

[DISCUSSION DRAFT]

MARCH 26, 2007

110TH CONGRESS
1ST SESSION

H. R. _____

To authorize appropriations for fiscal years 2008, 2009, and 2010 for the National Science Foundation, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M____. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To authorize appropriations for fiscal years 2008, 2009, and 2010 for the National Science Foundation, 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 “National Science
5 Foundation Authorization Act of 2007”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

1 (1) BOARD.—The term “Board” means the Na-
2 tional Science Board established under section 2 of
3 the National Science Foundation Act of 1950 (42
4 U.S.C. 1861).

5 (2) DIRECTOR.—The term “Director” means
6 the Director of the Foundation.

7 (3) ELEMENTARY SCHOOL.—The term “elemen-
8 tary school” has the meaning given that term by
9 section 9101(18) of the Elementary and Secondary
10 Education Act of 1965 (20 U.S.C. 7801(18)).

11 (4) FOUNDATION.—The term “Foundation”
12 means the National Science Foundation.

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

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

21 **SEC. 3. AUTHORIZATION OF APPROPRIATIONS.**

22 (a) FISCAL YEAR 2008.—

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

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

3 (A) \$5,080,000,000 shall be made avail-
4 able to carry research and related activities, of
5 which \$115,000,000 shall be made available for
6 the Major Research Instrumentation program;

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

9 (i) \$94,000,000 shall be for Mathe-
10 matics and Science Education Partner-
11 ships established under section 9 of the
12 National Science Foundation Authorization
13 Act of 2002 (42 U.S.C. 1862n);

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

19 (iii) \$44,000,000 shall be for the
20 Science, Mathematics, Engineering, and
21 Technology Talent Expansion Program es-
22 tablished under section 8(7) of the Na-
23 tional Science Foundation Authorization
24 Act of 2002; and

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

6 (C) \$245,000,000 shall be made available
7 for major research equipment and facilities con-
8 struction;

9 (D) \$286,000,000 shall be made available
10 for agency operations and award management;

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

13 (F) \$12,400,000 shall be made available
14 for the Office of Inspector General.

15 (b) FISCAL YEAR 2009.—

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

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

21 (A) \$5,457,400,000 shall be made avail-
22 able to carry research and related activities, of
23 which \$123,100,000 shall be made available for
24 the Major Research Instrumentation program;

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

3 (i) \$100,600,000 shall be for Mathe-
4 matics and Science Education Partner-
5 ships established under section 9 of the
6 National Science Foundation Authorization
7 Act of 2002 (42 U.S.C. 1862n);

8 (ii) \$101,000,000 shall be for the
9 Robert Noyce Scholarship Program estab-
10 lished under section 10 of the National
11 Science Foundation Authorization Act of
12 2002 (42 U.S.C. 1862n-1);

13 (iii) \$55,000,000 shall be for the
14 Science, Mathematics, Engineering, and
15 Technology Talent Expansion Program es-
16 tablished under section 8(7) of the Na-
17 tional Science Foundation Authorization
18 Act of 2002; and

19 (iv) \$55,200,000 shall be for the Ad-
20 vanced Technological Education program
21 as established by section 3(a) of the Sci-
22 entific and Advanced-Technology Act of
23 1992 (Public Law 102-476);

1 (C) \$262,000,000 shall be made available
2 for major research equipment and facilities con-
3 struction;

4 (D) \$310,000,000 shall be made available
5 for agency operations and award management;

6 (E) \$4,100,000 shall be made available for
7 the Office of the National Science Board; and

8 (F) \$12,500,000 shall be made available
9 for the Office of Inspector General.

