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 113th 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 21st 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
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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
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The Optical Society
The Pennsylvania State University
The Science Coalition
The University of North Carolina at Chapel Hill
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