

summer of 2005. I strongly support this legislation, and I urge my colleagues to do so as well.

Mr. MELANCON. Mr. Speaker, I thank Mr. DIAZ-BALART so much and Mr. BILIRAKIS. I have no further requests for time, and I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Louisiana (Mr. MELANCON) that the House suspend the rules and agree to the resolution, H. Res. 402.

The question was taken; and (two-thirds being in the affirmative) the rules were suspended and the resolution was agreed to.

A motion to reconsider was laid on the table.

#### 21ST CENTURY COMPETITIVENESS ACT OF 2007

Mr. WU. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 2272) to invest in innovation through research and development, and to improve the competitiveness of the United States.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 2272

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “21st Century Competitiveness Act of 2007”.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.

#### TITLE I—SCIENCE AND MATHEMATICS SCHOLARSHIPS AND EDUCATION IMPROVEMENT

Sec. 101. Findings.

Sec. 102. Definitions.

##### Subtitle A—Science Scholarships

Sec. 111. Short title.

Sec. 112. Findings.

Sec. 113. Policy objective.

Sec. 114. Robert Noyce Teacher Scholarship Program.

##### Subtitle B—Mathematics and Science Education Improvement

Sec. 121. Mathematics and science education partnerships amendments.

Sec. 122. Teacher institutes.

Sec. 123. Graduate degree program.

Sec. 124. Curricula.

Sec. 125. Science, Technology, Engineering, and Mathematics Talent Expansion Program.

Sec. 126. High-need local educational agency definition.

Sec. 127. Teacher leaders.

Sec. 128. Laboratory science pilot program.

Sec. 129. Study on laboratory equipment donations for schools.

#### TITLE II—SCIENCE AND ENGINEERING RESEARCH

Sec. 201. Short title.

Sec. 202. National Science Foundation early career awards for science and engineering researchers.

Sec. 203. Department of Energy early career awards for science and engineering researchers.

Sec. 204. Integrative graduate education and research traineeship program.

Sec. 205. Presidential innovation award.

Sec. 206. National Coordination Office for Research Infrastructure.

Sec. 207. Research on innovation and inventiveness.

Sec. 208. Report on National Institute of Standards and Technology efforts to recruit and retain early CAREER science and engineering researchers.

Sec. 209. NASA’s contribution to innovation.

Sec. 210. Undergraduate scholarships for science, technology, engineering, and mathematics.

#### TITLE III—NATIONAL SCIENCE FOUNDATION

Sec. 301. Short title.

Sec. 302. Definitions.

Sec. 303. Authorization of appropriations.

Sec. 304. Centers for research on learning and education improvement.

Sec. 305. Interdisciplinary research.

Sec. 306. Pilot program of grants for new investigators.

Sec. 307. Broader impacts merit review criterion.

Sec. 308. Postdoctoral research fellows.

Sec. 309. Responsible conduct of research.

Sec. 310. Reporting of research results.

Sec. 311. Sharing research results.

Sec. 312. Funding for successful stem education programs.

Sec. 313. Cost sharing.

Sec. 314. Donations.

Sec. 315. Additional reports.

Sec. 316. Administrative amendments.

Sec. 317. National Science Board reports.

Sec. 318. National Academy of Science Report on Diversity in STEM fields.

Sec. 319. Sense of the Congress regarding the mathematics and science partnership programs of the Department of Education and the National Science Foundation.

Sec. 320. Hispanic-serving institutions undergraduate program.

Sec. 321. Communications training for scientists.

#### TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Sec. 401. Short title.

##### Subtitle A—Authorization of Appropriations

Sec. 411. Scientific and technical research and services.

Sec. 412. Industrial technology services.

##### Subtitle B—Innovation and Technology Policy Reforms

Sec. 421. Institute-wide planning report.

Sec. 422. Report by Visiting Committee.

Sec. 423. Manufacturing extension partnership.

Sec. 424. Technology Innovation Program.

Sec. 425. Research fellowships.

Sec. 426. Collaborative manufacturing research pilot grants.

Sec. 427. Manufacturing fellowship program.

Sec. 428. Meetings of Visiting Committee on Advanced Technology.

Sec. 429. Manufacturing research database.

##### Subtitle C—Miscellaneous

Sec. 441. Post-doctoral fellows.

Sec. 442. Financial agreements clarification.

Sec. 443. Working capital fund transfers.

Sec. 444. Retention of depreciation surcharge.

Sec. 445. Non-Energy Inventions Program.

Sec. 446. Redefinition of the metric system.

Sec. 447. Repeal of redundant and obsolete authority.

Sec. 448. Clarification of standard time and time zones.

Sec. 449. Procurement of temporary and intermittent services.

Sec. 450. Malcolm Baldrige awards.

#### TITLE V—HIGH-PERFORMANCE COMPUTING

Sec. 501. High-performance computing research and development program.

Sec. 502. Definitions.

#### TITLE I—SCIENCE AND MATHEMATICS SCHOLARSHIPS AND EDUCATION IMPROVEMENT

##### SEC. 101. FINDINGS.

Congress finds the following:

(1) The National Science Foundation has made significant and valuable contributions to the improvement of K-12 and undergraduate science, technology, engineering, and mathematics education throughout its 56 year history.

(2) Under section 3 of the National Science Foundation Act of 1950 (42 U.S.C. 1862), the National Science Foundation is explicitly required to strengthen science, mathematics, and engineering research potential and education programs at all levels.

##### SEC. 102. DEFINITIONS.

In this title:

(1) The term “cost of attendance” has the meaning given that term in section 472 of the Higher Education Act of 1965 (20 U.S.C. 10871l).

(2) The term “Director” means the Director of the National Science Foundation.

(3) The term “institution of higher education” has the meaning given that term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(4) The term “mathematics and science teacher” means a mathematics, science, or technology teacher at the elementary school or secondary school level.

##### Subtitle A—Science Scholarships

##### SEC. 111. SHORT TITLE.

This subtitle may be cited as the “10,000 Teachers, 10 Million Minds Science and Math Scholarship Act”.

##### SEC. 112. FINDINGS.

Congress finds the following:

(1) The prosperity the United States enjoys today is due in no small part to investments the Nation has made in research and development over the past 50 years.

(2) Corporate, government, and national scientific and technical leaders have raised concerns that current trends affecting the science and technology enterprise of the Nation could result in erosion of this past success and jeopardize future prosperity.

(3) The National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine were tasked in a congressional request to recommend actions that the Federal Government could take to enhance the science and technology enterprise so that the United States can successfully compete, prosper, and be secure in the global community of the 21st century.

(4) The Academies’ highest priority recommendation in its report, “Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future”, is to improve K-12 mathematics and science education, and the Academies’ first recommended action item is to institute a major scholarship program to recruit and educate annually 10,000 mathematics and science teachers.

##### SEC. 113. POLICY OBJECTIVE.

In carrying out the program under section 10 of the National Science Foundation Authorization Act of 2002, the National Science Foundation shall seek to increase by up to 10,000 per year the number of elementary and secondary mathematics and science teachers in the Nation’s schools having both exemplary subject knowledge and pedagogical skills.

**SEC. 114. ROBERT NOYCE TEACHER SCHOLARSHIP PROGRAM.**

(a) PROGRAM AMENDMENTS.—Section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1) is amended—

(1) by inserting “teacher” after “noyce” in the section heading;

(2) in subsection (a)(1)—

(A) by striking “to provide scholarships, stipends, and programming designed”;

(B) by inserting “and to provide scholarships and stipends to students participating in the program” after “science teachers”;

and

(C) by inserting “Teacher” after “Noyce”;

(3) in subsection (a)(3)(A)—

(A) by striking “encourage top college juniors and seniors” and inserting “recruit and prepare undergraduate students”;

(B) by inserting “qualified as” after “to become”;

(4) in subsection (a)(3)(A)(ii)—

(A) by striking “programs to help scholarship recipients” and inserting “academic courses and early field teaching experiences designed to prepare students participating in the program”;

(B) by striking “programs that will result in” and inserting “such preparation as is necessary to meet requirements for”;

(C) by striking “licensing; and” and inserting “licensing”;

(5) in subsection (a)(3)(A)(iii)—

(A) by striking “scholarship recipients” and inserting “students participating in the program”;

(B) by striking “enable the recipients” and inserting “enable the students”;

(C) by striking “; or” and inserting “; and”;

(6) in subsection (a)(3)(A) by inserting at the end the following new clause:

“(iv) providing summer internships for freshman students participating in the program; or”;

(7) in subsection (a)(3)(B)—

(A) by striking “encourage” and inserting “recruit and prepare”;

(B) by inserting “qualified as” after “to become”;

(8) by amending clause (ii) of subsection (a)(3)(B) to read as follows:

“(ii) offering academic courses and field teaching experiences designed to prepare stipend recipients to teach in elementary schools and secondary schools, including such preparation as is necessary to meet requirements for teacher certification or licensing; and”;

(9) in subsection (a) by inserting at the end the following new paragraph:

“(4) ELIGIBILITY REQUIREMENT.—To be eligible for an award under this section, an institution of higher education (or consortia of such institutions) shall ensure that specific faculty members and staff from the institution’s mathematics, science, or engineering departments and specific education faculty are designated to carry out the development and implementation of the program. An institution of higher education may also include teacher leaders to participate in developing the pedagogical content of the program and to supervise students participating in the program in their field teaching experiences. No institution of higher education shall be eligible for an award unless faculty from the institution’s mathematics, science, or engineering departments are active participants in the program.

“(5) AWARDS.—In awarding grants under this section, the Director shall endeavor to ensure that the recipients are from a variety of types of institutions of higher education. In support of this goal, the Director shall broadly disseminate information about when and how to apply for grants under this sec-

tion, including by conducting outreach to Historically Black Colleges and Universities that are part B institutions as defined in section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and minority institutions (as defined in section 365(3) of that Act (20 U.S.C. 1067k(3))).”;

(10) in subsection (b)(1)(A)—

(A) by striking “scholarship or stipend”;

(B) by inserting “and summer internships” after “number of scholarships”;

(C) by inserting “the type of activities proposed for the recruitment of students to the program,” after “intends to award,”;

(11) in subsection (b)(1)(B)—

(A) by striking “scholarship or stipend”;

and

(B) by striking “; and” and inserting “, which may include a description of any existing programs at the applicant’s institution that are targeted to the education of mathematics and science teachers and the number of teachers graduated annually from such programs”;

(12) in subsection (b)(1), by striking subparagraph (C) and inserting the following:

“(C) a description of the academic courses and field teaching experiences required under subsection (a)(3)(A)(ii) and (B)(ii), including—

“(i) a description of the undergraduate program that will enable a student to graduate within 5 years with a major in mathematics, science, or engineering and to obtain teacher certification or licensing;

“(ii) a description of the field teaching experiences proposed; and

“(iii) evidence of agreements between the applicant and the schools or school districts that are identified as the locations at which field teaching experiences will occur;

“(D) a description of the programs required under subsection (a)(3)(A)(iii) and (B)(iii), including activities to assist new teachers in fulfilling their service requirements under this section; and

“(E) an identification of the applicant’s mathematics, science, or engineering faculty and its education faculty who will carry out the development and implementation of the program as required under subsection (a)(4).”;

(13) in subsection (b)(2)—

(A) by redesignating subparagraphs (B), (C), (D), and (E) as subparagraphs (C), (D), (E) and (F), respectively;

(B) by inserting after subparagraph (A) a new subparagraph as follows:

“(B) the extent to which the applicant’s mathematics, science, or engineering faculty and its education faculty have worked or will work collaboratively to design new or revised curricula that recognizes the specialized pedagogy required to teach mathematics, science, and technology effectively in elementary and secondary schools”;

(C) by amending subparagraph (F), as so redesignated by subparagraph (A) of this paragraph, to read as follows:

“(F) the ability of the applicant to recruit students who are individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).”;

(14) in subsection (c)(1)(B), by striking “2 years” and inserting “3 years”;

(15) in subsection (c)(3)—

(A) by striking “\$7,500” and inserting “\$10,000”;

(B) by striking “2 years of scholarship support” and inserting “3 years of scholarship support, unless the Director establishes a policy by which part-time students may receive additional years of support”;

(16) in subsection (c)(4)—

(A) by striking “6 years” and inserting “8 years”;

(B) by inserting “, with a maximum service requirement of 6 years” after “was received”;

(C) by striking “Service required under this paragraph shall be performed in a high-need local educational agency.”;

(17) in subsection (c), by adding at the end a new paragraph as follows:

“(5) EXCEPTION.—The period of service obligation under paragraph (4) is reduced by 1 year for scholarship recipients whose service is performed in a high-need local educational agency. The Director shall establish and maintain a central clearinghouse of information on teaching opportunities available in high-need local educational agencies throughout the United States, which shall be made available to individuals having a service obligation under this section.”;

(18) in subsection (d)(1), by striking “to receive certification or licensing to teach” and inserting “established under subsection (a)(3)(B)”;

(19) in subsection (d)(2), by inserting “and professional achievement” after “academic merit”;

(20) in subsection (d)(3), by striking “1 year” and inserting “16 months”;

(21) in subsection (d)(4)—

(A) by striking “6 years” and inserting “4 years”;

(B) by striking “for each year a stipend was received”;

(22) in subsection (e)—

(A) by inserting “or section 10A” after “under this section”;

(B) in paragraph (1) by inserting “or section 10A” after “subsection (d)”;

(23) in subsection (f)(1), by inserting “or section 10A” after “under this section”;

(24) in subsection (g)(2)(A)—

(A) by striking “Treasurer of the United States,” and inserting “Treasurer of the United States.”;

(B) by striking “multiplied by 2.”;

(25) in subsection (h), by inserting “or section 10A” after “under this section”;

(26) in subsection (i)(3), by inserting “or had a career in” after “is working in”;

(27) in subsection (i)—

(A) by striking “and” at the end of paragraph (4);

(B) in paragraph (5), by inserting “or section 10A” after “subsection (d)”;

(C) by striking the period at the end of paragraph (5) and inserting “; and”;

(D) by adding at the end the following:

“(6) the term ‘teacher leader’ means a mathematics or science teacher who works to improve the instruction of mathematics or science in kindergarten through grade 12 through—

“(A) participating in the development or revision of science, mathematics, engineering, or technology curricula;

“(B) serving as a mentor to mathematics or science teachers;

“(C) coordinating and assisting teachers in the use of hands-on inquiry materials, equipment, and supplies, and when appropriate, supervising acquisition and repair of such materials;

“(D) providing in-classroom teaching assistance to mathematics or science teachers; and

“(E) providing professional development, for the purposes of training other teacher leaders, to mathematics and science teachers.”;

(28) by adding at the end the following:

“(j) MATHEMATICS AND SCIENCE SCHOLARSHIP GIFT FUND.—In accordance with section 11(f) of the National Science Foundation Act of 1950, the Director is authorized to accept donations from the private sector to support scholarships, stipends, or internships associated with programs under this section.

“(k) ASSESSMENT OF TEACHER SERVICE AND RETENTION.—Not later than 4 years after the date of enactment of this subsection, the Director shall transmit to Congress a report on the effectiveness of the program carried out under this section. The report shall include the proportion of individuals receiving scholarships or stipends under the program who—

“(1) fulfill their service obligation required under this section in a high-need local educational agency;

“(2) elect to fulfill their service obligation in a high-need local educational agency but fail to complete it, as defined in subsection (g);

“(3) remain in the teaching profession beyond their service obligation; and

“(4) remain in the teaching profession in a high-need local educational agency beyond their service obligation.”.

(b) SPECIAL PARTNERSHIP PROGRAM FOR STIPENDS.—The National Science Foundation Authorization Act of 2002 is amended by inserting after section 10 the following new section:

**“SEC. 10A. SPECIAL PARTNERSHIP PROGRAM FOR STIPENDS.**

“(a) IN GENERAL.—As part of the Robert Noyce Teacher Scholarship Program established under section 10, the Director shall establish a separate type of award for eligible entities described in subsection (b). Stipends under this section shall be available only to mathematics, science, and engineering professionals who, while receiving the stipend, are enrolled in a program to receive certification or licensing to teach.

“(b) ELIGIBILITY.—In order to be eligible to receive a grant under this section, an institution of higher education (or consortia of such institutions) shall enter into a partnership with one or more private sector non-profit organizations, local or State government organizations, and businesses. The members of the partnership shall provide the teaching supplements described in subsection (f).

“(c) USE OF GRANTS.—Grants provided under this section shall be used by institutions of higher education or consortia to develop and implement a program to encourage science, mathematics, or engineering professionals to become qualified as mathematics and science teachers, through—

“(1) administering stipends in accordance with this section;

“(2) offering academic courses and field teaching experiences designed to prepare stipend recipients to teach in elementary and secondary schools, including such preparation as is necessary to meet the requirements for certification or licensing; and

“(3) offering programs to stipend recipients, both during and after matriculation in the program for which the stipend is received, to enable recipients to become better mathematics and science teachers, to fulfill the service requirements of this section, and to exchange ideas with others in their fields.

“(d) SELECTION PROCESS.—

“(1) MERIT REVIEW.—Grants shall be provided under this section on a competitive, merit-reviewed basis.

