

109TH CONGRESS
1ST SESSION

H. R. 4596

To authorize appropriations for basic research and research infrastructure in science and engineering, and for support of graduate fellowships, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 16, 2005

Mr. GORDON introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Financial Services, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To authorize appropriations for basic research and research infrastructure in science and engineering, and for support of graduate fellowships, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

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

1 **SEC. 2. AUTHORIZATION OF APPROPRIATIONS FOR BASIC**
2 **RESEARCH ACTIVITIES.**

3 (a) NATIONAL SCIENCE FOUNDATION.—There are
4 authorized to be appropriated to the National Science
5 Foundation for support of basic research activities in the
6 physical sciences, mathematics and computer sciences, and
7 engineering, \$2,114,100,000 for fiscal year 2007,
8 \$2,325,510,000 for fiscal year 2008, \$2,558,060,000 for
9 fiscal year 2009, \$2,813,870,000 for fiscal year 2010, and
10 \$3,095,260,000 for fiscal year 2011.

11 (b) DEPARTMENT OF ENERGY.—There are author-
12 ized to be appropriated to the Department of Energy's Of-
13 fice of Science for support of basic research activities in
14 the physical sciences, mathematics and computer sciences,
15 and engineering, \$2,205,400,000 for fiscal year 2007,
16 \$2,425,940,000 for fiscal year 2008, \$2,668,530,000 for
17 fiscal year 2009, \$2,935,380,000 for fiscal year 2010, and
18 \$3,228,920,000 for fiscal year 2011.

19 (c) NATIONAL AERONAUTICS AND SPACE ADMINIS-
20 TRATION.—There are authorized to be appropriated to the
21 National Aeronautics and Space Administration for sup-
22 port of basic research activities in the physical sciences,
23 mathematics and computer sciences, and engineering,
24 \$1,669,700,000 for fiscal year 2007, \$1,836,670,000 for
25 fiscal year 2008, \$2,020,340,000 for fiscal year 2009,

1 \$2,222,370,000 for fiscal year 2010, and \$2,444,610,000
2 for fiscal year 2011.

3 (d) NATIONAL INSTITUTE OF STANDARDS AND
4 TECHNOLOGY.—There are authorized to be appropriated
5 to the National Institute of Standards and Technology for
6 support of basic research activities in the physical
7 sciences, mathematics and computer sciences, and engi-
8 neering, \$86,240,000 for fiscal year 2007, \$94,860,000
9 for fiscal year 2008, \$104,350,000 for fiscal year 2009,
10 \$114,780,000 for fiscal year 2010, and \$126,260,000 for
11 fiscal year 2011.

12 (e) DEPARTMENT OF DEFENSE.—There are author-
13 ized to be appropriated to the Department of Defense for
14 support of basic research activities under budget category
15 6.1, \$1,784,750,000 for fiscal year 2007, \$1,963,220,000
16 for fiscal year 2008, \$2,159,540,000 for fiscal year 2009,
17 \$2,375,490,000 for fiscal year 2010, and \$2,613,000,000
18 for fiscal year 2011.

19 (f) HIGH-RISK RESEARCH.—Of the amounts author-
20 ized to be appropriated in each of subsections (a) through
21 (e), not less than 8 percent shall be available for high-
22 risk, potentially high-payoff research as determined by
23 technical program managers at the respective agencies.

1 **SEC. 3. EARLY CAREER SCIENTISTS AND ENGINEER**
2 **AWARDS.**

3 In addition to amounts currently available for sup-
4 port of the Presidential Early Career Award for Scientists
5 and Engineers program, the following amounts are au-
6 thorized to be appropriated for the designated agencies:

7 (1) For the National Science Foundation,
8 \$8,200,000 for fiscal year 2007, \$16,400,000 for
9 fiscal year 2008, \$24,600,000 for fiscal year 2009,
10 \$32,800,000 for fiscal year 2010, and \$41,000,000
11 for fiscal year 2011.

12 (2) For the National Institutes of Health,
13 \$4,800,000 for fiscal year 2007, \$9,600,000 for fis-
14 cal year 2008, \$14,400,000 for fiscal year 2009,
15 \$19,200,000 for fiscal year 2010, and \$24,000,000
16 for fiscal year 2011.

17 (3) For the Department of Energy, \$3,600,000
18 for fiscal year 2007, \$7,200,000 for fiscal year
19 2008, \$10,800,000 for fiscal year 2009,
20 \$14,400,000 for fiscal year 2010, and \$18,000,000
21 for fiscal year 2011.

