

107TH CONGRESS  
2D SESSION

# H. R. 4664

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IN THE SENATE OF THE UNITED STATES

JUNE 6, 2002

Received; read twice and referred to the Committee on Health, Education,  
Labor, and Pensions

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## AN ACT

To authorize appropriations for fiscal years 2003, 2004, and  
2005 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,*

1 **SECTION 1. SHORT TITLE.**

2       This Act may be cited as the “Investing in America’s  
3 Future Act of 2002”.

4 **SEC. 2 DEFINITIONS.**

5       In this Act:

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

10          (2) **DIRECTOR.**—The term “Director” means  
11 the Director of the National Science Foundation.

12          (3) **FOUNDATION.**—The term “Foundation”  
13 means the National Science Foundation.

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

18          (5) **NATIONAL RESEARCH FACILITY.**—The term  
19 “national research facility” means a research facility  
20 funded by the Foundation which is available, subject  
21 to appropriate policies allocating access, for use by  
22 all scientists and engineers affiliated with research  
23 institutions located in the United States.

24          (6) **UNITED STATES.**—The term “United  
25 States” means the several States, the District of Co-  
26 lumbia, the Commonwealth of Puerto Rico, the Vir-

gin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

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

(a) FISCAL YEAR 2003.—

(1) IN GENERAL.—There are authorized to be appropriated to the National Science Foundation \$5,515,260,000 for fiscal year 2003.

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

(A) \$4,138,440,000 shall be made available to carry out Research and Related Activities, of which—

(i) \$704,000,000 shall be for networking and information technology research;

(ii) \$238,450,000 shall be for the Nanoscale Science and Engineering Priority Area;

(iii) \$60,090,000 shall be for the Mathematical Sciences Priority Area; and

(iv) \$75,900,000 shall be for Major Research Instrumentation;

1 (B) \$1,006,250,000 shall be made avail-  
2 able for Education and Human Resources, of  
3 which—

4 (i) \$50,000,000 shall be for the Ad-  
5 vanced Technological Education Program  
6 established under section 3 of the Sci-  
7 entific and Advanced-Technology Act of  
8 1992 (42 U.S.C. 1862i); and

9 (ii) \$30,000,000 shall be for the Mi-  
10 nority Serving Institutions Undergraduate  
11 Program;

12 (C) \$152,350,000 shall be made available  
13 for Major Research Equipment and Facilities  
14 Construction;

15 (D) \$210,160,000 shall be made available  
16 for Salaries and Expenses; and

17 (E) \$8,060,000 shall be made available for  
18 the Office of Inspector General.

19 (b) FISCAL YEAR 2004.—

20 (1) IN GENERAL.—There are authorized to be  
21 appropriated to the National Science Foundation  
22 \$6,342,550,000 for fiscal year 2004.

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

1 (A) \$4,735,600,000 shall be made avail-  
2 able to carry out Research and Related Activi-  
3 ties, of which—

4 (i) \$774,000,000 shall be for net-  
5 working and information technology re-  
6 search;

7 (ii) \$286,140,000 shall be for the  
8 Nanoscale Science and Engineering Pri-  
9 ority Area;

10 (iii) \$90,090,000 shall be for the  
11 Mathematical Sciences Priority Area; and

12 (iv) \$85,000,000 shall be for Major  
13 Research Instrumentation;

14 (B) \$1,157,190,000 shall be made avail-  
15 able for Education and Human Resources, of  
16 which \$55,000,000 shall be for the Advanced  
17 Technological Education Program established  
18 under section 3 of the Scientific and Advanced-  
19 Technology Act of 1992 (42 U.S.C. 1862i);

20 (C) \$225,000,000 shall be made available  
21 for Major Research Equipment and Facilities  
22 Construction;

23 (D) \$216,460,000 shall be made available  
24 for Salaries and Expenses; and

1 (E) \$8,300,000 shall be made available for  
2 the Office of Inspector General.

3 (c) FISCAL YEAR 2005.—

4 (1) IN GENERAL.—There are authorized to be  
5 appropriated to the National Science Foundation  
6 \$7,293,930,000 for fiscal year 2005.

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

9 (A) \$5,445,940,000 shall be made avail-  
10 able to carry out Research and Related Activi-  
11 ties;

12 (B) \$1,330,770,000 shall be made avail-  
13 able for Education and Human Resources;

14 (C) \$285,710,000 shall be made available  
15 for Major Research Equipment and Facilities  
16 Construction;

17 (D) \$222,960,000 shall be made available  
18 for Salaries and Expenses; and

19 (E) \$8,550,000 shall be made available for  
20 the Office of Inspector General.