10 (c) FISCAL YEAR 2010.—

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

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

16 (A) \$5,863,200,000 shall be made avail-
17 able to carry research and related activities, of
18 which \$131,700,000 shall be made available for
19 the Major Research Instrumentation program;

20 (B) \$1,003,000,000 shall be made avail-
21 able for education and human resources, of
22 which—

23 (i) \$107,600,000 shall be for Mathe-
24 matics and Science Education Partner-
25 ships established under section 9 of the

1 National Science Foundation Authorization
2 Act of 2002 (42 U.S.C. 1862n);

3 (ii) \$133,000,000 shall be for the
4 Robert Noyce Scholarship Program estab-
5 lished under section 10 of the National
6 Science Foundation Authorization Act of
7 2002 (42 U.S.C. 1862n-1);

8 (iii) \$60,000,000 shall be for the
9 Science, Mathematics, Engineering, and
10 Technology Talent Expansion Program es-
11 tablished under section 8(7) of the Na-
12 tional Science Foundation Authorization
13 Act of 2002; and

14 (iv) \$59,100,000 shall be for the Ad-
15 vanced Technological Education program
16 as established by section 3(a) of the Sci-
17 entific and Advanced-Technology Act of
18 1992 (Public Law 102-476);

19 (C) \$280,000,000 shall be made available
20 for major research equipment and facilities con-
21 struction;

22 (D) \$330,000,000 shall be made available
23 for agency operations and award management;

24 (E) \$4,200,000 shall be made available for
25 the Office of the National Science Board; and

1 (F) \$12,600,000 shall be made available
2 for the Office of Inspector General.

3 (d) MAJOR RESEARCH INSTRUMENTATION.—

4 (1) AWARD AMOUNT.—The minimum amount
5 of an award under the Major Research Instrumenta-
6 tion program shall be \$100,000. The maximum
7 amount of an award under the program shall be—

8 (A) \$10,000,000, if the total amount ap-
9 propriated for the program for a fiscal year is
10 \$115,000,000 or less;

11 (B) \$15,000,000, if the total amount ap-
12 propriated for the program for a fiscal year ex-
13 ceeds \$115,000,000; and

14 (C) \$20,000,000, if the total amount ap-
15 propriated for the program for a fiscal year ex-
16 ceeds \$200,000,000.

17 (2) USE OF FUNDS.—In addition to the acquisi-
18 tion of instrumentation and equipment, funds made
19 available by awards under the Major Research In-
20 strumentation program may be used to support the
21 operations and maintenance of such instrumentation
22 and equipment.

23 (3) COST SHARING.—

24 (A) IN GENERAL.—An institution of higher
25 education receiving an award shall provide at

1 least 30 percent of the cost from private or
2 non-Federal sources.

3 (B) EXCEPTIONS.—Institutions of higher
4 education that are not Ph.D.-granting institu-
5 tions are exempt from the cost sharing require-
6 ment in subparagraph (A), and the Director
7 may reduce or waive the cost sharing require-
8 ment—

9 (i) for institutions which are not
10 ranked among the top 100 institutions re-
11 ceiving Federal research and development
12 funding, as documented by the statistical
13 data published by the Foundation; and

14 (ii) for cases in which the proposed
15 project will make a substantial improve-
16 ment in the institution's capabilities to
17 conduct leading edge research and to
18 broaden the participation in science and
19 engineering research by individuals identi-
20 fied in section 33 or 34 of the Science and
21 Engineering Equal Opportunities Act (42
22 U.S.C. 1885a or 1885b).

23 (e) UNDERGRADUATE EDUCATION PROGRAMS.—The
24 Director shall continue to carry out programs in support
25 of undergraduate education, including those authorized in

1 section 17 of the National Science Foundation Authoriza-
2 tion Act of 2002 (42 U.S.C. 1862n-6). Funding for these
3 programs shall increase in proportion to the increase in
4 the total amount appropriated to the Foundation in any
5 year for which appropriations are authorized by this Act.

6 **SEC. 4. CENTERS FOR RESEARCH ON LEARNING AND EDU-**
7 **CATION IMPROVEMENT.**

8 The Director shall continue to carry out the program
9 of Centers for Research on Learning and Education Im-
10 provement as established in section 11 of the National
11 Science Foundation Authorization Act of 2002 (42 U.S.C.
12 1862n-2).