“(2) APPLICATIONS.—An eligible institution of higher education or consortium seeking funding under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

“(A) a description of the program that the applicant intends to operate, including the number of stipends the applicant intends to award, the type of activities proposed for the recruitment of students to the program, and the amount of the teaching supplements to be provided in accordance with subsection (f);

“(B) a description of the selection process that will be used in awarding stipends, including a description of the rigorous, nationally recognized test that will be administered during the selection process in order to determine whether individuals applying for stipends have advanced content knowledge of science or mathematics;

“(C) evidence that the applicant has the capability to administer the program in accordance with the provisions of this section, which may include a description of any existing programs at the applicant's institution that are targeted to the education of mathematics and science teachers and the number of teachers graduated annually from such programs;

“(D) a description of the academic courses and field teaching experiences described in subsection (c)(2), including—

“(i) a description of an educational program that will enable a student to obtain teacher certification or licensing within 16 months; and

“(ii) evidence of agreements between the applicant and the schools or school districts that are identified as the locations at which field teaching experiences will occur;

“(E) a description of the programs described in subsection (c)(3), including activities to assist new teachers in fulfilling their service requirements under this section; and

“(F) evidence that the partnership will provide the teaching supplements required under subsection (f).

“(3) CRITERIA.—In evaluating the applications submitted under paragraph (2), the Director shall consider, at a minimum—

“(A) the ability of the applicant to effectively carry out the program and to meet the requirement of subsection (f);

“(B) the extent to which the applicant's mathematics, science, or engineering faculty and its education faculty have worked or will work collaboratively to design new or revised curricula that recognizes the specialized pedagogy required to teach mathematics and science effectively in elementary and secondary schools;

“(C) the extent to which the applicant is committed to making the program a central organizational focus;

“(D) the degree to which the proposed programming will enable stipend recipients to become successful mathematics and science teachers;

“(E) the number and quality of the students that will be served by the program; and

“(F) the ability of the applicant to recruit students who would otherwise not pursue a career in teaching.

“(e) STIPENDS.—Individuals shall be selected to receive stipends under this section primarily on the basis of their content knowledge of science or mathematics as demonstrated by their performance on a test designated in accordance with subsection (d)(2)(B). Among individuals demonstrating equivalent content knowledge, consideration may be given to financial need and to the goal of promoting the participation of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

“(f) TEACHING SUPPLEMENTS.—The members of a partnership shall identify a source of non-Federal funding to provide salary supplements to individuals who participate in the program under this section during the period of their service obligation under subsection (h).

“(g) AMOUNT AND DURATION.—Stipends under this section shall be not less than \$10,000 per year, except that no individual shall receive for any year more than the cost of attendance at that individual's institu-

tion. Individuals may receive a maximum of 16 months of stipend support.

“(h) SERVICE OBLIGATION.—If an individual receives a stipend under this section, that individual shall be required to complete, within 6 years after completion of the educational program for which the stipend was awarded, 4 years of service as a mathematics or science teacher in a public secondary school.”.

(c) CONFORMING AMENDMENT.—Section 8(6) of the National Science Foundation Authorization Act of 2002 is amended—

(1) in the paragraph heading by inserting “TEACHER” after “NOYCE”; and

(2) by inserting “Teacher” after “Noyce”.

**Subtitle B—Mathematics and Science Education Improvement**

**SEC. 121. MATHEMATICS AND SCIENCE EDUCATION PARTNERSHIPS AMENDMENTS.**

Section 9 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n) is amended—

(1) in subsection (a)(2)—

(A) by striking “(A)”;;

(B) by striking subparagraph (B);

(C) by inserting “, through 1 or more of its departments in science, mathematics, or engineering,” after “institution of higher education”; and

(D) by striking “a State educational agency” and inserting “education faculty from the participating institution or institutions of higher education, a State educational agency,”;

(2) in subsection (a)(3)(B)—

(A) by inserting “content-specific” before “professional development programs”;;

(B) by inserting “which are” before “designed”; and

(C) by inserting “and which may include teacher training activities to prepare mathematics and science teachers to teach challenging mathematics, science, and technology college-preparatory courses, including Advanced Placement and International Baccalaureate courses” after “and science teachers”;

(3) in subsection (a)(3)(C)—

(A) by inserting “and laboratory experiences” after “technology”; and

(B) by inserting “and laboratory” after “provide technical”;;

(4) in subsection (a)(3)(I) by inserting “including model induction programs for teachers in their first 2 years of teaching,” after “and science,”;

(5) in subsection (a)(3)(K) by striking “developing and offering mathematics or science enrichment programs for students, including after-school and summer programs;” and inserting “developing educational programs and materials and conducting mathematics, science, and technology enrichment programs for students, including after-school programs and summer camps for students described in subsection (b)(2)(G);”;

(6) in subsection (a) by inserting at the end the following:

“(8) MASTER'S DEGREE PROGRAMS.—Activities carried out in accordance with paragraph (3)(B) shall include the development and offering of master's degree programs for in-service mathematics and science teachers that will strengthen their subject area knowledge and pedagogical skills, as described in section 123 of the Act enacting this paragraph. Grants provided under this section may be used to develop and implement courses of instruction for the master's degree programs, which may involve online learning, and develop related educational materials.

“(9) MENTORS FOR TEACHERS AND STUDENTS OF CHALLENGING COURSES.—Partnerships carrying out activities to prepare mathematics

and science teachers to teach challenging mathematics, science, and technology college-preparatory courses, including Advanced Placement and International Baccalaureate courses, in accordance with paragraph (3)(B) shall encourage companies employing scientists, mathematicians, or engineers to provide mentors to teachers and students and provide for the coordination of such mentoring activities.

“(10) INVENTIVENESS.—Activities carried out in accordance with paragraph (3)(H) may include the development and dissemination of curriculum tools that will help foster inventiveness and innovation.”;

(7) in subsection (b)(2) by redesignating subparagraphs (E) and (F) as subparagraphs (F) and (G), respectively, and inserting after subparagraph (D) the following new subparagraph:

“(E) the extent to which the evaluation described in paragraph (1)(E) will be independent and based on objective measures.”;

(8) in subsection (b) by inserting at the end the following:

“(4) MINIMUM AND MAXIMUM GRANT SIZE.—A grant awarded under this section shall be not less than \$75,000 or greater than \$2,000,000 for any fiscal year.”;

(9) in subsection (c)—

(A) by striking paragraph (2);

(B) by redesignating paragraphs (3), (4), and (5) as paragraphs (4), (5), and (6), respectively; and

(C) by inserting after paragraph (1) the following new paragraphs:

“(2) REPORT ON MODEL PROJECTS.—The Director shall determine which completed projects funded through the program under this section should be seen as models to be replicated on a more expansive basis at the State or national levels. Not later than 1 year after the date of enactment of this paragraph, the Director shall transmit a report describing the results of this study to the Committee on Science and Technology and the Committee on Education and Labor of the House of Representatives and to the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate.

“(3) REPORT ON EVALUATIONS.—Not later than 4 years after the date of enactment of this paragraph, the Director shall transmit a report summarizing the evaluations required under subsection (b)(1)(E) of grants received under this program and describing any changes to the program recommended as a result of these evaluations to the Committee on Science and Technology and the Committee on Education and Labor of the House of Representatives and to the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate. Such report shall be made widely available to the public.”; and

(10) by adding at the end the following new subsection:

“(d) DEFINITIONS.—In this section—

“(1) the term ‘mathematics and science teacher’ means a mathematics, science, or technology teacher at the elementary school or secondary school level; and

“(2) the term ‘science’, in the context of elementary and secondary education, includes technology and pre-engineering.”.

#### SEC. 122. TEACHER INSTITUTES.

(a) NATIONAL SCIENCE FOUNDATION INSTITUTES.—

(1) IN GENERAL.—The Director shall establish a grant program to provide for summer or academic year teacher institutes or workshops authorized by section 9(a)(3)(B) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n(a)(3)(B)) and shall

allow grantees under the Teacher Institutes for the 21st Century program to operate 1 to 2 week summer teacher institutes with the goal of reaching the maximum number of in-service mathematics and science teachers, particularly elementary and middle school teachers, to improve their content knowledge and pedagogical skills.

(2) PREPARATION TO TEACH CHALLENGING COURSES.—The Director shall ensure that activities supported for awards under paragraph (1) include the development and implementation of teacher training activities to prepare mathematics and science teachers to teach challenging mathematics, science, and technology college-preparatory courses, including Advanced Placement and International Baccalaureate courses.

(3) AWARDS.—In awarding grants under this section, the Director shall give priority to applications that propose programs that will attract mathematics and science teachers from local educational agencies that—

(A) are receiving grants under title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq) as a result of having within their jurisdictions concentrations of children from low income families; and

(B) are experiencing a shortage of highly qualified teachers, as defined in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801), in the fields of science, mathematics, or technology.

(b) LABORATORY SCIENCE TEACHER PROFESSIONAL DEVELOPMENT.—There are authorized to be appropriated to the Secretary of Energy for the Laboratory Science Teacher Professional Development program, \$3,000,000 for fiscal year 2008, \$8,000,000 for fiscal year 2009, \$10,000,000 for fiscal year 2010, \$10,000,000 for fiscal year 2011, and \$10,000,000 for fiscal year 2012.

#### SEC. 123. GRADUATE DEGREE PROGRAM.

(a) IN GENERAL.—The Director shall ensure that master’s degree programs for in-service mathematics and science teachers that will strengthen their subject area knowledge and pedagogical skills are instituted in accordance with section 9(a)(8) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n(a)(8)). The degree programs shall be designed for current teachers, who will enroll as part-time students, and to allow participants to obtain master’s degrees within a period of 3 years.

(b) DISTRIBUTION OF AWARDS.—The Director shall, in awarding grants to carry out subsection (a), consider the distribution of awards among institutions of higher education of different sizes and geographic locations.

(c) PROGRAM ACTIVITIES.—Activities supported through master’s degree programs established under subsection (a) may include—

(1) development of courses of instruction and related educational materials;

(2) stipends to defray the cost of attendance for students in the degree program; and

(3) acquisition of computer and networking equipment needed for online instruction under the degree program.

#### SEC. 124. CURRICULA.

Nothing in this title, or the amendments made by this title, shall be construed to limit the authority of State governments or local school boards to determine the curricula of their students.

#### SEC. 125. SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS TALENT EXPANSION PROGRAM.

(a) AMENDMENTS.—Section 8(7) of the National Science Foundation Authorization Act of 2002 is amended—

(1) in subparagraph (A) by striking “competitive, merit-based” and all that follows through “in recent years.” and inserting “competitive, merit-reviewed multiyear

grants for eligible applicants to improve undergraduate education in science, mathematics, engineering, and technology through—

“(i) the creation of programs to increase the number of students studying toward and completing associate’s or bachelor’s degrees in science, technology, engineering, and mathematics, particularly in fields that have faced declining enrollment in recent years; and

“(ii) the creation of centers (in this paragraph referred to as ‘Centers’) to develop undergraduate curriculum, teaching methods for undergraduate courses, and methods to better train professors and teaching assistants who teach undergraduate courses to increase the number of students completing undergraduate courses in science, technology, engineering, and mathematics, including the number of nonmajors, and to improve student academic achievement in those courses.

Grants made under clause (ii) shall be awarded jointly through the Education and Human Resources Directorate and at least 1 research directorate of the Foundation.”;

(2) by amending subparagraph (B) to read as follows:

“(B) In selecting projects under subparagraph (A)(i), the Director shall strive to increase the number of students studying toward and completing baccalaureate degrees, concentrations, or certificates in science, mathematics, engineering, or technology who are—

“(i) individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b); or

“(ii) graduates of a secondary school that is administered by a local educational agency that is receiving grants under title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq) as a result of having within its jurisdiction concentrations of children from low income families.”;

(3) in subparagraph (C)—

(A) by inserting “(i)” before “The types of”;

(B) by redesignating clauses (i) through (vi) as subparagraphs (I) through (VI), respectively;

(C) by striking “under this paragraph” and inserting “under subparagraph (A)(i)”;

(D) by adding at the end the following new clause:

“(ii) The types of activities the Foundation may support under subparagraph (A)(ii) include—

“(I) creating model curricula and laboratory programs;

“(II) developing and demonstrating research-based instructional methods and technologies;

“(III) developing methods to train graduate students and faculty to be more effective teachers of undergraduates;

“(IV) conducting programs to disseminate curricula, instructional methods, or training methods to faculty at the grantee institutions and at other institutions;

“(V) conducting assessments of the effectiveness of the Center at accomplishing the goals described in subparagraph (A)(ii); and

“(VI) conducting any other activities the Director determines will accomplish the goals described in subparagraph (A)(ii).”;

(4) in subparagraph (D)(i), by striking “under this paragraph” and inserting “under subparagraph (A)(i)”;

(5) in subparagraph (D)(ii), by striking “under this paragraph” and inserting “under subparagraph (A)(i)”;

(6) after subparagraph (D)(iii), by adding at the end the following new clause:

“(iv) A grant under subparagraph (A)(ii) shall be awarded for 5 years, and the Director may extend such a grant for up to 2 additional 3 year periods.”;

(7) in subparagraph (E), by striking “under this paragraph” both places it appears and inserting “under subparagraph (A)(i)”;

(8) by redesignating subparagraph (F) as subparagraph (J); and

(9) by inserting after subparagraph (E) the following new subparagraphs:

“(F) Grants awarded under subparagraph (A)(ii) shall be carried out by a department or departments of science, mathematics, or engineering at institutions of higher education (or a consortia thereof), which may partner with education faculty. Applications for awards under subparagraph (A)(ii) shall be submitted to the Director at such time, in such manner, and containing such information as the Director may require. At a minimum, the application shall include—

“(i) a description of the activities to be carried out by the Center;

“(ii) a plan for disseminating programs related to the activities carried out by the Center to faculty at the grantee institution and at other institutions;

“(iii) an estimate of the number of faculty, graduate students (if any), and undergraduate students who will be affected by the activities carried out by the Center; and

“(iv) a plan for assessing the effectiveness of the Center at accomplishing the goals described in subparagraph (A)(ii).

“(G) In evaluating the applications submitted under subparagraph (F), the Director shall consider, at a minimum—

“(i) the ability of the applicant to effectively carry out the proposed activities, including the dissemination activities described in subparagraph (C)(ii)(IV); and

“(ii) the extent to which the faculty, staff, and administrators of the applicant institution are committed to improving undergraduate science, mathematics, and engineering education.

“(H) In awarding grants under subparagraph (A)(ii), the Director shall endeavor to ensure that a wide variety of science, technology, engineering, and mathematics fields and types of institutions of higher education, including 2-year colleges and minority-serving institutions, are covered, and that—

“(i) at least 1 Center is housed at a Doctoral/Research University as defined by the Carnegie Foundation for the Advancement of Teaching; and

“(ii) at least 1 Center is focused on improving undergraduate education in an interdisciplinary area.

“(I) The Director shall convene an annual meeting of the awardees under this paragraph to foster collaboration and to disseminate the results of the Centers and the other activities funded under this paragraph.”.

(b) **REPORT ON DATA COLLECTION.**—Not later than 180 days after the date of enactment of this Act, the Director shall transmit to Congress a report on how the Director is determining whether current grant recipients in the Science, Technology, Engineering, and Mathematics Talent Expansion Program are making satisfactory progress as required by section 8(7)(D)(ii) of the National Science Foundation Authorization Act of 2002 and what funding actions have been taken as a result of the Director’s determinations.

**SEC. 126. HIGH-NEED LOCAL EDUCATIONAL AGENCY DEFINITION.**

Section 4(8) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n note) is amended to read as follows:

“(8) **HIGH-NEED LOCAL EDUCATIONAL AGENCY.**—The term ‘high-need local educational agency’ means a local educational agency that—

“(A) is receiving grants under title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq) as a result of having within its jurisdiction concentrations of children from low income families; and

“(B) is experiencing a shortage of highly qualified teachers, as defined in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801), in the fields of science, mathematics, or engineering.”.

**SEC. 127. TEACHER LEADERS.**

The National Science Foundation Authorization Act of 2002 is amended—

(1) in section 4(11)—

(A) by striking “MASTER TEACHER” and inserting “TEACHER LEADER”;

(B) by striking “master teacher” and inserting “teacher leader”;

(C) in subparagraph (E), by striking “master teachers” and inserting “teacher leaders”;

(2) in section 9—

(A) in subsection (a)(3)(E), by striking “master teachers” and inserting “teacher leaders”;

(B) in subsection (a)(4)—

(i) by striking “MASTER TEACHERS” and inserting “TEACHER LEADERS”;

(ii) by striking “master teachers” each place it appears and inserting “teacher leaders”.

**SEC. 128. LABORATORY SCIENCE PILOT PROGRAM.**

(a) **FINDINGS.**—The Congress finds the following:

(1) To remain competitive in science and technology in the global economy, the United States must increase the number of students graduating from high school prepared to pursue postsecondary education in science, technology, engineering, and mathematics.