21 **SEC. 4. OBLIGATION OF MAJOR RESEARCH EQUIPMENT**  
22 **FUNDS.**

23 (a) FISCAL YEAR 2003.—None of the funds author-  
24 ized under section 3(a)(2)(C) may be obligated until 30

1 days after the first report required under section 7(a)(2)  
2 is transmitted to the Congress.

3 (b) FISCAL YEAR 2004.—None of the funds author-  
4 ized under section 3(b)(2)(C) may be obligated until 30  
5 days after the report required by June 15, 2003, under  
6 section 7(a)(2) is transmitted to the Congress.

7 (c) FISCAL YEAR 2005.—None of the funds author-  
8 ized under section 3(c)(2)(C) may be obligated until 30  
9 days after the report required by June 15, 2004, under  
10 section 7(a)(2) is transmitted to the Congress.

11 **SEC. 5. ANNUAL PLAN FOR ALLOCATION OF FUNDING.**

12 Not later than 60 days after the date of enactment  
13 of legislation providing for the annual appropriation of  
14 funds for the Foundation, the Director shall submit to the  
15 Committee on Science of the House of Representatives,  
16 the Committee on Commerce, Science, and Transportation  
17 of the Senate, and the Committee on Health, Education,  
18 Labor, and Pensions of the Senate, a plan for the alloca-  
19 tion of funds authorized by this Act for the corresponding  
20 fiscal year. The portion of the plan pertaining to Research  
21 and Related Activities shall include a description of how  
22 the allocation of funding—

23 (1) will affect the average size and duration of  
24 research grants supported by the Foundation by  
25 field of science, mathematics, and engineering;

1           (2) will affect trends in research support for  
 2           major fields and subfields of science, mathematics,  
 3           and engineering, including for emerging multidisci-  
 4           plinary research areas; and

5           (3) is designed to achieve an appropriate bal-  
 6           ance among major fields and subfields of science,  
 7           mathematics, and engineering.

#### 8 **SEC. 6. PROPORTIONAL REDUCTION.**

9           (a) **OVERALL AMOUNTS.**—If the amount appro-  
 10          priated pursuant to section 3(a)(1), (b)(1), or (c)(1) is less  
 11          than the amount authorized under that paragraph, the  
 12          amount available under each subparagraph of paragraph  
 13          (2) of that subsection shall be reduced by the same propor-  
 14          tion.

15          (b) **RESEARCH AND RELATED ACTIVITIES**  
 16          **AMOUNTS.**—If the amount appropriated pursuant to sec-  
 17          tion 3(a)(2)(A) or (b)(2)(A) is less than the amount au-  
 18          thorized under that subparagraph, the amount available  
 19          under each clause of that subparagraph shall be reduced  
 20          by the same proportion.

#### 21 **SEC. 7. NATIONAL RESEARCH FACILITIES.**

22          (a) **PRIORITIZATION OF PROPOSED MAJOR RE-**  
 23          **SEARCH EQUIPMENT AND FACILITIES CONSTRUCTION.**—

24               (1) **DEVELOPMENT OF PRIORITIES.**—



1           (A) LIST.—The Director shall develop a  
2 list indicating by number the relative priority  
3 for funding under the Major Research Equip-  
4 ment and Facilities Construction account that  
5 the Director assigns to each project the Board  
6 has approved for inclusion in a future budget  
7 request. The Director shall submit the list to  
8 the Board for approval.

9           (B) UPDATES.—The Director shall update  
10 the list prepared under paragraph (1) each time  
11 the Board approves a new project that would  
12 receive funding under the Major Research  
13 Equipment and Facilities Construction account  
14 and as necessary to prepare reports under para-  
15 graph (2). The Director shall submit any up-  
16 dated list to the Board for approval.

17       (2) ANNUAL REPORT.—Not later than 90 days  
18 after the date of the enactment of this Act, and not  
19 later than each June 15th thereafter, the Director  
20 shall transmit to the Congress a report containing—

21           (A) the most recent Board-approved pri-  
22 ority list developed under paragraph (1);

23           (B) a description of the criteria used to de-  
24 velop such list; and

1 (C) a description of the major factors for  
2 each project that determined its ranking on the  
3 list, based on the application of the criteria de-  
4 scribed pursuant to subparagraph (B).