13 **SEC. 5. INTERDISCIPLINARY RESEARCH.**

14 (a) IN GENERAL.—The Board shall evaluate the role
15 of the Foundation in supporting interdisciplinary research,
16 the effectiveness of the Foundation's efforts in providing
17 information to the scientific community about opportuni-
18 ties for funding of interdisciplinary research proposals,
19 and the process through which interdisciplinary proposals
20 are selected for support.

21 (b) REPORT.—Not later than 1 year after the date
22 of enactment of this Act, the Board shall provide the re-
23 sults of its evaluation under subsection (a), including a
24 recommendation for the proportion of the Foundation's re-
25 search and related activities that should be allocated for

1 interdisciplinary research, to the Committee on Science
2 and Technology of the House of Representatives and the
3 Committee on Commerce, Science, and Transportation of
4 the Senate.

5 **SEC. 6. PILOT PROGRAM OF GRANTS FOR NEW INVESTIGA-**
6 **TORS.**

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

12 (b) USE OF FUNDS.—Grants awarded under this sec-
13 tion shall be used to support the generation of new data
14 and the performance of additional analysis to enable an
15 individual to resubmit an updated research proposal for
16 review by the Foundation through the agency's competi-
17 tive merit review process.

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

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

23 (2) have submitted a proposal to the Founda-
24 tion that was rated very good or excellent under the
25 Foundation's competitive merit review process.

1 (d) SELECTION PROCESS.—The Director shall make
2 awards under this section based on the advice of the pro-
3 gram officers of the Foundation.

4 (e) PROGRAM ADMINISTRATION.—The Director may
5 carry out this section through the Small Grants for Ex-
6 ploratory Research program.

7 (f) NATIONAL SCIENCE BOARD REVIEW.—The
8 Board shall conduct a review and assessment of the pilot
9 program under the section, including the number of new
10 investigators funded and the success rate upon resub-
11 mittal of proposals by new investigators funded through
12 this pilot program. Not later than 3 years after the date
13 of enactment of this Act, the Board shall summarize its
14 findings and any recommendations regarding changes to
15 or the continuation of the pilot program in a report to
16 the Committee on Science and Technology of the House
17 of Representatives and the Committee on Commerce,
18 Science, and Transportation in the Senate.

19 **SEC. 7. BROADER IMPACTS MERIT REVIEW CRITERION.**

20 (a) IN GENERAL.—In evaluating research proposals
21 under the Foundation's broader impacts criterion, the Di-
22 rector shall give special consideration to proposals that in-
23 volve partnerships between academic researchers and in-
24 dustrial scientists and engineers that address research

1 areas that have been identified as having high importance
2 for future national economic competitiveness.

3 (b) PARTNERSHIPS WITH INDUSTRY.—The Director
4 shall encourage research proposals from institutions of
5 higher education that involve partnerships with businesses
6 and organizations representing businesses in high tech-
7 nology fields and that include input on the research agen-
8 da from and cost-sharing by the industry partners.

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

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

17 (2) provide a breakdown of the types of activi-
18 ties by division that awardees have proposed to carry
19 out to meet the broader impacts criterion;

20 (3) provide any evaluations performed by the
21 Foundation to assess the degree to which the broad-
22 er impacts aspects of research proposals were car-
23 ried out and how effective they have been at meeting
24 the goals described in the research proposals;

1 (4) describe what national goals, such as im-
2 proving undergraduate science, mathematics, and
3 engineering education, improving K–12 science and
4 mathematics education, promoting university-indus-
5 try collaboration and technology transfer, and broad-
6 ening participation of underrepresented groups, the
7 broader impacts criterion is best suited to promote;
8 and

9 (5) describe what steps the Foundation is tak-
10 ing and should take to use the broader impacts cri-
11 terion to improve undergraduate science, mathe-
12 matics, and engineering education.

13 **SEC. 8. POSTDOCTORAL RESEARCH FELLOWS.**

14 (a) MENTORING.—The Director shall require that all
15 grant applications that include funding to support
16 postdoctoral researchers include a description of the men-
17 toring activities that will be provided for such individuals,
18 and shall ensure that this part of the application is evalu-
19 ated under the Foundation’s broader impacts merit review
20 criterion. Mentoring activities may include career coun-
21 seling, training in preparing grant applications, guidance
22 on ways to improve teaching skills, and training in re-
23 search ethics.