(2) There is broad agreement in the scientific community that learning science requires direct involvement by students in scientific inquiry and that laboratory experience is so integral to the nature of science that it must be included in every science program for every science student.

(3) In America’s Lab Report, the National Research Council concluded that the current quality of laboratory experiences is poor for most students and that educators and researchers do not agree on how to define high school science laboratories or on their purpose, hampering the accumulation of research on how to improve labs.

(4) The National Research Council found that schools with higher concentrations of non-Asian minorities and schools with higher concentrations of poor students are less likely to have adequate laboratory facilities than other schools.

(5) The Government Accountability Office reported that 49.1 percent of schools where the minority student population is greater than 50.5 percent reported not meeting functional requirements for laboratory science well or at all.

(6) 40 percent of those college students who left the science fields reported some problems related to high school science preparation, including lack of laboratory experience and no introduction to theoretical or to analytical modes of thought.

(7) It is in the national interest for the Federal Government to invest in research and demonstration projects to improve the teaching of laboratory science in the Nation’s high schools.

(b) **GRANT PROGRAM.**—Section 8(8) of the National Science Foundation Authorization Act of 2002 is amended—

(1) by redesignating subparagraphs (A) through (F) as clauses (i) through (vi), respectively;

(2) by inserting “(A)” before “A program of competitive”;

(3) by inserting at the end the following new subparagraphs:

“(B) In accordance with subparagraph (A)(v), the Director shall establish a research pilot program designated as ‘Partnerships for Access to Laboratory Science’ to award grants to partnerships to improve laboratories and provide instrumentation as part of a comprehensive program to enhance the quality of mathematics, science, engineering, and technology instruction at the secondary school level. Grants under this subparagraph may be used for—

“(i) purchase, rental, or leasing of equipment, instrumentation, and other scientific educational materials;

“(ii) maintenance, renovation, and improvement of laboratory facilities;

“(iii) development of instructional programs designed to integrate the laboratory experience with classroom instruction and to be consistent with State mathematics and science academic achievement standards;

“(iv) training in laboratory safety for school personnel;

“(v) design and implementation of hands-on laboratory experiences to encourage the interest of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b) in mathematics, science, engineering, and technology and help prepare such individuals to pursue postsecondary studies in these fields; and

“(vi) assessment of the activities funded under this subparagraph.

“(C) Grants may be made under subparagraph (B) only to a partnership—

“(i) for a project that includes significant teacher training and professional development components; or

“(ii) that establishes that appropriate teacher training and professional development is being addressed, or has been addressed, through other means.

“(D) Grants awarded under subparagraph (B) shall be to a partnership that—

“(i) includes an institution of higher education or a community college;

“(ii) includes a high-need local educational agency;

“(iii) includes a business or eligible non-profit organization; and

“(iv) may include a State educational agency, other public agency, National Laboratory, or community-based organization.

“(E) The Federal share of the cost of activities carried out using amounts from a grant under subparagraph (B) shall not exceed 50 percent.

“(F) The Director shall require grant recipients to submit a report to the Director on the results of the project supported by the grant.”.

(c) **REPORT.**—The Director shall evaluate the effectiveness of activities carried out under the research pilot projects funded by the grant program established pursuant to the amendment made by subsection (b) in improving student performance in mathematics, science, engineering, and technology. A report documenting the results of that evaluation shall be submitted to the Committee on Science and Technology of the House of Representatives and the Committees on Commerce, Science, and Transportation and on Health, Education, Labor, and Pensions of the Senate not later than 5 years after the date of enactment of this Act. The report shall identify best practices and materials developed and demonstrated by grant awardees.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—From the amount authorized in section 303(a)(2)(B), (b)(2)(B), and (c)(2)(B) of this Act, there are authorized to be appropriated

to carry out this section and the amendments made by this section \$5,000,000 for fiscal year 2008, and such sums as may be necessary for each of the 2 succeeding fiscal years.

**SEC. 129. STUDY ON LABORATORY EQUIPMENT DONATIONS FOR SCHOOLS.**

Not later than 2 years after the date of enactment of this Act, the Director shall transmit a report to the Congress examining the extent to which institutions of higher education are donating used laboratory equipment to elementary and secondary schools. The Director, in consultation with the Secretary of Education, shall survey institutions of higher education to determine—

- (1) how often, how much, and what type of equipment is donated;
- (2) what criteria or guidelines the institutions are using to determine what types of equipment can be donated, what condition the equipment should be in, and which schools receive the equipment;
- (3) whether the institutions provide any support to, or follow-up with the schools; and
- (4) how appropriate donations can be encouraged.

**TITLE II—SCIENCE AND ENGINEERING RESEARCH**

**SEC. 201. SHORT TITLE.**

This title may be cited as the “Sowing the Seeds Through Science and Engineering Research Act”.

**SEC. 202. NATIONAL SCIENCE FOUNDATION EARLY CAREER AWARDS FOR SCIENCE AND ENGINEERING RESEARCHERS.**

(a) **IN GENERAL.**—The Director of the National Science Foundation shall carry out a program to award grants to scientists and engineers at the early stage of their careers at institutions of higher education and organizations described in subsection (c)(2) to conduct research in fields relevant to the mission of the Foundation. The existing Faculty Early Career Development (CAREER) Program may be designated as the mechanism for awarding such grants.

(b) **SIZE AND DURATION OF AWARD.**—The duration of awards under this section shall be 5 years, and the amount per year shall be at least \$80,000.

(c) **ELIGIBILITY.**—Award recipients shall be individuals who are employed in a tenure-track position as an assistant professor or equivalent title, or who hold an equivalent position, at—

- (1) an institution of higher education in the United States; or
- (2) an organization in the United States that is a nonprofit, nondegree-granting research organization such as a museum, observatory, or research laboratory.

(d) **SELECTION.**—Award recipients shall be selected on a competitive, merit-reviewed basis.

(e) **SELECTION PROCESS AND CRITERIA FOR AWARDS.**—An applicant seeking funding under this section shall submit a proposal to the Director at such time, in such manner, and containing such information as the Director may require. In evaluating the proposals submitted under this section, the Director shall consider, at a minimum—

- (1) the intellectual merit of the proposed work;
- (2) the innovative or transformative nature of the proposed research;
- (3) the extent to which the proposal integrates research and education, including undergraduate education in science and engineering disciplines; and
- (4) the potential of the applicant for leadership at the frontiers of knowledge.

(f) **AWARDS.**—In awarding grants under this section, the Director shall endeavor to en-

sure that the recipients are from a variety of types of institutions of higher education and nonprofit, nondegree-granting research organizations. In support of this goal, the Director shall broadly disseminate information about when and how to apply for grants under this section, including by conducting outreach to Historically Black Colleges and Universities that are part B institutions as defined in section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and minority institutions (as defined in section 365(3) of that Act (20 U.S.C. 1067k(3))). In awarding grants under this section, the Director shall give special consideration to eligible early-career researchers who have followed alternative career paths such as working part-time or in nonacademic settings, or who have taken a significant career break or other leave of absence.

(g) **AUTHORIZATION OF APPROPRIATION.**—For each of the fiscal years 2008 through 2012, the Director shall allocate at least 3.5 percent of funds appropriated to the National Science Foundation for Research and Related Activities to the grants program under this section, except to the extent that a sufficient number of meritorious grant applications have not been received for a fiscal year.

(h) **REPORT.**—Not later than 6 months after the date of enactment of this Act, the Director shall transmit to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report describing the distribution of the institutions from which individuals have participated in the Faculty Early Career Development Program since fiscal year 2001 among each of the categories of institutions of higher education defined by the Carnegie Foundation for the Advancement of Teaching and the organizations in subsection (c)(2).

(i) **EVALUATION.**—Not later than 2 years after the date of enactment of this Act, the Director shall transmit to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report evaluating the impact of the program carried out under this section on the ability of young faculty to compete for National Science Foundation research grants.

**SEC. 203. DEPARTMENT OF ENERGY EARLY CAREER AWARDS FOR SCIENCE AND ENGINEERING RESEARCHERS.**

(a) **IN GENERAL.**—The Director of the Office of Science of the Department of Energy shall carry out a program to award grants to scientists and engineers at the early stage of their careers at institutions of higher education and organizations described in subsection (c)(2) to conduct research in fields relevant to the mission of the Department, giving priority to grants to expand domestic energy production and use through coal-to-liquids technology and advanced nuclear reprocessing.

(b) **SIZE AND DURATION OF AWARD.**—The duration of awards under this section shall be up to 5 years, and the amount per year shall be at least \$80,000.

(c) **ELIGIBILITY.**—Award recipients shall be individuals who are employed in a tenure-track position as an assistant professor or equivalent title, or who hold an equivalent position, at—

- (1) an institution of higher education in the United States; or
- (2) an organization in the United States that is a nonprofit, nondegree-granting research organization such as a museum, observatory, or research laboratory.

(d) **SELECTION.**—Award recipients shall be selected on a competitive, merit-reviewed basis.

(e) **SELECTION PROCESS AND CRITERIA FOR AWARDS.**—An applicant seeking funding under this section shall submit a proposal to the Director of the Office of Science at such time, in such manner, and containing such information as the Director may require. In evaluating the proposals submitted under this section, the Director shall consider, at a minimum—

- (1) the intellectual merit of the proposed work;
- (2) the innovative or transformative nature of the proposed research;
- (3) the extent to which the proposal integrates research and education, including undergraduate education in science and engineering disciplines; and
- (4) the potential of the applicant for leadership at the frontiers of knowledge.

(f) **COLLABORATION WITH NATIONAL LABORATORIES.**—In awarding grants under this section, the Director shall give priority to proposals in which the proposed work includes collaboration with the Department of Energy National Laboratories.

(g) **AWARDS.**—In awarding grants under this section, the Director shall endeavor to ensure that the recipients are from a variety of types of institutions of higher education and nonprofit, nondegree-granting research organizations. In support of this goal, the Director shall broadly disseminate information about when and how to apply for grants under this section, including by conducting outreach to Historically Black Colleges and Universities that are part B institutions as defined in section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and minority institutions (as defined in section 365(3) of that Act (20 U.S.C. 1067k(3))).

(h) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary of Energy to carry out the Director's responsibilities under this section \$25,000,000 for each of the fiscal years 2008 through 2012.

(i) **REPORT ON RECRUITING AND RETAINING EARLY CAREER SCIENCE AND ENGINEERING RESEARCHERS AT THE NATIONAL LABORATORIES.**—Not later than 3 months after the date of enactment of this Act, the Director of the Office of Science shall transmit to the Committee on Science and Technology of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate a report on efforts to recruit and retain young scientists and engineers at the early stages of their careers at the Department of Energy National Laboratories. The report shall include—

- (1) a description of Department of Energy and National Laboratory policies and procedures, including financial incentives, awards, promotions, time set aside for independent research, access to equipment or facilities, and other forms of recognition, designed to attract and retain young scientists and engineers;
- (2) an evaluation of the impact of these incentives on the careers of young scientists and engineers at Department of Energy National Laboratories, and also on the quality of the research at the National Laboratories and in Department of Energy programs;
- (3) a description of what barriers, if any, exist to efforts to recruit and retain young scientists and engineers, including limited availability of full time equivalent positions, legal and procedural requirements, and pay grading systems; and
- (4) the amount of funding devoted to efforts to recruit and retain young researchers and the source of such funds.

**SEC. 204. INTEGRATIVE GRADUATE EDUCATION AND RESEARCH TRAINEESHIP PROGRAM.**

(a) **FUNDING.**—For each of the fiscal years 2008 through 2012, the Director of the National Science Foundation shall allocate at

least 1.5 percent of funds appropriated for Research and Related Activities to the Integrative Graduate Education and Research Traineeship program.

(b) **COORDINATION.**—The Director shall coordinate with Federal departments and agencies, as appropriate, to expand the interdisciplinary nature of the Integrative Graduate Education and Research Traineeship program.

(c) **AUTHORITY TO ACCEPT FUNDS FROM OTHER AGENCIES.**—The Director is authorized to accept funds from other Federal departments and agencies to carry out the Integrative Graduate Education and Research Traineeship program.

**SEC. 205. PRESIDENTIAL INNOVATION AWARD.**

(a) **ESTABLISHMENT.**—The President shall periodically present the Presidential Innovation Award, on the basis of recommendations received from the Director of the Office of Science and Technology Policy or on the basis of such other information as the President considers appropriate, to individuals who develop one or more unique scientific or engineering ideas in the national interest at the time the innovation occurs.

(b) **PURPOSE.**—The awards under this section shall be made to—

(1) stimulate scientific and engineering advances in the national interest;

(2) illustrate the linkage between science and engineering and national needs;

(3) show the potential of such innovation to substantively enhance the economic competitiveness of the United States through development of commercializable intellectual property; and

(4) provide an example to students of the contribution they could make to society by entering the science and engineering profession.

(c) **CITIZENSHIP.**—An individual is not eligible to receive the award under this section unless at the time such award is made the individual—

(1) is a citizen or other national of the United States; or

(2) is an alien lawfully admitted to the United States for permanent residence who—

(A) has filed an application for naturalization in the manner prescribed by section 334 of the Immigration and Nationality Act (8 U.S.C. 1445); and

(B) is not permanently ineligible to become a citizen of the United States.

(d) **PRESENTATION.**—The presentation of the award shall be made by the President with such ceremonies as he may deem proper, including attendance by appropriate Members of Congress.

**SEC. 206. NATIONAL COORDINATION OFFICE FOR RESEARCH INFRASTRUCTURE.**

(a) **IN GENERAL.**—The Office of Science and Technology Policy shall establish a National Coordination Office for Research Infrastructure. Such Office shall—

(1) identify and prioritize the deficiencies in research facilities and major instrumentation located at academic institutions and at national laboratories that are available for use by academic researchers; and

(2) institute and coordinate the planning by Federal agencies for the acquisition, refurbishment, and maintenance of research facilities and major instrumentation required to address the deficiencies identified under paragraph (1).

In prioritizing the deficiencies identified under paragraph (1), the Office shall consider research needs in areas relevant to the Nation's economic competitiveness.

(b) **STAFFING.**—The Director of the Office of Science and Technology Policy shall appoint individuals to serve in the Office established under subsection (a) from among the principal Federal agencies that support research

in the sciences, mathematics, and engineering, and shall at a minimum include individuals from the National Science Foundation and the Department of Energy.

(c) **REPORT.**—The Director of the Office of Science and Technology Policy shall provide annually a report to Congress at the time of the President's budget proposal—

(1) describing the research infrastructure needs identified in accordance with subsection (a);

(2) listing research facilities projects and budget proposals, by agency, for major instrumentation acquisitions that are included in the President's budget proposal; and

(3) explaining how these facilities projects and instrumentation acquisitions relate to the deficiencies and priorities arrived at in accordance with subsection (a).

**SEC. 207. RESEARCH ON INNOVATION AND INVENTIVENESS.**

In carrying out its research programs on science policy and on the science of learning, the National Science Foundation may support research on the process of innovation and the teaching of inventiveness.

**SEC. 208. REPORT ON NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY EFFORTS TO RECRUIT AND RETAIN EARLY CAREER SCIENCE AND ENGINEERING RESEARCHERS.**

Not later than 3 months after the date of enactment of this Act, the Director of the National Institute of Standards and Technology shall transmit to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report on efforts to recruit and retain young scientists and engineers at the early stages of their careers at the National Institute of Standards and Technology laboratories and joint institutes. The report shall include—

(1) a description of National Institute of Standards and Technology policies and procedures, including financial incentives, awards, promotions, time set aside for independent research, access to equipment or facilities, and other forms of recognition, designed to attract and retain young scientists and engineers;

(2) an evaluation of the impact of these incentives on the careers of young scientists and engineers at the National Institute of Standards and Technology, and also on the quality of the research at the National Institute of Standards and Technology's laboratories and in the National Institute of Standards and Technology's programs;

(3) a description of what barriers, if any, exist to efforts to recruit and retain young scientists and engineers, including limited availability of full time equivalent positions, legal and procedural requirements, and pay grading systems; and

(4) the amount of funding devoted to efforts to recruit and retain young researchers and the source of such funds.

**SEC. 209. NASA'S CONTRIBUTION TO INNOVATION.**

(a) **SENSE OF THE CONGRESS.**—It is the sense of the Congress that—

(1) a balanced science program as authorized by section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109-155) contributes significantly to innovation in and the economic competitiveness of the United States; and

(2) a robust National Aeronautics and Space Administration, funded at the levels authorized under sections 202 and 203 of that Act, would offer a balance among science, aeronautics, exploration, and human space flight programs, all of which can attract and employ scientists, engineers, and technicians across a broad range of fields in science, technology, mathematics, and engineering.

(b) **PARTICIPATION IN INNOVATION AND COMPETITIVENESS PROGRAMS.**—The Administrator of the National Aeronautics and Space Administration shall fully participate in any interagency efforts to promote innovation and economic competitiveness through scientific research and development within the spending levels cited in subsection (a).