5 (3) CRITERIA.—The criteria described pursuant  
6 to paragraph (2)(B) shall include, at a minimum—

7 (A) scientific merit;

8 (B) broad societal need and probable im-  
9 pact;

10 (C) consideration of the results of formal  
11 prioritization efforts by the scientific commu-  
12 nity;

13 (D) readiness of plans for construction and  
14 operation;

15 (E) international and interagency commit-  
16 ments; and

17 (F) the order in which projects were ap-  
18 proved by the Board for inclusion in a future  
19 budget request.

20 (b) FACILITIES PLAN.—

21 (1) IN GENERAL.—Section 201(a)(1) of the Na-  
22 tional Science Foundation Authorization Act of 1998  
23 (42 U.S.C. 1862l(a)(1)) is amended to read as fol-  
24 lows:

1           “(1) IN GENERAL.—The Director shall prepare,  
2           and include as part of the Foundation’s annual  
3           budget request to Congress, a plan for the proposed  
4           construction of, and repair and upgrades to, national  
5           research facilities, including full life-cycle cost infor-  
6           mation.”.

7           (2) CONTENTS OF PLAN.—Section 201(a)(2) of  
8           the National Science Foundation Authorization Act  
9           of 1998 (42 U.S.C. 1862l(a)(2)) is amended—

10                   (A) in subparagraph (A), by inserting “,  
11                   including costs for instrumentation develop-  
12                   ment” after “described in paragraph (1)”;

13                   (B) by striking “and” at the end of sub-  
14                   paragraph (B);

15                   (C) by striking the period at the end of  
16                   subparagraph (C) and inserting a semicolon;  
17                   and

18                   (D) by adding at the end the following new  
19                   subparagraphs:

20                   “(D) for each project funded under the  
21                   Major Research Equipment and Facilities Con-  
22                   struction account—

23                           “(i) estimates of the total project cost  
24                           (from planning to commissioning); and

1 “(ii) the source of funds, including  
2 Federal funding identified by appropria-  
3 tions category and non-Federal funding;

4 “(E) estimates of the full life-cycle cost of  
5 each national research facility;

6 “(F) information on any plans to retire na-  
7 tional research facilities; and

8 “(G) estimates of funding levels for grants  
9 supporting research that will make use of each  
10 national research facility.”.

11 (3) DEFINITION.—Section 2 of the National  
12 Science Foundation Authorization Act of 1998 (42  
13 U.S.C. 1862k note) is amended—

14 (A) by redesignating paragraphs (3)  
15 through (5) as paragraphs (4) through (6), re-  
16 spectively; and

17 (B) by inserting after paragraph (2) the  
18 following new paragraph:

19 “(3) FULL LIFE-CYCLE COST.—The term ‘full  
20 life-cycle cost’ means all costs of development, pro-  
21 curement, construction, operations and support, and  
22 shut down costs, without regard to funding source  
23 and without regard to what entity manages the  
24 project.”.

1       (c) PROJECT MANAGEMENT.—No national research  
2 facility project funded under the Major Research Equip-  
3 ment and Facilities Construction account shall be man-  
4 aged by an individual whose appointment to the Founda-  
5 tion is temporary.

6 **SEC. 8. MAJOR RESEARCH INSTRUMENTATION.**

7       The Foundation shall conduct a review and assess-  
8 ment of the Major Research Instrumentation Program  
9 and provide a report to Congress on its findings and rec-  
10 ommendations within 1 year after the date of the enact-  
11 ment of this Act. The report shall include—

12           (1) estimates of the needs, by major field of  
13 science and engineering, of institutions of higher  
14 education for the types of research instrumentation  
15 that are eligible for funding under the guidelines of  
16 the Major Research Instrumentation Program;

17           (2) the distribution of awards and funding lev-  
18 els by year and by major field of science and engi-  
19 neering for the Major Research Instrumentation  
20 Program, since the inception of the Program; and

21           (3) an analysis of the impact of the Major Re-  
22 search Instrumentation Program on the research in-  
23 strumentation needs that were documented in the  
24 Foundation's 1994 survey of academic research in-  
25 strumentation needs.

1 **SEC. 9. ASTRONOMY AND ASTROPHYSICS ADVISORY COM-**  
2 **MITTEE.**

3 (a) ESTABLISHMENT.—The Foundation and the Na-  
4 tional Aeronautics and Space Administration shall jointly  
5 establish an Astronomy and Astrophysics Advisory Com-  
6 mittee (in this section referred to as the “Advisory Com-  
7 mittee”).