24 (b) REPORTS.—The Director shall require that an-
25 nual reports and the final report for research grants that

1 include funding to support postdoctorial researchers in-
2 clude a description of the mentoring activities provided to
3 such researchers.

4 **SEC. 9. RESPONSIBLE CONDUCT OF RESEARCH.**

5 The Director shall require that each institution that
6 applies for financial assistance from the Foundation for
7 science and engineering research or education describe in
8 its grant proposal a plan to provide appropriate training
9 in the responsible conduct of research to undergraduate
10 students, graduate students, and postdoctorial researchers
11 participating in the proposed research project.

12 **SEC. 10. REPORTING OF RESEARCH RESULTS.**

13 The Director shall ensure that all final project re-
14 ports and citations of published research documents re-
15 sulting from research funded, in whole or in part, by the
16 Foundation, are made available to the public in a timely
17 manner and in electronic form through the Foundation's
18 Web site.

19 **SEC. 11. FUNDING FOR SUCCESSFUL STEM EDUCATION**
20 **PROGRAMS.**

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

1 (1) that are designed to meet the objectives of
2 the Science and Engineering Equal Opportunity Act
3 (42 U.S.C. 1885 et seq.); or

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

6 (b) CONTINUATION OF FUNDING.—For grants that
7 are identified under subsection (a) and that are deemed
8 by the Director to be successful in meeting the objectives
9 of the initial grant solicitation, the Director may extend
10 the duration of those grants for up to 3 additional years
11 beyond their scheduled expiration without the requirement
12 for a recompetition. The Director may extend such grants
13 for an additional 3 years following a second review within
14 1 year before the extended completion date, in accordance
15 with subsection (a), and the determination by the Director
16 that the objectives of the grant are being achieved.

17 **SEC. 12. COST SHARING.**

18 (a) IN GENERAL.—The Board shall evaluate the im-
19 pact of its policy to eliminate cost sharing for research
20 grants and cooperative agreements for existing programs
21 that were developed around industry partnerships and his-
22 torically required industry cost sharing, such as the Engi-
23 neering Research Centers and Industry/University Coop-
24 erative Research Centers. The Board shall also consider
25 the impact that the cost sharing policy has on initiating

1 new programs for which industry interest and participa-
2 tion are sought.

3 (b) REPORT.—Not later than 6 months after the date
4 of enactment of this Act, the Board shall report to the
5 Committee on Science and Technology and the Committee
6 on Appropriations of the House of Representatives, and
7 the Committee on Commerce, Science, and Transportation
8 and the Committee on Appropriations of the Senate, on
9 the results of the evaluation under subsection (a).

10 **SEC. 13. DONATIONS.**

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

15 **SEC. 14. ICEBREAKERS.**

16 It is the Sense of Congress that polar icebreakers are
17 essential instruments of United States national policy and
18 that the United States Coast Guard should have the re-
19 sponsibility and the budget to construct new icebreakers
20 and provide for the operations and maintenance costs of
21 existing icebreakers, including any icebreakers required
22 for resupply of United States Antarctic research facilities.
23 Congress urges the President to issue a Presidential Deci-
24 sion Directive to clearly align agency responsibilities and
25 budgetary authorities accordingly.

1 **SEC. 15. ADDITIONAL REPORTS.**

2 (a) REPORT ON FUNDING FOR MAJOR FACILITIES.—

3 The Board shall evaluate the appropriateness of the re-
4 quirement that funding for detailed design work and other
5 preconstruction activities for major research equipment
6 and facilities come exclusively from the sponsoring re-
7 search division rather than being available, at least in
8 part, from the Major Research Equipment and Facilities
9 Construction account. Not later than 6 months after the
10 date of enactment of this Act, the Board shall report on
11 the results of the evaluation and on any recommendations
12 for modifying the current policy to the Committee on
13 Science and Technology and the Committee on Appropria-
14 tions of the House, and the Committee on Commerce,
15 Science, and Transportation and the Committee on Appro-
16 priations of the Senate.