**SEC. 210. UNDERGRADUATE SCHOLARSHIPS FOR SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.**

(a) **ESTABLISHMENT.**—The National Science Foundation shall establish a program, to be known as the Undergraduate Scholarships for Science, Technology, Engineering, and Mathematics, or US-STEM, program, for awarding scholarships to undergraduate scholars in science, technology, engineering, and mathematics.

(b) **ELIGIBILITY.**—A student is eligible for a scholarship under this section only if the student—

(1) is enrolled at a public, 4-year college or university;

(2) will have completed at least one-half of the credit requirements for an undergraduate degree before beginning studies to be funded by the scholarship;

(3) has maintained a grade point average in undergraduate studies of at least 3.0 on a scale of 4.0, or an equivalent level as calculated by the National Science Foundation, except that if the student's institution appeals this criterion on the basis of undue hardship on the student, the National Science Foundation may waive this paragraph;

(4) has a total family income of less than \$75,000 per year, with such amount to be adjusted annually by the National Science Foundation for inflation;

(5) has not been convicted of a felony; and

(6) is a citizen or permanent resident alien of the United States.

(c) **SELECTION CRITERIA.**—Scholarship recipients shall be selected on the basis of merit and such other criteria as the National Science Foundation shall establish.

(d) **AWARDS.**—The National Science Foundation shall announce awards before April 1 for each upcoming academic year, and may make up to 2,500 awards per year. Awards may be made for a maximum of 2 academic years for each student, and scholarship amounts shall be paid to the institution.

(e) **ADVISORY BOARD.**—The Director of the National Science Foundation shall establish an advisory board, which shall make recommendations to the Director for selection criteria for scholarship recipients, and provide guidance and oversight for the program.

**TITLE III—NATIONAL SCIENCE FOUNDATION**

**SEC. 301. SHORT TITLE.**

This title may be cited as the "National Science Foundation Authorization Act of 2007".

**SEC. 302. DEFINITIONS.**

In this title:

(1) **BOARD.**—The term "Board" means the National Science Board established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(2) **DIRECTOR.**—The term "Director" means the Director of the Foundation.

(3) **ELEMENTARY SCHOOL.**—The term "elementary school" has the meaning given that term by section 9101(18) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(18)).

(4) **FOUNDATION.**—The term "Foundation" means the National Science Foundation.

(5) **INSTITUTION OF HIGHER EDUCATION.**—The term "institution of higher education" has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(6) SECONDARY SCHOOL.—The term “secondary school” has the meaning given that term by section 9101(38) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(38)).

**SEC. 303. AUTHORIZATION OF APPROPRIATIONS.**

(a) FISCAL YEAR 2008.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation \$6,500,000,000 for fiscal year 2008.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) \$5,080,000,000 shall be made available for research and related activities, of which \$115,000,000 shall be made available for the Major Research Instrumentation program;

(B) \$873,000,000 shall be made available for education and human resources, of which—

(i) \$94,000,000 shall be for Mathematics and Science Education Partnerships established under section 9 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n), of which \$32,000,000 shall be made available for the purposes of section 122(a) of this Act and \$46,000,000 shall be made available for the purposes of section 123 of this Act;

(ii) \$70,000,000 shall be for the Robert Noyce Scholarship Program established under section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1);

(iii) \$44,000,000 shall be for the Science, Mathematics, Engineering, and Technology Talent Expansion Program established under section 8(7) of the National Science Foundation Authorization Act of 2002 (Public Law 107-368); and

(iv) \$51,620,000 shall be for the Advanced Technological Education program established by section 3(a) of the Scientific and Advanced-Technology Act of 1992 (Public Law 102-476);

(C) \$245,000,000 shall be made available for major research equipment and facilities construction;

(D) \$285,600,000 shall be made available for agency operations and award management;

(E) \$4,050,000 shall be made available for the Office of the National Science Board; and

(F) \$12,350,000 shall be made available for the Office of Inspector General.

(b) FISCAL YEAR 2009.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation \$6,980,000,000 for fiscal year 2009.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) \$5,457,400,000 shall be made available for research and related activities, of which \$123,100,000 shall be made available for the Major Research Instrumentation program;

(B) \$934,000,000 shall be made available for education and human resources, of which—

(i) \$100,600,000 shall be for Mathematics and Science Education Partnerships established under section 9 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n), of which \$35,200,000 shall be made available for the purposes of section 122(a) of this Act and \$50,600,000 shall be made available for the purposes of section 123 of this Act;

(ii) \$101,000,000 shall be for the Robert Noyce Scholarship Program established under section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1);

(iii) \$55,000,000 shall be for the Science, Mathematics, Engineering, and Technology Talent Expansion Program established under section 8(7) of the National Science Foundation Authorization Act of 2002 (Public Law 107-368); and

(iv) \$55,200,000 shall be for the Advanced Technological Education program as established by section 3(a) of the Scientific and Advanced-Technology Act of 1992 (Public Law 102-476);

(C) \$262,000,000 shall be made available for major research equipment and facilities construction;

(D) \$309,760,000 shall be made available for agency operations and award management;

(E) \$4,120,000 shall be made available for the Office of the National Science Board; and

(F) \$12,720,000 shall be made available for the Office of Inspector General.

(c) FISCAL YEAR 2010.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation \$7,493,000,000 for fiscal year 2010.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) \$5,863,200,000 shall be made available for research and related activities, of which \$131,700,000 shall be made available for the Major Research Instrumentation program;

(B) \$1,003,000,000 shall be made available for education and human resources, of which—

(i) \$107,600,000 shall be for Mathematics and Science Education Partnerships established under section 9 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n), of which \$38,700,000 shall be made available for the purposes of section 122(a) of this Act and \$55,700,000 shall be made available for the purposes of section 123 of this Act;

(ii) \$133,000,000 shall be for the Robert Noyce Scholarship Program established under section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1);

(iii) \$60,000,000 shall be for the Science, Mathematics, Engineering, and Technology Talent Expansion Program established under section 8(7) of the National Science Foundation Authorization Act of 2002 (Public Law 107-368); and

(iv) \$59,100,000 shall be for the Advanced Technological Education program as established by section 3(a) of the Scientific and Advanced-Technology Act of 1992 (Public Law 102-476);

(C) \$280,000,000 shall be made available for major research equipment and facilities construction;

(D) \$329,450,000 shall be made available for agency operations and award management;

(E) \$4,250,000 shall be made available for the Office of the National Science Board; and

(F) \$13,100,000 shall be made available for the Office of Inspector General.

(d) MAJOR RESEARCH INSTRUMENTATION.—

(1) AWARD AMOUNT.—The minimum amount of an award under the Major Research Instrumentation program shall be \$100,000. The maximum amount of an award under the program shall be \$4,000,000, except if the total amount appropriated for the program for a fiscal year exceeds \$125,000,000, in which case the maximum amount of an award shall be \$6,000,000.

(2) USE OF FUNDS.—In addition to the acquisition of instrumentation and equipment, funds made available by awards under the Major Research Instrumentation program may be used to support the operations and maintenance of such instrumentation and equipment.

(3) COST SHARING.—

(A) IN GENERAL.—An institution of higher education receiving an award shall provide at least 30 percent of the cost from private or non-Federal sources.

(B) EXCEPTIONS.—Institutions of higher education that are not Ph.D.-granting institutions are exempt from the cost sharing requirement in subparagraph (A), and the Director may reduce or waive the cost sharing requirement for—

(i) institutions—

(I) which are not ranked among the top 100 institutions receiving Federal research and development funding, as documented by the

statistical data published by the Foundation; and

(II) for which the proposed project will make a substantial improvement in the institution's capabilities to conduct leading edge research, to provide research experiences for undergraduate students using leading edge facilities, and to broaden the participation in science and engineering research by individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b); and

(ii) consortia of institutions of higher education that include at least one institution that is not a Ph.D.-granting institution.

(e) UNDERGRADUATE EDUCATION PROGRAMS.—The Director shall continue to carry out programs in support of undergraduate education, including those authorized in section 17 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-6). Funding for these programs shall increase in proportion to the increase in the total amount appropriated to the Foundation in any year for which appropriations are authorized by this title.

(f) LIMIT ON PROPOSALS.—

(1) POLICY.—For programs that require as part of the selection process for awards the submission of preproposals and that also limit the number of preproposals that may be submitted by an institution, the Director shall allow the subsequent submission of a full proposal based on each preproposal that is determined to have merit following the Foundation's merit review process.

(2) REVIEW AND ASSESSMENT OF POLICIES.—The Board shall review and assess the effects on institutions of higher education of the policies of the Foundation regarding the imposition of limitations on the number of proposals that may be submitted by a single institution for programs supported by the Foundation. The Board shall determine whether current policies are well justified and appropriate for the types of programs that limit the number of proposal submissions. Not later than 1 year after the date of enactment of this Act, the Board shall summarize its findings and any recommendations regarding changes to the current policy on the restriction of proposal submissions in a report to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate.

(g) RESEARCH EXPERIENCES FOR UNDERGRADUATES.—The Director shall increase funding for the Research Experiences for Undergraduates program in proportion to the increase in the total amount appropriated to the Foundation for research and related activities in any year for which appropriations are authorized by this title.

(h) GLOBAL WARMING EDUCATION.—

(1) INFORMAL EDUCATION.—As part of Informal Science Education activities, the Director shall support activities to create informal educational materials, exhibits, and multimedia presentations relevant to global warming, climate science, and greenhouse gas reduction strategies.

(2) K-12 INSTRUCTIONAL MATERIALS.—As part of Discovery Research K-12 activities, the Director shall support the development of K-12 educational materials relevant to global warming, climate science, and greenhouse gas reduction strategies.

**SEC. 304. CENTERS FOR RESEARCH ON LEARNING AND EDUCATION IMPROVEMENT.**

(a) FUNDING FOR CENTERS.—The Director shall continue to carry out the program of

Centers for Research on Learning and Education Improvement as established in section 11 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-2).

(b) **ELIGIBILITY FOR CENTERS.**—Section 11 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-2) is amended—

(1) in subsection (a)(1), by inserting “or eligible nonprofit organizations” after “institutions of higher education”;

(2) in subsection (b)(1) by inserting “or an eligible nonprofit organization” after “institution of higher education”; and

(3) in subsection (b)(1) by striking “of such institutions” and inserting “thereof”.

**SEC. 305. INTERDISCIPLINARY RESEARCH.**

(a) **IN GENERAL.**—The Board shall evaluate the role of the Foundation in supporting interdisciplinary research, including through the Major Research Instrumentation program, the effectiveness of the Foundation's efforts in providing information to the scientific community about opportunities for funding of interdisciplinary research proposals, and the process through which interdisciplinary proposals are selected for support. The Board shall also evaluate the effectiveness of the Foundation's efforts to engage undergraduate students in research experiences in interdisciplinary settings, including through the Research in Undergraduate Institutions program and the Research Experiences for Undergraduates program.

(b) **REPORT.**—Not later than 1 year after the date of enactment of this Act, the Board shall provide the results of its evaluation under subsection (a), including a recommendation for the proportion of the Foundation's research and related activities funding that should be allocated for interdisciplinary research, to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate.

**SEC. 306. PILOT PROGRAM OF GRANTS FOR NEW INVESTIGATORS.**

(a) **IN GENERAL.**—The Director shall carry out a pilot program to award one-year grants to individuals to assist them in improving research proposals that were previously submitted to the Foundation but not selected for funding.

(b) **USE OF FUNDS.**—Grants awarded under this section shall be used to enable an individual to resubmit an updated research proposal for review by the Foundation through the agency's competitive merit review process. Uses of funds made available under this section may include the generation of new data and the performance of additional analysis.

(c) **ELIGIBILITY.**—To be eligible to receive a grant under this section, an individual shall—

(1) not have previously received funding as the principal investigator of a research grant from the Foundation; and

(2) have submitted a proposal to the Foundation, which may include a proposal submitted to the Research in Undergraduate Institutions program, that was rated very good or excellent under the Foundation's competitive merit review process.

(d) **SELECTION PROCESS.**—The Director shall make awards under this section based on the advice of the program officers of the Foundation.

(e) **PROGRAM ADMINISTRATION.**—The Director may carry out this section through the Small Grants for Exploratory Research program.

(f) **NATIONAL SCIENCE BOARD REVIEW.**—The Board shall conduct a review and assessment

of the pilot program under this section, including the number of new investigators funded, the distribution of awards by type of institution of higher education, and the success rate upon resubmission of proposals by new investigators funded through this pilot program. Not later than 3 years after the date of enactment of this Act, the Board shall summarize its findings and any recommendations regarding changes to or the continuation of the pilot program in a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate.

**SEC. 307. BROADER IMPACTS MERIT REVIEW CRITERION.**

(a) **IN GENERAL.**—In evaluating research proposals under the Foundation's broader impacts criterion, the Director shall give special consideration to proposals that involve partnerships between academic researchers and industrial scientists and engineers that address research areas that have been identified as having high importance for future national economic competitiveness, such as nanotechnology.

(b) **PARTNERSHIPS WITH INDUSTRY.**—The Director shall encourage research proposals from institutions of higher education that involve partnerships with businesses and organizations representing businesses in fields that have been identified as having high importance for future national economic competitiveness and that include input on the research agenda from and cost-sharing by the industry partners.

(c) **REPORT ON BROADER IMPACTS CRITERION.**—Not later than 1 year after the date of enactment of this Act, the Director shall transmit to Congress a report on the impact of the broader impacts grant criterion used by the Foundation. The report shall—

(1) identify the criteria that each division and directorate of the Foundation uses to evaluate the broader impacts aspects of research proposals;

(2) provide a breakdown of the types of activities by division that awardees have proposed to carry out to meet the broader impacts criterion;

(3) provide any evaluations performed by the Foundation to assess the degree to which the broader impacts aspects of research proposals were carried out and how effective they have been at meeting the goals described in the research proposals;

(4) describe what national goals, such as improving undergraduate science, mathematics, and engineering education, improving K-12 science and mathematics education, promoting university-industry collaboration and technology transfer, and broadening participation of underrepresented groups, the broader impacts criterion is best suited to promote; and

(5) describe what steps the Foundation is taking and should take to use the broader impacts criterion to improve undergraduate science, mathematics, and engineering education.

**SEC. 308. POSTDOCTORAL RESEARCH FELLOWS.**

(a) **MENTORING.**—The Director shall require that all grant applications that include funding to support postdoctoral researchers include a description of the mentoring activities that will be provided for such individuals, and shall ensure that this part of the application is evaluated under the Foundation's broader impacts merit review criterion. Mentoring activities may include career counseling, training in preparing grant applications, guidance on ways to improve teaching skills, and training in research ethics.

(b) **REPORTS.**—The Director shall require that annual reports and the final report for research grants that include funding to support postdoctoral researchers include a description of the mentoring activities provided to such researchers.

**SEC. 309. RESPONSIBLE CONDUCT OF RESEARCH.**

The Director shall require that each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.

**SEC. 310. REPORTING OF RESEARCH RESULTS.**

The Director shall ensure that all final project reports and citations of published research documents resulting from research funded, in whole or in part, by the Foundation, are made available to the public in a timely manner and in electronic form through the Foundation's Web site.

**SEC. 311. SHARING RESEARCH RESULTS.**

An investigator supported under a Foundation award, whom the Director determines has failed to comply with the provisions of section 734 of the Foundation Grant Policy Manual, shall be ineligible for a future award under any Foundation supported program or activity. The Director may restore the eligibility of such an investigator on the basis of the investigator's subsequent compliance with the provisions of section 734 of the Foundation Grant Policy Manual and with such other terms and conditions as the Director may impose.

**SEC. 312. FUNDING FOR SUCCESSFUL STEM EDUCATION PROGRAMS.**

(a) **EVALUATION OF PROGRAMS.**—The Director shall, on an annual basis, evaluate all of the Foundation's grants that are scheduled to expire within one year and—

(1) that have the primary purpose of meeting the objectives of the Science and Engineering Equal Opportunity Act (42 U.S.C. 1885 et seq.); or

(2) that have the primary purpose of providing teacher professional development.

(b) **CONTINUATION OF FUNDING.**—For grants that are identified under subsection (a) and that are deemed by the Director to be successful in meeting the objectives of the initial grant solicitation, the Director may extend the duration of those grants for up to 3 additional years beyond their scheduled expiration without the requirement for a re-competition. The Director may extend such grants for an additional 3 years following a second review within 1 year before the extended completion date, in accordance with subsection (a), and the determination by the Director that the objectives of the grant are being achieved.

(c) **REPORT TO CONGRESS.**—Not later than 2 years after the date of enactment of this Act, the Director shall submit a report to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate that—

(1) lists the grants which have been extended in duration by the authority provided under this section; and

(2) provides any recommendations the Director may have regarding the extension of the authority provided under this section to programs other than those specified in subsection (a).

**SEC. 313. COST SHARING.**

(a) **IN GENERAL.**—The Board shall evaluate the impact of its policy to eliminate cost sharing for research grants and cooperative

agreements for existing programs that were developed around industry partnerships and historically required industry cost sharing, such as the Engineering Research Centers and Industry/University Cooperative Research Centers. The Board shall also consider the impact that the cost sharing policy has on initiating new programs for which industry interest and participation are sought.

