolina State University  
Northern Illinois University  
Northrup Grumman  
Pathways into Science  
Population Association of America  
Princeton University  
Psychonomic Society  
Reed Elsevier Inc.  
Rensselaer Polytechnic Institute  
Research!America  
Semiconductor Industry Association (SIA)  
Skidaway Institute of Oceanography  
Society for Personality and Social Psychology  
Soil Science Society of America  
South Dakota State University  
Southeastern Universities Research Association  
State University of New York  
STEM Education Coalition  
Task Force on American Innovation  
Texas Instruments Incorporated  
The Ohio State University  
The Optical Society  
The Pennsylvania State University  
The Science Coalition  
The University of North Carolina at Chapel Hill  
The University of Texas System

Thurgood Marshall College Fund  
University at Buffalo  
University Corporation for Atmospheric Research (UCAR)  
University Corporation for Atmospheric Research (UCAR)  
University of California System  
University of California, Davis  
University of California, Irvine  
University of California, Los Angeles  
University of California, Riverside  
University of California, San Diego  
University of California, San Francisco  
University of California, Santa Barbara  
University of Chicago  
University of Colorado Boulder  
University of Delaware  
University of Florida  
University of Idaho  
University of Illinois at Chicago  
University of Illinois at Urbana-Champaign  
University of Kansas  
University of Maryland  
University of Michigan  
University of Minnesota  
University of Missouri  
University of Nebraska  
University of New Mexico  
University of Oregon  
University of Oregon  
University of Pittsburgh  
University of Rochester  
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University of Virginia  
University of Wisconsin-Madison  
Vanderbilt University  
Washington State University  
Washington University in St. Louis  
West Virginia University  
Woods Hole Oceanographic Institution