22 (4) For the Department of Defense, \$2,400,000
23 for fiscal year 2007, \$4,800,000 for fiscal year
24 2008, \$7,200,000 for fiscal year 2009, \$9,600,000
25 for fiscal year 2010, and \$12,000,000 for fiscal year
26 2011.

1 of advisors for the program. The board shall identify
2 areas of national need for which shortages of sci-
3 entific and engineering personnel with advanced aca-
4 demic degrees are anticipated.

5 (B) The members of the advisory board estab-
6 lished under subparagraph (A) shall be selected from
7 among the principal Federal agencies that support
8 research and development activities in science, tech-
9 nology, engineering, and mathematics.

10 (3) SELECTION CRITERIA.—The criteria for fel-
11 lowship awards used in the Foundation’s Graduate
12 Research Fellowship program shall be applied to the
13 GSA–STEM program. An additional criterion for
14 awards under the GSA–STEM program shall be
15 whether an applicant proposes to pursue an ad-
16 vanced degree in an area of national need, identified
17 by the advisory board under paragraph (2)(A).

18 (c) AUTHORIZATION OF APPROPRIATIONS.—There
19 are authorized to be appropriated to the National Science
20 Foundation for the purposes of this section, \$225,000,000
21 for fiscal year 2007, \$450,000,000 for fiscal year 2008,
22 and \$675,000,000 for each of fiscal years 2009 through
23 2011.

1 **SEC. 5. PRESIDENTIAL INNOVATION AWARD.**

2 (a) ESTABLISHMENT.—There is hereby established a
3 Presidential Innovation Award, signified by a medal which
4 shall be of such design and materials and bear such in-
5 scriptions as the President, on the basis of recommenda-
6 tions submitted by the Director of the Office of Science
7 and Technology Policy, may prescribe.

8 (b) AWARD.—The President shall periodically award
9 the medal, on the basis of recommendations received from
10 the Director of the Office of Science and Technology Pol-
11 icy or on the basis of such other information as the Presi-
12 dent considers appropriate, to individuals who develop one
13 or more unique scientific or engineering ideas in the na-
14 tional interest at the time the innovation occurs.

15 (c) PURPOSE.—The awards under this section shall
16 be made to—

17 (1) stimulate scientific and engineering ad-
18 vances in the national interest;

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

21 (3) provide an example to students of the con-
22 tribution they could make to society by entering the
23 science and engineering profession.

24 (d) CITIZENSHIP.—An individual may not be award-
25 ed a medal under this section unless at the time such
26 award is made the individual—

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

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

5 (A) has filed an application for petition for
6 naturalization in the manner prescribed by sec-
7 tion 334 of the Immigration and Nationality
8 Act (8 U.S.C. 1445); and

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

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

15 **SEC. 6. NATIONAL COORDINATION OFFICE FOR RESEARCH**
16 **INFRASTRUCTURE.**

17 (a) IN GENERAL.—The Office of Science and Tech-
18 nology Policy shall establish a National Coordination Of-
19 fice for Research Infrastructure, which shall identify and
20 prioritize deficiencies in research facilities and instrumen-
21 tation in academic institutions and in national laboratories
22 and shall make recommendations for the allocation of re-
23 sources provided under subsection (e).

24 (b) STAFFING.—The Director of the Office of Science
25 and Technology Policy shall appoint individuals to serve

1 in the office established under subsection (a) from among
2 the principal Federal agencies that support research in the
3 sciences, mathematics, and engineering, and shall at a
4 minimum include individuals from the National Science
5 Foundation and the Department of Energy.

6 (c) USE OF FUNDS.—The amounts authorized by
7 subsection (e) shall be available on a competitive, merit-
8 reviewed basis for construction and maintenance of re-
9 search facilities at institutions of higher education or na-
10 tional laboratories, including instrumentation, computing
11 and networking equipment, and other physical resources
12 necessary for performing leading-edge research.

13 (d) REPORT.—The Director of the Office of Science
14 and Technology Policy shall provide annually a report to
15 Congress at the time of the President’s budget proposal
16 describing the research infrastructure needs identified in
17 accordance with subsection (a) and a list of infrastructure
18 projects proposed for funding using the resources author-
19 ized by subsection (e).

20 (e) AUTHORIZATION OF APPROPRIATIONS.—

21 (1) NATIONAL SCIENCE FOUNDATION.—There
22 are authorized to be appropriated to the National
23 Science Foundation for the purposes of this section,
24 \$333,000,000 for each of fiscal years 2007 through
25 2011.

1 (2) DEPARTMENT OF ENERGY.—There are au-
2 thorized to be appropriated to the Department of
3 Energy for the purposes of this section,
4 \$167,000,000 for each of fiscal years 2007 through
5 2011.

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