(b) REPORT.—Not later than 6 months after the date of enactment of this Act, the Board shall report to the Committee on Science and Technology and the Committee on Appropriations of the House of Representatives, and the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate, on the results of the evaluation under subsection (a).

#### SEC. 314. DONATIONS.

Section 11(f) of the National Science Foundation Act of 1950 (42 U.S.C. 1870(f)) is amended by inserting at the end before the semicolon “, except that funds may be donated for specific prize competitions”.

#### SEC. 315. ADDITIONAL REPORTS.

(a) REPORT ON FUNDING FOR MAJOR FACILITIES.—

(1) PRECONSTRUCTION FUNDING.—The Board shall evaluate the appropriateness of the requirement that funding for detailed design work and other preconstruction activities for major research equipment and facilities come exclusively from the sponsoring research division rather than being available, at least in part, from the Major Research Equipment and Facilities Construction account.

(2) MAINTENANCE AND OPERATION COSTS.—The Board shall evaluate the appropriateness of the Foundation's policies for allocation of costs for, and oversight of, maintenance and operation of major research equipment and facilities.

(3) REPORT.—Not later than 6 months after the date of enactment of this Act, the Board shall report on the results of the evaluations under paragraphs (1) and (2) and on any recommendations for modifying the current policies related to allocation of funding for major research equipment and facilities to the Committee on Science and Technology and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate.

(b) INCLUSION OF POLAR FACILITIES UPGRADES IN MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION PLAN.—Section 201(a)(2)(D) of the National Science Foundation Authorization Act of 1998 (42 U.S.C. 18621(a)(2)(D)) is amended by inserting “and for major upgrades of facilities in support of Antarctic research programs” after “facilities construction account”.

(c) REPORT ON EDUCATION PROGRAMS WITHIN THE RESEARCH DIRECTORATES.—Not later than 6 months after the date of enactment of this Act, the Director shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate a report cataloging all elementary and secondary school, informal, and undergraduate educational programs and activities supported through appropriations for Research and Related Activities. The report shall display the programs and activities by directorate, along with estimated funding levels for the fiscal years 2006, 2007, and 2008, and shall provide a description of the goals of each program and activity. The report shall also describe how

the programs and activities relate to or are coordinated with the programs supported by the Education and Human Resources Directorate.

(d) REPORT ON RESEARCH IN UNDERGRADUATE INSTITUTIONS PROGRAM.—The Director shall transmit to Congress along with the fiscal year 2011 budget request a report listing the funding success rates and distribution of awards for the Research in Undergraduate Institutions program, by type of institution based on the highest academic degree conferred by the institution, for fiscal years 2008, 2009, and 2010.

(e) ANNUAL PLAN FOR ALLOCATION OF EDUCATION AND HUMAN RESOURCES FUNDING.—

(1) IN GENERAL.—Not later than 60 days after the date of enactment of legislation providing for the annual appropriation of funds for the Foundation, the Director shall submit to the Committee on Science and Technology and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate, a plan for the allocation of education and human resources funds authorized by this title for the corresponding fiscal year, including any funds from within the research and related activities account used to support activities that have the primary purpose of improving education or broadening participation.

(2) SPECIFIC REQUIREMENTS.—The plan shall include a description of how the allocation of funding—

(A) will affect the average size and duration of education and human resources grants supported by the Foundation;

(B) will affect trends in research support for the effective instruction of mathematics, science, engineering, and technology;

(C) will affect the K-20 pipeline for the study of mathematics, science, engineering, and technology; and

(D) will encourage the interest of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b) in mathematics, science, engineering, and technology, and help prepare such individuals to pursue postsecondary studies in these fields.

#### SEC. 316. ADMINISTRATIVE AMENDMENTS.

(a) TRIANNUAL AUDIT OF THE OFFICE OF THE NATIONAL SCIENCE BOARD.—Section 15(a) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 4862n-5) is amended—

(1) in paragraph (3), by striking “an annual audit” and inserting “an audit every three years”;

(2) in paragraph (4), by striking “each year” and inserting “every third year”; and

(3) by inserting after paragraph (4) the following new paragraph:

“(5) MATERIALS RELATING TO CLOSED PORTIONS OF MEETINGS.—To facilitate the audit required under paragraph (3) of this subsection, the Office of the National Science Board shall maintain the General Counsel's certificate, the presiding officer's statement, and a transcript or recording of any closed meeting, for at least 3 years after such meeting.”.

(b) LIMITED TERM PERSONNEL FOR THE NATIONAL SCIENCE BOARD.—Subsection (g) of section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863(g)) is amended to read as follows:

“(g) The Board may, with the concurrence of a majority of its members, permit the appointment of a staff consisting of not more than 5 professional staff members, technical and professional personnel on leave of absence from academic, industrial, or research

institutions for a limited term and such operations and support staff members as may be necessary. Such staff shall be appointed by the Chairman and assigned at the direction of the Board. The professional members and limited term technical and professional personnel of such staff may be appointed without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and the provisions of chapter 51 of such title relating to classification, and shall be compensated at a rate not exceeding the maximum rate payable under section 5376 of such title, as may be necessary to provide for the performance of such duties as may be prescribed by the Board in connection with the exercise of its powers and functions under this Act. Section 14(a)(3) shall apply to each limited term appointment of technical and professional personnel under this subsection. Each appointment under this subsection shall be subject to the same security requirements as those required for personnel of the Foundation appointed under section 14(a).”.

(c) INCREASE IN NUMBER OF WATERMAN AWARDS TO THREE.—Section 6(c) of the National Science Foundation Authorization Act of 1975 (42 U.S.C. 1881a) is amended to read as follows:

“(c) Up to three awards may be made under this section in any one fiscal year.”.

#### SEC. 317. NATIONAL SCIENCE BOARD REPORTS.

Paragraphs (1) and (2) of section 4(j) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(j)(1) and (2)) are amended by striking “, for submission to” and “for submission to”, respectively, and inserting “and”.

#### SEC. 318. NATIONAL ACADEMY OF SCIENCE REPORT ON DIVERSITY IN STEM FIELDS.

(a) IN GENERAL.—The Foundation shall enter into an arrangement with the National Academy of Sciences for a report, to be transmitted to the Congress not later than 1 year after the date of enactment of this Act, about barriers to increasing the number of underrepresented minorities in science, technology, engineering, and mathematics fields and to identify strategies for bringing more underrepresented minorities into the science, technology, engineering, and mathematics workforce.

(b) SPECIFIC REQUIREMENTS.—The Director shall ensure that the study described in subsection (a) addresses—

(1) social and institutional factors that shape the decisions of minority students to commit to education and careers in the science, technology, engineering, and mathematics fields;

(2) specific barriers preventing greater minority student participation in the science, technology, engineering, and mathematics fields;

(3) primary focus points for policy intervention to increase the recruitment and retention of underrepresented minorities in America's future workforce;

(4) programs already underway to increase diversity in the science, technology, engineering, and mathematics fields, and their level of effectiveness;

(5) factors that make such programs effective, and how to expand and improve upon existing programs;

(6) the role of minority-serving institutions in the diversification of America's workforce in these fields and how that role can be supported and strengthened; and

(7) how the public and private sectors can better assist minority students in their efforts to join America's workforce in these fields.

**SEC. 319. SENSE OF THE CONGRESS REGARDING THE MATHEMATICS AND SCIENCE PARTNERSHIP PROGRAMS OF THE DEPARTMENT OF EDUCATION AND THE NATIONAL SCIENCE FOUNDATION.**

It is the sense of the Congress that—

(1) although the mathematics and science education partnership program at the National Science Foundation and the mathematics and science partnership program at the Department of Education practically share the same name, the 2 programs are intended to be complementary, not duplicative;

(2) the National Science Foundation partnership programs are innovative, model reform initiatives that move promising ideas in education from research into practice to improve teacher quality, develop challenging curricula, and increase student achievement in mathematics and science, and Congress intends that the National Science Foundation peer-reviewed partnership programs found to be effective should be put into wider practice by dissemination through the Department of Education partnership programs; and

(3) the Director of the National Science Foundation and the Secretary of Education should have ongoing collaboration to ensure that the 2 components of this priority effort for mathematics and science education continue to work in concert for the benefit of States and local practitioners nationwide.

**SEC. 320. HISPANIC-SERVING INSTITUTIONS UNDERGRADUATE PROGRAM.**

(a) IN GENERAL.—The Director is authorized to establish a new program to award grants on a competitive, merit-reviewed basis to Hispanic-serving institutions to enhance the quality of undergraduate science, mathematics, engineering, and technology education at such institutions and to increase the retention and graduation rates of students pursuing associate's or baccalaureate degrees in science, mathematics, engineering, or technology.

(b) PROGRAM COMPONENTS.—Grants awarded under this section shall support—

(1) activities to improve courses and curriculum in science, mathematics, engineering, and technology;

(2) faculty development;

(3) stipends for undergraduate students participating in research; and

(4) other activities consistent with subsection (a), as determined by the Director.

(c) INSTRUMENTATION.—Funding for instrumentation is an allowed use of grants awarded under this section.

**SEC. 321. COMMUNICATIONS TRAINING FOR SCIENTISTS.**

(a) GRANT SUPPLEMENTS FOR COMMUNICATIONS TRAINING.—The Director shall provide grant supplements, on a competitive, merit-reviewed basis, to institutions receiving awards under the Integrative Graduate Education and Research Traineeship program. The grant supplements shall be used to train graduate students in the communication of the substance and importance of their research to nonscientist audiences, including policymakers.

(b) REPORT TO CONGRESS.—Not later than 3 years after the date of enactment of this Act, the Director shall transmit a report to the Committee on Science and Technology of the House of Representatives, and to the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate, describing how the activities required under subsection (a) have been implemented. The report shall include data on the number of graduate students trained and the number and size of grant supplements awarded, and a description of the types of activities funded through the grant supplements.

**TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY**

**SEC. 401. SHORT TITLE.**

This title may be cited as the “Technology Innovation and Manufacturing Stimulation Act of 2007”.

**Subtitle A—Authorization of Appropriations**

**SEC. 411. SCIENTIFIC AND TECHNICAL RESEARCH AND SERVICES.**

(a) LABORATORY ACTIVITIES.—There are authorized to be appropriated to the Secretary of Commerce for the scientific and technical research and services laboratory activities of the National Institute of Standards and Technology—

- (1) \$470,879,000 for fiscal year 2008;
- (2) \$497,750,000 for fiscal year 2009; and
- (3) \$537,569,000 for fiscal year 2010.

(b) MALCOLM BALDRIGE NATIONAL QUALITY AWARD PROGRAM.—There are authorized to be appropriated to the Secretary of Commerce for the Malcolm Baldrige National Quality Award program under section 17 of the Stevenson-Wylder Technology Innovation Act of 1980 (15 U.S.C. 3711a)—

- (1) \$7,860,000 for fiscal year 2008;
- (2) \$8,096,000 for fiscal year 2009; and
- (3) \$8,339,000 for fiscal year 2010.

(c) CONSTRUCTION AND MAINTENANCE.—There are authorized to be appropriated to the Secretary of Commerce for construction and maintenance of facilities of the National Institute of Standards and Technology—

- (1) \$93,865,000 for fiscal year 2008;
- (2) \$86,371,000 for fiscal year 2009; and
- (3) \$49,719,000 for fiscal year 2010.

**SEC. 412. INDUSTRIAL TECHNOLOGY SERVICES.**

There are authorized to be appropriated to the Secretary of Commerce for Industrial Technology Services activities of the National Institute of Standards and Technology—

(1) \$222,968,000 for fiscal year 2008, of which—

(A) \$110,000,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least \$45,000,000 shall be for new awards; and

(B) \$112,968,000 shall be for the Manufacturing Extension Partnership program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than \$1,000,000 shall be for the competitive grant program under section 25(f) of such Act;

(2) \$263,505,000 for fiscal year 2009, of which—

(A) \$141,500,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least \$45,000,000 shall be for new awards; and

(B) \$122,005,000 shall be for the Manufacturing Extension Partnership Program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than \$4,000,000 shall be for the competitive grant program under section 25(f) of such Act; and

(3) \$282,266,000 for fiscal year 2010, of which—

(A) \$150,500,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least \$45,000,000 shall be for new awards; and

(B) \$131,766,000 shall be for the Manufacturing Extension Partnership Program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than \$4,000,000 shall be for the competitive grant program under section 25(f) of such Act.

**Subtitle B—Innovation and Technology Policy Reforms**

**SEC. 421. INSTITUTE-WIDE PLANNING REPORT.**

Section 23 of the National Institute of Standards and Technology Act (15 U.S.C. 278i) is amended by adding at the end the following new subsections:

“(c) Concurrent with the submission to Congress of the President’s annual budget request in the first year after the date of enactment of the Technology Innovation and Manufacturing Stimulation Act of 2007, the Director shall transmit to the Congress a 3-year programmatic planning document for the Institute, including programs under the Scientific and Technical Research and Services, Industrial Technology Services, and Construction of Research Facilities functions.

“(d) Concurrent with the submission to the Congress of the President’s annual budget request in each year after the date of enactment of the Technology Innovation and Manufacturing Stimulation Act of 2007, the Director shall transmit to the Congress an update to the 3-year programmatic planning document transmitted under subsection (c), revised to cover the first 3 fiscal years after the date of that update.”.

**SEC. 422. REPORT BY VISITING COMMITTEE.**

Section 10(h)(1) of the National Institute of Standards and Technology Act (15 U.S.C. 278(h)(1)) is amended—

(1) by striking “on or before January 31 in each year” and inserting “within 30 days after the submission to Congress of the President’s annual budget request in each year”; and

(2) by adding to the end the following: “Such report also shall comment on the programmatic planning document and updates thereto transmitted to the Congress by the Director under section 23(c) and (d).”.

**SEC. 423. MANUFACTURING EXTENSION PARTNERSHIP.**

(a) MEP ADVISORY BOARD.—Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k) is amended by adding at the end the following new subsection:

“(e) MEP ADVISORY BOARD.—(1) There is established within the Institute a Manufacturing Extension Partnership Advisory Board (in this Act referred to as the ‘MEP Advisory Board’). The MEP Advisory Board shall consist of 10 members broadly representative of stakeholders, to be appointed by the Director. At least 2 members shall be employed by or on an advisory board for the Centers, and at least 5 other members shall be from United States small businesses in the manufacturing sector. No member shall be an employee of the Federal Government.

“(2)(A) Except as provided in subparagraph (B) or (C), the term of office of each member of the MEP Advisory Board shall be 3 years.

“(B) The original members of the MEP Advisory Board shall be appointed to 3 classes. One class of 3 members shall have an initial term of 1 year, one class of 3 members shall have an initial term of 2 years, and one class of 4 members shall have an initial term of 3 years.

“(C) Any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

“(D) Any person who has completed two consecutive full terms of service on the MEP Advisory Board shall thereafter be ineligible for appointment during the one-year period following the expiration of the second such term.

“(3) The MEP Advisory Board shall meet no less than 2 times annually, and provide to the Director—

“(A) advice on Manufacturing Extension Partnership programs, plans, and policies;

“(B) assessments of the soundness of Manufacturing Extension Partnership plans and strategies; and

“(C) assessments of current performance against Manufacturing Extension Partnership program plans.

“(4) In discharging its duties under this subsection, the MEP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

“(5) The MEP Advisory Board shall transmit an annual report to the Secretary for transmittal to the Congress within 30 days after the submission to the Congress of the President's annual budget request in each year. Such report shall address the status of the Manufacturing Extension Partnership program and comment on the relevant sections of the programmatic planning document and updates thereto transmitted to the Congress by the Director under section 23(c) and (d).”

(b) ACCEPTANCE OF FUNDS.—Section 25(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(d)) is amended to read as follows:

“(d) ACCEPTANCE OF FUNDS.—In addition to such sums as may be appropriated to the Secretary and Director to operate the Centers program, the Secretary and Director also may accept funds from other Federal departments and agencies and under section 2(c)(7) from the private sector for the purpose of strengthening United States manufacturing. Such funds, if allocated to a Center or Centers, shall not be considered in the calculation of the Federal share of capital and annual operating and maintenance costs under subsection (c).”

(c) MANUFACTURING EXTENSION CENTER COMPETITIVE GRANT PROGRAM.—Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k), as amended by subsection (a) of this section, is further amended by adding at the end the following new subsection:

“(f) COMPETITIVE GRANT PROGRAM.—

“(1) ESTABLISHMENT.—The Director shall establish, within the Manufacturing Extension Partnership program under this section and section 26 of this Act, a program of competitive awards among participants described in paragraph (2) for the purposes described in paragraph (3).

“(2) PARTICIPANTS.—Participants receiving awards under this subsection shall be the Centers, or a consortium of such Centers.

“(3) PURPOSE.—The purpose of the program under this subsection is to develop projects to solve new or emerging manufacturing problems as determined by the Director, in consultation with the Director of the Manufacturing Extension Partnership program, the Manufacturing Extension Partnership Advisory Board, and small and medium-sized manufacturers. One or more themes for the competition may be identified, which may vary from year to year, depending on the needs of manufacturers and the success of previous competitions. These themes shall be related to projects associated with manufacturing extension activities, including supply chain integration and quality management, and including the transfer of technology based on the technological needs of manufacturers and available technologies from institutions of higher education, laboratories, and other technology producing entities, or extend beyond these traditional areas.