17 (b) INCLUSION OF POLAR FACILITIES UPGRADES IN
18 MAJOR RESEARCH EQUIPMENT AND FACILITIES CON-
19 STRUCTION PLAN.—Section 201(a)(2)(D) of the National
20 Science Foundation Authorization Act of 1998 (42 U.S.C.
21 1862l(a)(2)(D)) is amended by inserting “and for major
22 upgrades of facilities in support of Antarctic research pro-
23 grams” after “facilities construction account”.

24 (c) REPORT ON EDUCATION PROGRAMS WITHIN THE
25 RESEARCH DIRECTORATES.—Not later than 6 months
26 after the date of enactment of this Act, the Director shall

1 transmit to the Committee on Science and Technology of
2 the House of Representative and the Committee on Com-
3 merce, Science, and Transportation of the Senate a report
4 cataloging all elementary and secondary school, informal,
5 and undergraduate educational programs and activities
6 supported through appropriations for Research and Re-
7 lated Activities. The report shall display the programs and
8 activities by directorate, along with estimated funding lev-
9 els for the fiscal years 2006, 2007, and 2008, and shall
10 provide a description of the goals of each program and
11 activity. The report shall also describe how the programs
12 and activities relate to or are coordinated with the pro-
13 grams supported by the Education and Human Resources
14 Directorate.

15 **SEC. 16. ADMINISTRATIVE AMENDMENTS.**

16 (a) TRIANNUAL AUDIT OF THE OFFICE OF THE NA-
17 TIONAL SCIENCE BOARD.—Section 15(a) of the National
18 Science Foundation Authorization Act of 2002 (42 U.S.C.
19 4862n–5) is amended—

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

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

24 (3) by inserting after paragraph (4) the fol-
25 lowing new paragraph:

1 “(5) MATERIALS RELATING TO CLOSED POR-
2 TIONS OF MEETINGS.—To facilitate the audit re-
3 quired under paragraph (3) of this subsection, the
4 Office of the National Science Board shall maintain
5 the General Counsel’s certificate, the presiding offi-
6 cer’s statement, and a transcript or recording of any
7 closed meeting, for at least 3 years after such meet-
8 ing.”.

9 (b) LIMITED TERM PERSONNEL FOR THE NATIONAL
10 SCIENCE BOARD.—Subsection (g) of section 4 of the Na-
11 tional Science Foundation Act of 1950 (42 U.S.C.
12 1863(g)) is amended to read as follows:

13 “(g) The Board may, with the concurrence of a ma-
14 jority of its members, permit the appointment of a staff
15 consisting of not more than 5 professional staff members,
16 technical and professional personnel on leave of absence
17 from academic, industrial, or research institutions for a
18 limited term and such operations and support staff mem-
19 bers as may be necessary. Such staff shall be appointed
20 by the Chairman and assigned at the direction of the
21 Board. The professional members and limited term tech-
22 nical and professional personnel of such staff may be ap-
23 pointed without regard to the provisions of title 5, United
24 States Code, governing appointments in the competitive
25 service, and the provisions of chapter 51 of such title relat-

1 ing to classification, and shall be compensated at a rate
2 not exceeding the maximum rate payable under section
3 5376 of such title, as may be necessary to provide for the
4 performance of such duties as may be prescribed by the
5 Board in connection with the exercise of its powers and
6 functions under this Act. Section 14(a)(3) shall apply to
7 each limited term appointment of technical and profes-
8 sional personnel under this subsection. Each appointment
9 under this subsection shall be subject to the same security
10 requirements as those required for personnel of the Foun-
11 dation appointed under section 14(a).”.

12 **SEC. 17. NATIONAL SCIENCE BOARD REPORTS.**

13 Paragraphs (1) and (2) of section 14(j) of the Na-
14 tional Science Foundation Act of 1950 (42 U.S.C.
15 1863(j)(1) and (2)) are each amended by striking “, for
16 submission to” and inserting “and”.