8 (b) DUTIES.—The Advisory Committee shall—

9 (1) assess, and make recommendations regard-  
10 ing, the coordination of astronomy and astrophysics  
11 programs of the Foundation and the National Aero-  
12 nautics and Space Administration;

13 (2) assess, and make recommendations regard-  
14 ing, the status of the activities of the Foundation  
15 and the National Aeronautics and Space Administra-  
16 tion as they relate to the recommendations contained  
17 in the National Research Council’s 2001 report enti-  
18 tled “Astronomy and Astrophysics in the New Mil-  
19 lennium”, and the recommendations contained in  
20 subsequent National Research Council reports of a  
21 similar nature; and

22 (3) not later than March 15 of each year,  
23 transmit a report to the Director, the Administrator  
24 of the National Aeronautics and Space Administra-  
25 tion, and the Congress on the Advisory Committee’s

1 findings and recommendations under paragraphs (1)  
2 and (2).

3 (c) MEMBERSHIP.—The Advisory Committee shall  
4 consist of 13 members, none of whom shall be a Federal  
5 employee, including—

6 (1) 5 members selected by the Foundation;

7 (2) 5 members selected by the National Aero-  
8 nautics and Space Administration; and

9 (3) 3 members selected by the members selected  
10 under paragraphs (1) and (2).

11 (d) SELECTION PROCESS.—Initial selections under  
12 subsection (c)(1) and (2) shall be made within 3 months  
13 after the date of the enactment of this Act. Initial selec-  
14 tions under subsection (c)(3) shall be made within 5  
15 months after the date of the enactment of this Act. Vacan-  
16 cies shall be filled in the same manner as provided in sub-  
17 section (c).

18 (e) CHAIRPERSON.—The Advisory Committee shall  
19 select a chairperson from among its members.

20 (f) COORDINATION.—The Advisory Committee shall  
21 coordinate with the advisory bodies of other Federal agen-  
22 cies, such as the Department of Energy, which may en-  
23 gage in related research activities.

24 (g) COMPENSATION.—The members of the Advisory  
25 Committee shall serve without compensation, but shall re-

1 ceive travel expenses, including per diem in lieu of subsist-  
2 ence, in accordance with sections 5702 and 5703 of title  
3 5, United States Code.

4 (h) MEETINGS.—The Advisory Committee shall con-  
5 vene, in person or by electronic means, at least 4 times  
6 a year.

7 (i) QUORUM.—

8 (1) IN GENERAL.—Except as provided in para-  
9 graph (2), a majority of the members serving on the  
10 Advisory Committee shall constitute a quorum for  
11 purposes of conducting the business of the Advisory  
12 Committee.

13 (2) EXCEPTION.—The selection of a member  
14 under subsection (c)(3) shall require a vote of  $\frac{3}{4}$  of  
15 the members appointed under subsection (c)(1) and  
16 (2).

17 (j) DURATION.—Section 14 of the Federal Advisory  
18 Committee Act shall not apply to the Advisory Committee.

19 **SEC. 10. BOARD MEETINGS.**

20 (a) PURPOSE.—The purpose of this section is to en-  
21 sure that the Board complies with the requirements of sec-  
22 tion 552b of title 5, United States Code, that all meetings,  
23 with the exception of specific narrow statutory exemptions,  
24 be open to the public.



1 (b) COMPLIANCE AUDIT.—The Inspector General of  
 2 the National Science Foundation shall conduct an annual  
 3 audit of the compliance by the Board with the require-  
 4 ments described in subsection (a). The audit shall examine  
 5 the extent to which the proposed and actual content of  
 6 closed meetings is consistent with those requirements.

7 (c) REPORT.—Not later than February 15 of each  
 8 year, the Inspector General of the National Science Foun-  
 9 dation shall transmit to the Congress the audit required  
 10 under subsection (b) along with recommendations for cor-  
 11 rective actions that need to be taken to achieve fuller com-  
 12 pliance with the requirements described in subsection (a),  
 13 and recommendations on how to ensure public access to  
 14 the Board’s deliberations.

15 **SEC. 11. SCHOLARSHIP ELIGIBILITY.**

16 The Director shall not exclude part-time students  
 17 from eligibility for scholarships under the Computer  
 18 Science, Engineering, and Mathematics Scholarship  
 19 (CSEMS) program.

Passed the House of Representatives June 5, 2002.

Attest: JEFF TRANDAHL,  
*Clerk.*