“(4) APPLICATIONS.—Applications for awards under this subsection shall be submitted in such manner, at such time, and containing such information as the Director shall require, in consultation with the Manu-

facturing Extension Partnership Advisory Board.

“(5) SELECTION.—Awards under this subsection shall be peer reviewed and competitively awarded. The Director shall select proposals to receive awards—

“(A) that utilize innovative or collaborative approaches to solving the problem described in the competition;

“(B) that will improve the competitiveness of industries in the region in which the Center or Centers are located; and

“(C) that will contribute to the long-term economic stability of that region.

“(6) PROGRAM CONTRIBUTION.—Recipients of awards under this subsection shall not be required to provide a matching contribution.”

#### SEC. 424. TECHNOLOGY INNOVATION PROGRAM.

Section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) is amended to read as follows:

##### “TECHNOLOGY INNOVATION PROGRAM

“SEC. 28. (a) ESTABLISHMENT.—There is established in the Institute a Technology Innovation Program for the purpose of assisting United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutes, to accelerate the research and development and application of challenging, high-risk, high-reward technologies in areas of critical national need that promise widespread economic benefits for the Nation.

“(b) GRANTS.—

“(1) IN GENERAL.—The Director shall make grants under this section for research and development on high-risk, high-reward emerging and enabling technologies (including any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use) that address critical national needs and have a wide breadth of potential application, and form an important technical basis for future innovations. Such grants shall be made to—

“(A) eligible companies that are small- or medium-sized businesses that are substantially involved in the research and development, including having a leadership role in programmatically steering the project and defining the research agenda; or

“(B) joint ventures.

“(2) SINGLE COMPANY GRANTS.—No grant made under paragraph (1)(A) shall exceed \$3,000,000 over 3 years. The Federal share of a project funded by such a grant shall not be more than 50 percent of total project costs. An award under paragraph (1)(A) may be extended beyond 3 years only if the Director transmits to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a full and complete explanation of such award, including reasons for exceeding 3 years. Federal funds granted under paragraph (1)(A) may be used only for direct costs and not for indirect costs, profits, or management fees of a contractor.

“(3) JOINT VENTURE GRANTS.—No grant made under paragraph (1)(B) shall exceed \$9,000,000 over 5 years. The Federal share of a project funded by such a grant shall not be more than 50 percent of total project costs.

“(c) AWARD CRITERIA.—The Director shall award grants under this section only to an eligible company—

“(1) whose proposal has scientific and technological merit;

“(2) whose application establishes that the proposed technology has strong potential to generate substantial benefits to the Nation that extend significantly beyond the direct return to the applicant;

“(3) whose application establishes that the research has strong potential for advancing

the state-of-the-art and contributing significantly to the United States scientific and technical knowledge base;

“(4) whose application establishes that the research is aimed at overcoming a scientific or technological barrier;

“(5) who has provided a technical plan that clearly identifies the core innovation, the technical approach, major technical hurdles, and the attendant risks, and that clearly establishes the feasibility of the technology through adequately detailed plans linked to major technical barriers;

“(6) whose application establishes that the team proposed to carry out the work has a high level of scientific and technical expertise to conduct research and development, has a high level of commitment to the project, and has access to appropriate research facilities;

“(7) whose proposal explains why Technology Innovation Program support is necessary;

“(8) whose application includes a plan for advancing the technology into commercial use; and

“(9) whose application assesses the project's organizational structure and management plan.

(d) EXTERNAL REVIEW OF PROPOSALS.—In order to analyze the need for or the value of any proposal made by a joint venture or company requesting the Director's assistance under this section, or to monitor the progress of any project which receives funds under this section, the Director shall consult with industry or other expert sources that do not have a proprietary or financial interest in the proposal or project.

(e) INTELLECTUAL PROPERTY RIGHTS OWNERSHIP.—

(1) IN GENERAL.—Title to any intellectual property developed by a joint venture from assistance provided under this section may vest in any participant in the joint venture, as agreed by the members of the joint venture, notwithstanding section 202(a) and (b) of title 35, United States Code. The United States may reserve a nonexclusive, non-transferable, irrevocable paid-up license, to have practiced for or on behalf of the United States in connection with any such intellectual property, but shall not in the exercise of such license publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a participant in the joint venture, until the expiration of the first patent obtained in connection with such intellectual property.

(2) LICENSING.—Nothing in this subsection shall be construed to prohibit the licensing to any company of intellectual property rights arising from assistance provided under this section.

(3) DEFINITION.—For purposes of this subsection, the term ‘intellectual property’ means an invention patentable under title 35, United States Code, or any patent on such an invention, or any work for which copyright protection is available under title 17, United States Code.

(f) PROGRAM OPERATION.—Not later than 9 months after the date of enactment of the Technology Innovation and Manufacturing Stimulation Act of 2007, the Director shall issue regulations—

(1) establishing criteria for the selection of recipients of assistance under this section;

(2) establishing procedures regarding financial reporting and auditing to ensure that contracts and awards are used for the purposes specified in this section, are in accordance with sound accounting practices, and are not funding existing or planned research programs that would be conducted in the same time period in the absence of financial assistance under this section; and

“(3) providing for appropriate dissemination of Technology Innovation Program research results.

“(g) CONTINUATION OF ATP GRANTS.—The Director shall, through the Technology Innovation Program, continue to provide support originally awarded under the Advanced Technology Program, in accordance with the terms of the original award.

“(h) COORDINATION WITH OTHER STATE AND FEDERAL TECHNOLOGY PROGRAMS.—In carrying out this section, the Director shall, as appropriate, coordinate with other senior State and Federal officials to ensure cooperation and coordination in State and Federal technology programs and to avoid unnecessary duplication of efforts.

“(i) ACCEPTANCE OF FUNDS FROM OTHER FEDERAL AGENCIES.—In addition to amounts appropriated to carry out this section, the Secretary and the Director may accept funds from other Federal agencies to support awards under the Technology Innovation Program. Any award under this section which is supported with funds from other Federal agencies shall be selected and carried out according to the provisions of this section.

“(j) TIP ADVISORY BOARD.—

“(1) ESTABLISHMENT.—There is established within the Institute a Technology Innovation Program Advisory Board. The TIP Advisory Board shall consist of 10 members appointed by the Director, at least 7 of which shall be from United States industry, chosen to reflect the wide diversity of technical disciplines and industrial sectors represented in Technology Innovation Program projects. No member shall be an employee of the Federal Government.

“(2) TERMS OF OFFICE.—(A) Except as provided in subparagraph (B) or (C), the term of office of each member of the TIP Advisory Board shall be 3 years.

“(B) The original members of the TIP Advisory Board shall be appointed to 3 classes. One class of 3 members shall have an initial term of 1 year, one class of 3 members shall have an initial term of 2 years, and one class of 4 members shall have an initial term of 3 years.

“(C) Any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

“(D) Any person who has completed two consecutive full terms of service on the TIP Advisory Board shall thereafter be ineligible for appointment during the one-year period following the expiration of the second such term.

“(3) PURPOSE.—The TIP Advisory Board shall meet no less than 2 times annually, and provide to the Director—

“(A) advice on programs, plans, and policies of the Technology Innovation Program;

“(B) reviews of the Technology Innovation Program's efforts to assess its economic impact;

“(C) reports on the general health of the program and its effectiveness in achieving its legislatively mandated mission;

“(D) guidance on areas of technology that are appropriate for Technology Innovation Program funding; and

“(E) recommendations as to whether, in order to better assess whether specific innovations to be pursued are being adequately supported by the private sector, the Director could benefit from advice and information from additional industry and other expert sources without a proprietary or financial interest in proposals being evaluated.

“(4) ADVISORY CAPACITY.—In discharging its duties under this subsection, the TIP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

“(5) ANNUAL REPORT.—The TIP Advisory Board shall transmit an annual report to the Secretary for transmittal to the Congress within 30 days after the submission to Congress of the President's annual budget request in each year. Such report shall address the status of the Technology Innovation Program and comment on the relevant sections of the programmatic planning document and updates thereto transmitted to the Congress by the Director under section 23(c) and (d).

“(k) DEFINITIONS.—For purposes of this section—

“(1) the term ‘eligible company’ means a company that is incorporated in the United States and does a majority of its business in the United States, and that either—

“(A) is majority owned by citizens of the United States; or

“(B) is owned by a parent company incorporated in another country and the Director finds that—

“(i) the company's participation in the Technology Innovation Program would be in the economic interest of the United States, as evidenced by—

“(I) investments in the United States in research and manufacturing (including the manufacture of major components or sub-assemblies in the United States);

“(II) significant contributions to employment in the United States; and

“(III) agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology (taking into account the goals of promoting the competitiveness of United States industry); and

“(ii) the company is incorporated in a country which—

“(I) affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those receiving funding under this section;

“(II) affords to United States-owned companies local investment opportunities comparable to those afforded any other company; and

“(III) affords adequate and effective protection for the intellectual property rights of United States-owned companies;

“(2) the term ‘high-risk, high-reward research’ means research that—

“(A) has the potential for yielding results with far-ranging or wide-ranging implications;

“(B) addresses critical national needs related to technology and measurement standards; and

“(C) is too novel or spans too diverse a range of disciplines to fare well in the traditional peer review process.

“(3) the term ‘institution of higher education’ has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);

“(4) the term ‘joint venture’ means a joint venture that—

“(A) includes either—

“(i) at least 2 separately owned for-profit companies that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this section, with the lead entity of the joint venture being one of those companies that is a small or medium-sized business; or

“(ii) at least one small or medium-sized business and one institution of higher education or other organization, such as a national laboratory or nonprofit research institute, that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this

section, with the lead entity of the joint venture being either that small or medium-sized business or that institution of higher education; and

“(B) may include additional for-profit companies, institutions of higher education, and other organizations, such as national laboratories and nonprofit research institutes, that may or may not contribute non-Federal funds to the project; and

“(5) the term ‘TIP Advisory Board’ means the advisory board established under subsection (j).”

#### SEC. 425. RESEARCH FELLOWSHIPS.

Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-1) is amended by striking “up to 1 per centum of the” and inserting “up to 1.5 per cent of the”.

#### SEC. 426. COLLABORATIVE MANUFACTURING RESEARCH PILOT GRANTS.

The National Institute of Standards and Technology Act is amended—

(1) by redesignating the first section 32 (15 U.S.C. 271 note) as section 34 and moving it to the end of the Act; and

(2) by inserting before the section moved by paragraph (1) the following new section:

#### “SEC. 33. COLLABORATIVE MANUFACTURING RESEARCH PILOT GRANTS.

“(a) AUTHORITY.—

“(1) ESTABLISHMENT.—The Director shall establish a pilot program of awards to partnerships among participants described in paragraph (2) for the purposes described in paragraph (3). Awards shall be made on a peer-reviewed, competitive basis.

“(2) PARTICIPANTS.—Such partnerships shall include at least—

“(A) 1 manufacturing industry partner; and

“(B) 1 nonindustry partner.

“(3) PURPOSE.—The purpose of the program under this section is to foster cost-shared collaborations among firms, educational institutions, research institutions, State agencies, and nonprofit organizations to encourage the development of innovative, multidisciplinary manufacturing technologies. Partnerships receiving awards under this section shall conduct applied research to develop new manufacturing processes, techniques, or materials that would contribute to improved performance, productivity, and competitiveness of United States manufacturing, and build lasting alliances among collaborators.

“(b) PROGRAM CONTRIBUTION.—Awards under this section shall provide for not more than one-third of the costs of a partnership. Not more than an additional one-third of such costs may be obtained directly or indirectly from other Federal sources.

“(c) APPLICATIONS.—Applications for awards under this section shall be submitted in such manner, at such time, and containing such information as the Director shall require. Such applications shall describe at a minimum—

“(1) how each partner will participate in developing and carrying out the research agenda of the partnership;

“(2) the research that the grant would fund; and

“(3) how the research to be funded with the award would contribute to improved performance, productivity, and competitiveness of the United States manufacturing industry.

“(d) SELECTION CRITERIA.—In selecting applications for awards under this section, the Director shall consider at a minimum—

“(1) the degree to which projects will have a broad impact on manufacturing;

“(2) the novelty and scientific and technical merit of the proposed projects; and

“(3) the demonstrated capabilities of the applicants to successfully carry out the proposed research.

“(e) DISTRIBUTION.—In selecting applications under this section the Director shall ensure, to the extent practicable, a distribution of overall awards among a variety of manufacturing industry sectors and a range of firm sizes.

“(f) DURATION.—In carrying out this section, the Director shall run a single pilot competition to solicit and make awards. Each award shall be for a 3-year period.”.

#### SEC. 427. MANUFACTURING FELLOWSHIP PROGRAM.

Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-1) is amended—

(1) by inserting “(a) IN GENERAL.—” before “The Director is authorized”; and

(2) by adding at the end the following new subsection:

“(b) MANUFACTURING FELLOWSHIP PROGRAM.—

“(1) ESTABLISHMENT.—To promote the development of a robust research community working at the leading edge of manufacturing sciences, the Director shall establish a program to award—

“(A) postdoctoral research fellowships at the Institute for research activities related to manufacturing sciences; and

“(B) senior research fellowships to established researchers in industry or at institutions of higher education who wish to pursue studies related to the manufacturing sciences at the Institute.

“(2) APPLICATIONS.—To be eligible for an award under this subsection, an individual shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require.

“(3) STIPEND LEVELS.—Under this subsection, the Director shall provide stipends for postdoctoral research fellowships at a level consistent with the National Institute of Standards and Technology Postdoctoral Research Fellowship Program, and senior research fellowships at levels consistent with support for a faculty member in a sabbatical position.”.

#### SEC. 428. MEETINGS OF VISITING COMMITTEE ON ADVANCED TECHNOLOGY.

Section 10(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278(d)) is amended by striking “quarterly” and inserting “twice each year”.

#### SEC. 429. MANUFACTURING RESEARCH DATABASE.

(a) ESTABLISHMENT.—The National Institute of Standards and Technology shall provide for the establishment of a manufacturing research database to enable private sector individuals and Federal officials to access a broad range of information on manufacturing research carried out with funding support from the Federal Government.

(b) CONTENTS.—The database established under subsection (a) shall contain—

(1) all publicly available information maintained by a Federal agency relating to manufacturing research projects funded in whole or in part by the Federal Government; and

(2) information about all Federal programs that may be of interest to manufacturers.

(c) ACCESSIBILITY.—Information contained in the database shall be accessible in a manner to enable users of the database to easily retrieve information of specific interest to them.

(d) FEES.—The National Institute of Standards and Technology may authorize charging a nominal fee for using the database to access information described in subsection (b)(1) as necessary to recover the costs of maintaining the database.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Institute of Standards and Technology \$2,000,000 for carrying out this section.

#### Subtitle C—Miscellaneous

##### SEC. 441. POST-DOCTORAL FELLOWS.

Section 19 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-2) is amended by striking “nor more than 60 new fellows” and inserting “nor more than 120 new fellows”.

##### SEC. 442. FINANCIAL AGREEMENTS CLARIFICATION.

Section 2(b)(4) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)(4)) is amended by inserting “and grants and cooperative agreements,” after “arrangements.”.

##### SEC. 443. WORKING CAPITAL FUND TRANSFERS.

Section 12 of the National Institute of Standards and Technology Act (15 U.S.C. 278b) is amended by adding at the end the following:

“(g) AMOUNT AND SOURCE OF TRANSFERS.—Not more than one-quarter of one percent of the amounts appropriated to the Institute for any fiscal year may be transferred to the fund, in addition to any other transfer authority. In addition, funds provided to the Institute from other Federal agencies for the purpose of production of Standard Reference Materials may be transferred to the fund.”.

##### SEC. 444. RETENTION OF DEPRECIATION SURCHARGE.

Section 14 of the National Institute of Standards and Technology Act (15 U.S.C. 278d) is amended—

(1) by inserting “(a) IN GENERAL.—” before “Within”; and

(2) by adding at the end the following:

“(b) RETENTION OF FEES.—The Director is authorized to retain all building use and depreciation surcharge fees collected pursuant to OMB Circular A-25. Such fees shall be collected and credited to the Construction of Research Facilities Appropriation Account for use in maintenance and repair of the Institute’s existing facilities.”.

##### SEC. 445. NON-ENERGY INVENTIONS PROGRAM.

Section 27 of the National Institute of Standards and Technology Act (15 U.S.C. 278m) is repealed.

##### SEC. 446. REDEFINITION OF THE METRIC SYSTEM.

Section 3570 of the Revised Statutes of the United States (derived from section 2 of the Act of July 28, 1866, entitled “An Act to authorize the Use of the Metric System of Weights and Measures” (15 U.S.C. 205; 14 Stat. 339)) is amended to read as follows:

##### “SEC. 3570. METRIC SYSTEM DEFINED.

“The metric system of measurement shall be defined as the International System of Units as established in 1960, and subsequently maintained, by the General Conference of Weights and Measures, and as interpreted or modified for the United States by the Secretary of Commerce.”.

##### SEC. 447. REPEAL OF REDUNDANT AND OBSOLETE AUTHORITY.

The Act of July 21, 1950, entitled “An Act to redefine the units and establish the standards of electrical and photometric measurements” (15 U.S.C. 223 and 224) is repealed.

##### SEC. 448. CLARIFICATION OF STANDARD TIME AND TIME ZONES.

(a) Section 1 of the Act of March 19, 1918, (commonly known as the “Calder Act”) (15 U.S.C. 261) is amended—

(1) by striking the second sentence and the extra period after it and inserting “Except as provided in section 3(a) of the Uniform Time Act of 1966 (15 U.S.C. 260a), the standard time of the first zone shall be Coordinated Uni-

versal Time retarded by 4 hours; that of the second zone retarded by 5 hours; that of the third zone retarded by 6 hours; that of the fourth zone retarded by 7 hours; that of the fifth zone retarded by 8 hours; that of the sixth zone retarded by 9 hours; that of the seventh zone retarded by 10 hours; that of the eighth zone retarded by 11 hours; and that of the ninth zone shall be Coordinated Universal Time advanced by 10 hours.”; and

(2) by adding at the end the following: “In this section, the term ‘Coordinated Universal Time’ means the time scale maintained through the General Conference of Weights and Measures and interpreted or modified for the United States by the Secretary of Commerce in coordination with the Secretary of the Navy.”.

(b) Section 3 of the Act of March 19, 1918, (commonly known as the “Calder Act”) (15 U.S.C. 264) is amended by striking “third zone” and inserting “fourth zone”.

##### SEC. 449. PROCUREMENT OF TEMPORARY AND INTERMITTENT SERVICES.

(a) IN GENERAL.—The Director of the National Institute of Standards and Technology may procure the temporary or intermittent services of experts or consultants (or organizations thereof) in accordance with section 3109(b) of title 5, United States Code to assist on urgent or short-term research projects.

(b) EXTENT OF AUTHORITY.—A procurement under this section may not exceed 1 year in duration, and the Director shall procure no more than 200 experts and consultants per year.

(c) SUNSET.—This section shall cease to be effective after September 30, 2010.

(d) REPORT TO CONGRESS.—Not later than 2 years after the date of enactment of this Act, the Comptroller General shall report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on whether additional safeguards would be needed with respect to the use of authorities granted under this section if such authorities were to be made permanent.

##### SEC. 450. MALCOLM BALDRIGE AWARDS.

Section 17(c)(3) of the Stevenson-Wylder Technology Innovation Act of 1980 (15 U.S.C. 3711a(c)(3)) is amended to read as follows:

“(3) In any year, not more than 18 awards may be made under this section to recipients who have not previously received an award under this section, and no award shall be made within any category described in paragraph (1) if there are no qualifying enterprises in that category.”.

#### TITLE V—HIGH-PERFORMANCE COMPUTING

##### SEC. 501. HIGH-PERFORMANCE COMPUTING RESEARCH AND DEVELOPMENT PROGRAM.

Title I of the High-Performance Computing Act of 1991 (15 U.S.C. 5511 et seq.) is amended—

(1) in the title heading, by striking “AND THE NATIONAL RESEARCH AND EDUCATION NETWORK” and inserting “RESEARCH AND DEVELOPMENT”;

(2) in section 101(a)—

(A) by striking subparagraphs (A) and (B) of paragraph (1) and inserting the following: “(A) provide for long-term basic and applied research on high-performance computing;

“(B) provide for research and development on, and demonstration of, technologies to advance the capacity and capabilities of high-performance computing and networking systems;

“(C) provide for sustained access by the research community in the United States to high-performance computing systems that are among the most advanced in the world in

terms of performance in solving scientific and engineering problems, including provision for technical support for users of such systems;

“(D) provide for efforts to increase software availability, productivity, capability, security, portability, and reliability;

“(E) provide for high-performance networks, including experimental testbed networks, to enable research and development on, and demonstration of, advanced applications enabled by such networks;

“(F) provide for computational science and engineering research on mathematical modeling and algorithms for applications in all fields of science and engineering;

“(G) provide for the technical support of, and research and development on, high-performance computing systems and software required to address Grand Challenges;

“(H) provide for educating and training additional undergraduate and graduate students in software engineering, computer science, computer and network security, applied mathematics, library and information science, and computational science; and

“(I) provide for improving the security of computing and networking systems, including Federal systems, including research required to establish security standards and practices for these systems.”;

(B) by striking paragraph (2) and redesignating paragraphs (3) and (4) as paragraphs (2) and (3), respectively;

(C) in paragraph (2), as so redesignated by subparagraph (B) of this paragraph—

(i) by striking subparagraph (B);

(ii) by redesignating subparagraphs (A) and (C) as subparagraphs (D) and (F), respectively;

(iii) by inserting before subparagraph (D), as so redesignated by clause (ii) of this subparagraph, the following new subparagraphs:

“(A) establish the goals and priorities for Federal high-performance computing research, development, networking, and other activities;

“(B) establish Program Component Areas that implement the goals established under subparagraph (A), and identify the Grand Challenges that the Program should address;

“(C) provide for interagency coordination of Federal high-performance computing research, development, networking, and other activities undertaken pursuant to the Program;”;

(iv) by inserting after subparagraph (D), as so redesignated by clause (ii) of this subparagraph, the following new subparagraph:

“(E) develop and maintain a research, development, and deployment roadmap for the provision of high-performance computing systems under paragraph (1)(C); and”;

(D) in paragraph (3), as so redesignated by subparagraph (B) of this paragraph—

(i) by striking “paragraph (3)(A)” and inserting “paragraph (2)(D)”;

(ii) by amending subparagraph (A) to read as follows:

“(A) provide a detailed description of the Program Component Areas, including a description of any changes in the definition of or activities under the Program Component Areas from the preceding report, and the reasons for such changes, and a description of Grand Challenges supported under the Program;”;

(iii) in subparagraph (C), by striking “specific activities” and all that follows through “the Network” and inserting “each Program Component Area”;

(iv) in subparagraph (D), by inserting “and for each Program Component Area” after “participating in the Program”;

(v) in subparagraph (D), by striking “applies;” and inserting “applies; and”;

(vi) by striking subparagraph (E) and redesignating subparagraph (F) as subparagraph (E); and

(vii) in subparagraph (E), as so redesignated by clause (vi) of this subparagraph, by inserting “and the extent to which the Program incorporates the recommendations of the advisory committee established under subsection (b)” after “for the Program”;

(3) by striking subsection (b) of section 101 and inserting the following:

“(b) ADVISORY COMMITTEE.—(1) The President shall establish an advisory committee on high-performance computing consisting of non-Federal members, including representatives of the research, education, and library communities, network providers, and industry, who are specially qualified to provide the Director with advice and information on high-performance computing. The recommendations of the advisory committee shall be considered in reviewing and revising the Program. The advisory committee shall provide the Director with an independent assessment of—

“(A) progress made in implementing the Program;

“(B) the need to revise the Program;

“(C) the balance between the components of the Program, including funding levels for the Program Component Areas;

“(D) whether the research and development undertaken pursuant to the Program is helping to maintain United States leadership in high-performance computing and networking technology; and

“(E) other issues identified by the Director.”

“(2) In addition to the duties outlined in paragraph (1), the advisory committee shall conduct periodic evaluations of the funding, management, coordination, implementation, and activities of the Program, and shall report not less frequently than once every two fiscal years to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on its findings and recommendations. The first report shall be due within one year after the date of enactment of this paragraph.

“(3) Section 14 of the Federal Advisory Committee Act shall not apply to the advisory committee established by this subsection.”; and

(4) in section 101(c)(1)(A), by striking “Program or” and inserting “Program Component Areas or”.

#### SEC. 502. DEFINITIONS.

Section 4 of the High-Performance Computing Act of 1991 (15 U.S.C. 5503) is amended—

(1) in paragraph (2), by inserting “and multidisciplinary teams of researchers” after “high-performance computing resources”;

(2) in paragraph (3)—

(A) by striking “scientific workstations,”;

(B) by striking “(including vector supercomputers and large scale parallel systems)”;

(C) by striking “and applications” and inserting “applications”; and

(D) by inserting “, and the management of large data sets” after “systems software”;

(3) in paragraph (4), by striking “packet switched”;

(4) by striking “and” at the end of paragraph (5);

(5) by striking the period at the end of paragraph (6) and inserting “; and”; and

(6) by adding at the end the following new paragraph:

“(7) ‘Program Component Areas’ means the major subject areas under which are grouped related individual projects and activities carried out under the Program.”.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Or-

gon (Mr. WU) and the gentleman from Florida (Mr. MARIO DIAZ-BALART) each will control 20 minutes.

The Chair recognizes the gentleman from Oregon.

#### GENERAL LEAVE

Mr. WU. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days to revise and extend their remarks and to include extraneous material on H.R. 2272, the bill now under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Oregon?

There was no objection.

Mr. WU. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, H.R. 2272 is the culmination of a year-and-a-half-long bipartisan effort by members of the Science and Technology Committee to pass a package of competitiveness bills in response to recommendations in the 2005 National Academy of Sciences report, *Rising Above the Gathering Storm*. H.R. 2272, the 21st Century Competitiveness Act of 2007, is simply a package of five bills, each of which already has passed the House of Representatives by an overwhelming majority over the last 2 months.

We created a single bill as a basis for initiating discussions with the other Chamber on a comprehensive competitiveness bill that we could send to the President for his signature this year.

The five bills rolled into H.R. 2272 are H.R. 362, the 10,000 Teachers, 10 Million Minds Science and Math Scholarship Act; H.R. 363, the Sowing the Seeds through Science and Engineering Research Act; H.R. 1867, the National Science Foundation Authorization Act of 2007; H.R. 1868, the Technology Innovation and Manufacturing Stimulation Act of 2007; and H.R. 1068, to amend the High-Performance Computing Act of 1991.

I want to thank Chairman GORDON and Ranking Member HALL of the Science and Technology Committee for their bipartisan leadership on this bill and, in particular, on the 10,000 Teachers, 10 Million Minds Science and Math Scholarship Act.

I also want to thank the ranking member of the Technology and Innovation Subcommittee, Mr. GINGREY, and the Chair and ranking member of the Research and Science Education Subcommittee, Mr. BAIRD and Mr. EHLERS, for all of their hard work on the NIST and NSF bills.

I also want to thank all of the members of the Science and Technology Committee on both sides of the aisle for their contributions to these bills and for helping to move every one of them expeditiously and unanimously through the committee.

I especially want to thank the staff of the Science and Technology Committee on the majority side, Jim Wilson, Dahlia Sokolov, Colin McCormick, Mike Quear and our chief of staff, Chuck Atkins; on the minority side, Amy Carroll and Mele Williams. And

my friend from the other side may have additional names to add to that list.

Let me spend just a moment reminding my colleagues why we introduced this bill and why we urge support today.

In 2005, the National Academies assembled a blue-ribbon committee of national leaders in academia, business and government to address concerns about national prosperity in the global economy of the 21st century. The Academies' report was titled *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*.

That report cataloged a number of worrisome indicators about the U.S. position in an increasingly competitive world and provided recommendations to enable the Nation to maintain its competitiveness. The core recommendations are as follows: Recruit and train highly qualified science and math teachers; sustain and strengthen the Nation's traditional commitment to long-term, basic research; make the United States the most attractive setting in which to study and perform research so that we can develop, recruit and retain the best and brightest minds; ensure that the U.S. is the premier place in the world in which to innovate.

The bill before us today goes a long way in addressing all of those recommendations.

H.R. 2272 puts and keeps the National Science Foundation and the NIST research labs on a 10-year path to doubling their projects.

The bill helps to train thousands of new teachers and provide current teachers with content and pedagogical expertise in their area of teaching.

The bill expands programs to enhance the undergraduate education of our future science and engineering workforce.

The bill expands early career grant programs for outstanding young investigators at both the NSF and the Department of Energy.

The bill strengthens interagency planning and coordination for research infrastructure and information technology.

Mr. Speaker, in this increasingly competitive world, where jobs are rapidly being outsourced and we are importing more high-tech products than we are exporting, now is the time to act. Now is the time to strengthen our support for the creativity, innovation and talented workforce that makes the United States unique and gives us our edge.

The day our universities are no longer the most sought after in the world, the day we see a brain drain because our best and brightest young scientists and entrepreneurs can't get the funding to do their research and technology development here at home, the day that our innovation is outsourced, that is the day that truly concerns me.

H.R. 2272 is a key piece of the innovation agenda to make sure that that day

never comes. It has the support of many businesses, professional associations and higher education groups and has already been passed in its five pieces by an overwhelming majority of Members of the House on both sides of the aisle.

Mr. Speaker, I once again want to thank Chairman GORDON and Ranking Member HALL and all the members of the Science and Technology Committee for their hard work on this bill, and I urge my colleagues to support H.R. 2272.

Mr. Speaker, I reserve the balance of my time.

Mr. MARIO DIAZ-BALART of Florida. Mr. Speaker, I yield myself such time as I may consume.

I rise today in support of H.R. 2272, the 21st Century Competitiveness Act.

As my dear friend and colleague, the gentleman from Oregon (Mr. WU) just stated, this legislation pretty much packages five bills that have already passed the House with, frankly, an overwhelming majority of the votes. In order to force a conference with the other body, we're now again trying to put these together.

As was stated here just a few weeks ago by Ranking Member HALL and, frankly, right now by my dear friend Mr. WU, H.R. 362 and H.R. 363 include many of the provisions from last year's competitiveness legislation, as well as additional recommendations from the National Academy of Sciences *Rising Above the Gathering Storm* report, again as Mr. WU just mentioned.

This report and the President's American Competitiveness Initiative, known as ACI, have emphasized the importance of strengthening science, technology, engineering and mathematics education in the United States to ensure that the Nation's workforce can compete globally in high-tech, high-value industries.

It's imperative, Mr. Speaker, that we do all we can to stay ahead of the curve and ensure that the next generation of high-tech industries and products are developed here in the United States, as Mr. WU just said. These provisions are steps in the right direction.

Also, as part of the ACI, President Bush targeted investment in physical science research to be doubled over the next 10 years at the National Science Foundation, the National Institute of Standards and Technology, and the Office of Science at the Department of Energy.

I want to thank Mr. EHLERS and Mr. GINGREY for their extensive input in developing these bills and my Democratic colleagues for incorporating our priorities into this bipartisan legislation.

I would be remiss, Mr. Speaker, if I didn't especially thank the staff. As you know, Mr. Speaker, they do an incredible amount of work. They do so usually behind the scenes, don't get a lot of the credit. There's a couple here that have done an incredible job. Margaret Caravelli is here to my left and

Leslee Gilbert, who is also here, have done an incredible job, and we never thank them enough. So, therefore, I want to do that today here on the floor.

I'm glad that H.R. 2272 includes Mrs. BIGGERT's High Performance Computing Act. This part of the bill will improve our investment in high-performance computing research.

H.R. 2272 authorizes an investment in our future, an investment for continued technological advancement, and an investment to keep the United States as the leader, frankly, in the global marketplace.

I urge all my colleagues to support H.R. 2272. I thank all those who have worked on it. It's always a privilege to work with my dear friend, Mr. WU.

□ 1700

Mr. Speaker, I reserve the balance of my time.

Mr. WU. Mr. Speaker, I reserve the balance of my time.

Mr. MARIO DIAZ-BALART of Florida. Mr. Speaker, I yield 3 minutes to the gentleman from Georgia (Mr. GINGREY).

Mr. GINGREY. Mr. Speaker, I rise this afternoon to support H.R. 2272, the 21st Century Competitiveness Act, and I want to thank the gentleman from Florida for yielding. I want to thank my chairman on the Technology and Innovation Subcommittee, Mr. DAVID WU of Oregon.

This legislation we are voting on today is a combination of bills which the House has already overwhelmingly passed, reauthorization bills for both the National Science Foundation and the National Institute of Standards and Technology, as well as bills to promote science, technology, engineering and math, what we refer to as STEM education in our country.

Last year, with the American Competitiveness Initiative, President Bush laid out a vision to maintain America's edge in the global marketplace. These goals were spurred by a report issued by the National Academies, and it was entitled, as the gentleman from Florida said, "*Rising Above the Gathering Storm*."

This report looked at ways in which the Federal Government could enhance our country's science and technology enterprise so that we can continue to compete and prosper globally.

The Commission made a variety of recommendations. Some of them include reforming K-12 education, as well as expanding and strengthening the basic research and science and engineering conducted in America. This comprehensive innovation bill addresses these concerns, and it helps to fulfill this vision. That's why I am proud, proud, to be an original cosponsor of H.R. 2272.

One provision in this legislation reauthorizes the National Institute of Standards and Technology, NIST, an agency in the Department of Commerce, as one of the three agencies

highlighted by the President's American Competitiveness Initiative, and it falls under the jurisdiction of the Technology and Innovation Subcommittee of which, as I said at the outset, I am a proud member.

The NIST employees play a critical role in NIST research, which enables cutting-edge technologies to make the leap from a basic research situation into successful commercial products. This is accomplished at NIST by conducting research that supports United States technology infrastructure by developing the tools to measure, to evaluate, and standardize processes and products in almost all industrial sectors, bullet-proof vests all the way to nanotechnology.

From rewarding younger students for continuing their work in the fields of science and engineering, to increasing the amount of grants available to teachers and students who pursue continuing education in the STEM, science, technology, engineering, math fields, to providing financial aid to students who make a commitment that after college they will teach, working to ensure that we have a strong United States manufacturing base, H.R. 2272 takes many important and critical first steps toward keeping America competitive.

Mr. Speaker, I again want to underline my wholehearted support for the 21st Century Competitiveness Act, and I urge all my colleagues, as I know they will, to do the same.

Mr. MARIO DIAZ-BALART of Florida. Mr. Speaker, I just want to urge the adoption of this good legislation. I thank Mr. WU for his leadership.

Mr. Speaker, I yield back the balance of my time.

Mr. WU. I would also like to thank my colleague, Mr. MARIO DIAZ-BALART, for his leadership on the committee and for his good works on these bills.

Mr. Speaker, I just want to reiterate to my colleagues that these are five pieces of legislation which have already passed the House of Representatives by massive margins. I urge all of my colleagues to support this unified version of the bill.

Mr. UDALL of Colorado. Mr. Speaker, today I am pleased to support H.R. 2272, the 21st Century Competitiveness Act of 2007.

America has long been a center for science and engineering discovery. Just looking back over the 20th century, American ingenuity has been truly incredible. From Ford's Model T in 1908 and on to the personal computer in 1981, American innovations have transformed our Nation and the world, again and again, creating whole new industries and occupations. Going forward, new innovations will continue to be critical, both in maintaining a solid industrial and economic base and increasing our standard of living.

Federal agencies, such as the National Science Foundation, NSF, and the National Institute of Standards and Technology, NIST, play a key role by funding cutting-edge research and training the next generation of scientists and engineers. Without Federal investment in Science, Technology, Engineering,

and Math, STEM, research and education, very little of this achievement would have been possible—and we must continue this strong Federal support to reinforce our global competitiveness and our prosperity.

H.R. 2272, of which I am a cosponsor, will help strengthen and improve research and education efforts at NSF and NIST, helping to ensure that the United States continues to be a science and technology leader. Specifically, the legislation will reauthorize both NIST and NSF, as well as update the High Performance Computing Act of 1991.

For NSF, H.R. 2272 will continue the effort to double its funding over a 10 year time period by authorizing almost \$21 billion for fiscal years 2008–2010. The bill will also encourage the participation of more scientists who have not received NSF funding in the past through 1-year seed grants. By targeting these grants toward these new recipients, the legislation will help support early career researchers and encourage higher-risk research.

The legislation also includes a needed funding increase for overall laboratory research at NIST. As part of the American Competitiveness initiative, NIST will use these funds to expand upon its world-class research, ensuring that the United States will continue to be globally competitive in many industries. I am also pleased to see that the legislation reauthorizes and gradually increases funding for key technology transfer programs like the Manufacturing Extension Partnership, MEP, program and the Technology Innovation Program, TIP.

NIST is particularly important to me because one of its key laboratories is located in Boulder, Colorado, in my district. The Boulder labs employ more than 350 people and serve as a science and engineering center for significant research across the Nation.

A critical component of this legislation is that it includes funding for construction at these laboratories. NIST's Boulder facilities have contributed to great scientific advances, but they are now over 50 years old and have not been well maintained. Many environmental factors such as the humidity and vibrations from traffic can affect the quality of research performed at NIST. In fiscal year 2007, NIST-Boulder will begin an extension of Building 1 to make room for a Precision Metrology lab. This new facility will allow for incredibly precise control of temperature, relative humidity, air filtration and vibration to advance research on critical technologies, such as atomic clocks telecommunications, and nanomaterials. To complete this extension, NIST will need further funding in fiscal years 2008 and 2009. H.R. 2272 authorizes this critical funding.

As co-chair of the STEM Education caucus, I am also pleased that H.R. 2272 contains support and funding for NSF's STEM education programs. These programs include the Math and Science Partnerships program and the Noyce Scholarships program, as well as several STEM education grants that focus on teacher professional development. These will help increase the number of well-qualified science and math teachers across the country, both through creating more teachers from current college students and by providing better training for the teachers already in our schools.

I would like to thank Science and Technology Committee Chairman GORDON, as well as Ranking Member HALL and the other origi-

nal cosponsors, for introducing this critical bipartisan legislation and working to bring it to the floor today.

I think we all recognize that investing in basic research and STEM education is critical for a strong economy and national security, and H.R. 2272 will help us improve the critical support for STEM education and research. I encourage all of my colleagues to vote for this important legislation.

Ms. JACKSON-LEE of Texas. Mr. Speaker, I rise today in support of H.R. 2272, the 21st Century Competitiveness Act of 2007. Innovation has been a priority of the new Democratic majority in the 110th Congress; we have worked to ensure that the United States continues to be the global leader in technological innovation and progress. I strongly support this legislation, which encourages our Nation to invest in research and development, and I urge my colleagues to do so as well.

According to a 2005 report by The National Academies, the United States is in danger of losing the competitive edge it currently enjoys in the global economy. Despite our proud tradition of innovation, this report warns that immediate action is necessary to ensure that the United States continues to be a leader in technological progress into the 21st century. This Congress is fully committed to answering that challenge.

Mr. Speaker, H.R. 2272 contains many important provisions to strengthen America's prospects for global competitiveness. It improves and strengthens a number of scholarship programs at all levels of study, encouraging students and young people to pursue further education in science, technology, engineering, mathematics, and computing. Additionally, the bill establishes programs to provide support for researchers in science and engineering fields.

H.R. 2272 also reaffirms our commitment to scientific excellence by reauthorizing the National Science Foundation, NSF, for 3 years. The NSF ensures a continued national supply of scientific and engineering personnel, while promoting basic research and education across a wide array of scientific and technological disciplines. By authorizing continued funding for this institution, H.R. 2272 is an important step towards ensuring continued American scientific progress.

In the interest of both economic prosperity and military capability, the United States must continue producing a workforce knowledgeable to maintain technological competitiveness. If we are to do this, this Congress must continue funding and strengthening needed investments in science, technology, engineering, and mathematics education and research. Supporting this bill is an important step, and I strongly urge my colleagues to join me in supporting this legislation.

Mr. WU. Mr. Speaker, I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Oregon (Mr. WU) that the House suspend the rules and pass the bill, H.R. 2272.

The question was taken; and (two-thirds being in the affirmative) the rules were suspended and the bill was passed.

A motion to reconsider was laid on the table.

RECESS

The SPEAKER pro tempore. Pursuant to clause 12(a) of rule I, the Chair declares the House in recess until approximately 6:30 p.m. today.

Accordingly (at 5 o'clock and 4 minutes p.m.), the House stood in recess until approximately 6:30 p.m.

□ 1831

AFTER RECESS

The recess having expired, the House was called to order by the Speaker pro tempore (Mr. SCOTT of Virginia) at 6 o'clock and 31 minutes p.m.

ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, proceedings will resume on motions to suspend the rules previously postponed.

Votes will be taken in the following order:

- H.R. 698, by the yeas and nays;
- H.R. 1425, by the yeas and nays.

The vote on H.R. 1722 will be taken tomorrow.

The first electronic vote will be conducted as a 15-minute vote. The remaining electronic vote will be conducted as a 5-minute vote.

INDUSTRIAL BANK HOLDING COMPANY ACT OF 2007

The SPEAKER pro tempore. The unfinished business is the vote on the motion to suspend the rules and pass the bill, H.R. 698, as amended, on which the yeas and nays were ordered.

The Clerk read the title of the bill.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Massachusetts (Mr. FRANK) that the House suspend the rules and pass the bill, H.R. 698, as amended.

The vote was taken by electronic device, and there were—yeas 371, nays 16, answered "present" 1, not voting 44, as follows:

[Roll No. 384]

YEAS—371

Abercrombie  
Ackerman  
Aderholt  
Alexander  
Allen  
Altmire  
Andrews  
Arcuri  
Baca  
Bachmann  
Bachus  
Baldwin  
Barrett (SC)  
Barrow  
Bartlett (MD)  
Barton (TX)  
Bean  
Becerra  
Berkley  
Berman  
Berry  
Biggart  
Billbray  
Bilirakis  
Bishop (GA)

Bishop (NY)  
Blackburn  
Blunt  
Boehner  
Bonner  
Bono  
Boozman  
Boren  
Boswell  
Boucher  
Boustany  
Boyd (FL)  
Boyda (KS)  
Brady (PA)  
Braley (IA)  
Brown (SC)  
Brown-Waite,  
Ginny  
Burgess  
Burton (IN)  
Butterfield  
Calvert  
Camp (MI)  
Cantor  
Capito

Cuellar  
Culberson  
Cummings  
Davis (CA)  
Davis (AL)  
Davis (IL)  
Davis, David  
Davis, Jo Ann  
Davis, Lincoln  
Davis, Tom  
Deal (GA)  
DeFazio  
Delahunt  
DeLauro  
Dent  
Diaz-Balart, M.  
Dicks  
Dingell  
Donnelly  
Doolittle  
Doyle  
Drake  
Dreier  
Duncan  
Edwards  
Ehlers  
Ellison  
Ellsworth  
Emanuel  
Emerson  
Engel  
English (PA)  
Eshoo  
Etheridge  
Everett  
Fallin  
Farr  
Fattah  
Ferguson  
Filner  
Forbes  
Fossella  
Foxy  
Frank (MA)  
Frelinghuysen  
Gallegly  
Garrett (NJ)  
Giffords  
Gilchrest  
Gillibrand  
Gillmor  
Gohmert  
Gonzalez  
Goode  
Goodlatte  
Gordon  
Granger  
Graves  
Green, Al  
Green, Gene  
Grijalva  
Hall (NY)  
Hall (TX)  
Hare  
Harman  
Hastings (FL)  
Hastings (WA)  
Hayes  
Heller  
Hensarling  
Herger  
Herseth Sandlin  
Higgins  
Hill  
Hinchey  
Hirono  
Hobson  
Hodes  
Hoekstra  
Holden  
Holt  
Honda  
Hooley  
Hoyer  
Inglis (SC)  
Inslee  
Israel  
Jackson (IL)  
Jackson-Lee (TX)  
Jefferson  
Jindal  
Johnson (IL)  
Johnson, E. B.  
Johnson, Sam  
Jones (NC)  
Jordan  
Kagen  
Kanjorski

Kaptur  
Keller  
Kennedy  
Kildee  
Kilpatrick  
King (IA)  
Kingston  
Klein (FL)  
Kline (MN)  
Knollenberg  
Kucinich  
Kuhl (NY)  
Lamborn  
Lampson  
Langevin  
Lantos  
Larsen (WA)  
Larson (CT)  
Latham  
LaTourette  
Lee  
Levin  
Lewis (CA)  
Lewis (GA)  
Lewis (KY)  
Linder  
Lipinski  
LoBiondo  
Loeb sack  
Lowey  
Lucas  
Lungren, Daniel E.  
Lynch  
Mahoney (FL)  
Maloney (NY)  
Manzullo  
Markey  
Marshall  
Matsui  
McCarthy (CA)  
McCarthy (NY)  
McCaul (TX)  
McCollum (MN)  
McCotter  
McCrery  
McDermott  
McGovern  
McHenry  
McHugh  
McIntyre  
McKeon  
McNerney  
McNulty  
Meehan  
Meek (FL)  
Meeks (NY)  
Melancon  
Mica  
Michaud  
Miller (FL)  
Miller (MI)  
Miller (NC)  
Miller, Gary  
Miller, George  
Mitchell  
Mollohan  
Moore (KS)  
Moore (WI)  
Moran (KS)  
Moran (VA)  
Murphy (CT)  
Murphy, Patrick  
Murphy, Tim  
Musgrave  
Myrick  
Nadler  
Napolitano  
Neal (MA)  
Neugebauer  
Nunes  
Oberstar  
Obey  
Olver  
Ortiz  
Pallone  
Pascrell  
Pastor  
Paul  
Payne  
Pearce  
Perlmutter  
Peterson (MN)  
Petri  
Pickering  
Pitts  
Platts  
Pomeroy  
Porter

Price (GA)  
Price (NC)  
Pryce (OH)  
Putnam  
Radanovich  
Rahall  
Ramstad  
Rangel  
Regula  
Rehberg  
Reichert  
Renzi  
Reyes  
Reynolds  
Rodriguez  
Rogers (AL)  
Rogers (KY)  
Rogers (MI)  
Ros-Lehtinen  
Roskam  
Ross  
Rothman  
Roybal-Allard  
Ruppersberger  
Ryan (OH)  
Ryan (WI)  
Salazar  
Sali  
Sánchez, Linda T.  
Sarbanes  
Saxton  
Schakowsky  
Schiff  
Schmidt  
Schwartz  
Scott (GA)  
Scott (VA)  
Sensenbrenner  
Serrano  
Sessions  
Sestak  
Shea-Porter  
Sherman  
Shuler  
Shuster  
Siders  
Skelton  
Slaughter  
Smith (NE)  
Smith (NJ)  
Smith (TX)  
Smith (WA)  
Snyder  
Solis  
Souder  
Space  
Spratt  
Stark  
Stearns  
Sutton  
Tancredo  
Tauscher  
Taylor  
Terry  
Thompson (CA)  
Thompson (MS)  
Thornberry  
Tiahrt  
Tiberi  
Tierney  
Turner  
Udall (CO)  
Udall (NM)  
Van Hollen  
Velázquez  
Visclosky  
Walberg  
Walden (OR)  
Walsh (NY)  
Walz (MN)  
Wasserman  
Schultz  
Waters  
Watson  
Watt  
Waxman  
Weiner  
Welch (VT)  
Weldon (FL)  
Weller  
Whitfield  
Wicker  
Wilson (MN)  
Wilson (OH)  
Wilson (SC)  
Wolf

Woolsey  
Wu  
Wynn  
Yarmuth  
NAYS—16  
Baker  
Bishop (UT)  
Campbell (CA)  
Cannon  
Feeney  
Flake  
Franks (AZ)  
Hastert  
Issa  
Mack  
Matheson  
Poe

Young (AK)  
Young (FL)  
Rohrabacher  
Royce  
Shadegg  
Westmoreland

ANSWERED "PRESENT"—1

Gingrey  
NOT VOTING—44

Akin  
Baird  
Blumenauer  
Brady (TX)  
Brown, Corrine  
Buchanan  
Buyer  
Carson  
Clay  
Costello  
Davis (KY)  
DeGette  
Diaz-Balart, L.  
Doggett  
Fortenberry  
Gerlach  
Gutierrez  
Hinojosa  
Hulshof  
Hunter  
Johnson (GA)  
Jones (OH)  
Kind  
King (NY)  
Kirk  
LaHood  
Lofgren, Zoe  
Marchant  
McMorris  
Rodgers  
Murtha  
Pence  
Peterson (PA)  
Rush  
Sanchez, Loretta  
Shays  
Shimkus  
Simpson  
Stupak  
Sullivan  
Tanner  
Towns  
Upton  
Wamp  
Wexler

□ 1856

Messrs. FRANKS of Arizona, MACK, ISSA and HASTERT changed their vote from "yea" to "nay."

Mr. GOODLATTE and Mr. CANTOR changed their vote from "nay" to "yea."

So (two-thirds being in the affirmative) the rules were suspended and the bill, as amended, was passed.

The result of the vote was announced as above recorded.

A motion to reconsider was laid on the table.

NOTICE OF INTENTION TO OFFER RESOLUTION RAISING A QUESTION OF THE PRIVILEGES OF THE HOUSE

Mr. ROGERS of Michigan. Mr. Speaker, pursuant to clause 2(a), paragraph 1 of rule IX, I hereby notify the House of my intention to offer a resolution as a question of the privileges of the House.

The form of my resolution is as follows:

H. RES. —

Whereas the Code of Official Conduct provides that a Member "may not condition the inclusion of language to provide funding for a Congressional earmark . . . on any vote cast by another member";

Whereas Chairman Reyes filed the Report to accompany the bill H.R. 2082, the Intelligence Authorization Act for Fiscal Year 2008;

Whereas the report states that, with respect to the requirements of clause 9 of House Rule XXI, "The following table provides the list of such provisions included in the bill or report," and includes a table of 26 items identifying "Requesting Member," "Subject," and "Dollar Amount (in Thousands)";

Whereas the referenced table includes an item denoted as: Requesting Member, Mr. Murtha; Subject, NATIONAL INTELLIGENCE PROGRAM COMMUNITY MANAGEMENT ACCOUNT—National Drug Intelligence Center; Dollar Amount, \$23 million;

Whereas the Gentleman from Michigan, Mr. Rogers, offered and voted for a motion to recommit the bill to change the provisions of the aforementioned Murtha earmark during its consideration in the House;