

# Calendar No. 670

103<sup>D</sup> CONGRESS  
2<sup>D</sup> SESSION

# S. 2344

[Report No. 103-328]

To authorize appropriations for the National Science Foundation, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

AUGUST 1 (legislative day, JULY 20), 1994

Mr. KENNEDY (for himself, Mr. ROCKEFELLER, Ms. MIKULSKI, Mr. BINGAMAN, Mr. DODD, and Mr. PELL) introduced the following bill; which was read twice and referred to the Committee on Labor and Human Resources

AUGUST 9 (legislative day, AUGUST 8), 1994

Reported by Mr. KENNEDY, without amendment

AUGUST 11, 1994

Referred to the Committee on Commerce, Science, and Transportation pursuant to the order of March 3, 1988, for not to exceed 30 session days

SEPTEMBER 28 (legislative day, SEPTEMBER 12), 1994

Reported by Mr. HOLLINGS, with amendments

[Omit the part struck through and insert the part in italic]

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## A BILL

To authorize appropriations 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 1994”.

6 **SEC. 2. DEFINITIONS.**

7 As used in this Act:

8 (1) DIRECTOR.—The term “Director” has the  
9 meaning given such term under section 2 of the Na-  
10 tional Science Foundation Act of 1950 (42 U.S.C.  
11 1861).

12 (2) FOUNDATION.—The term “Foundation”  
13 has the meaning given such term under section 2 of  
14 the National Science Foundation Act of 1950 (42  
15 U.S.C. 1861).

16 (3) BOARD.—The term “Board” has the mean-  
17 ing given such term under section 4 of the National  
18 Science Foundation Act of 1950 (42 U.S.C. 1861).

19 (4) INSTITUTION OF HIGHER EDUCATION.—The  
20 term “institution of higher education” has the  
21 meaning given such term in section 1201(a) of the  
22 Higher Education Act of 1965 (20 U.S.C. 1088(a)).

23 (5) NATIVE AMERICAN.—The term “Native  
24 American” means—

1 (A) an Indian, as defined in section 4(d) of  
2 the Indian Self-Determination and Education  
3 Assistance Act (25 U.S.C. 450b(d)); and

4 (B) an Alaska Native, within the meaning  
5 provided for the term “Native” in section 3(b)  
6 of the Alaska Native Claims Settlement Act (43  
7 U.S.C. 1602(b)).

8 (7) NATIVE HAWAIIAN.—The term “Native Ha-  
9 waiian” has the meaning given such term in section  
10 815(3) of the Native American Programs Act (42  
11 U.S.C. 2992c(3)).

12 (8) PACIFIC ISLANDER.—The term “Pacific Is-  
13 lander” means a Pacific Islander within the meaning  
14 of the Native American Programs Act of 1974 (42  
15 U.S.C. 2991 et seq.).

16 (9) UNITED STATES.—The term “United  
17 States” means the several States, the District of Co-  
18 lumbia, the Commonwealth of Puerto Rico, the Vir-  
19 gin Islands, Guam, American Samoa, the Common-  
20 wealth of the Northern Mariana Islands, and any  
21 other territory or possession of the United States.

## 22 **TITLE I—NATIONAL SCIENCE** 23 **FOUNDATION AUTHORIZATION**

### 24 **SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

25 (a) FINDINGS.—The Congress finds that—

1           (1) with the end of the Cold War and the col-  
2           lapse of communism, the focus of Federal science  
3           and technology policy has shifted away from the na-  
4           tional military security toward the national economic  
5           security;

6           (2) support for fundamental research must be  
7           part of an integrated Federal investment strategy to  
8           stimulate the creation of new knowledge and new  
9           technologies that in turn lead to new employment  
10          opportunities, greater economic security, and an im-  
11          proved quality of life for all citizens of the United  
12          States;

13          (3) investments in fundamental research must  
14          be increased so that such research not only increases  
15          the base of knowledge, but also contributes effec-  
16          tively to specific strategic national goals;

17          (4) the education and training of citizens of the  
18          United States, particularly citizens who are  
19          underrepresented in science and engineering, must  
20          be strengthened so that such citizens can work and  
21          prosper in the present and future high-technology  
22          society; and

23          (5) as the primary supporter of fundamental re-  
24          search and education in the universities of the Unit-  
25          ed States, the Foundation must be at the center of

1 the science and technology policy of the United  
2 States.

3 (b) OBJECTIVES.—In carrying out its mission, the  
4 Foundation shall—

5 (1) provide national leadership for a research  
6 and education enterprise that contributes new  
7 knowledge and educates people to assist in meeting  
8 national needs;

9 (2) reach out to individuals from all walks of  
10 life and all sectors of society to broaden the base of  
11 participation in science, engineering, and technology,  
12 and help create a scientifically literate society;

13 (3) maintain an organizational structure that  
14 responds quickly and effectively to challenges and  
15 opportunities generated in the new world order,  
16 while sustaining a research and education enterprise  
17 that is committed to excellence;

18 (4) stimulate and support emerging areas of re-  
19 search that may extend beyond existing disciplinary  
20 boundaries;

21 (5) promote new modes of cooperation among  
22 the universities of the United States and the private  
23 sector in order to improve education, to stimulate re-  
24 search advances, and to exploit research results for  
25 productive use;

1           (6) develop and strengthen partnerships and  
2           working relationships with other Federal agencies,  
3           State and local governments, and the private sector,  
4           and participate fully to shape and implement an in-  
5           tegrated national science and technology investment  
6           strategy;

7           (7) lead a national effort to modernize the aca-  
8           demic infrastructure of laboratory instrumentation  
9           and facilities of the United States, and to maintain  
10          such infrastructure at an adequate level to support  
11          excellence in research and education; and

12          (8) evaluate the effectiveness of the programs  
13          and initiatives of the Foundation in research and  
14          education according to performance-based milestones  
15          that measure progress toward identified national  
16          goals.

17          (c) SPECIAL RULE.—The investments of the Founda-  
18          tion in the improvement of the economic competitiveness  
19          of the United States shall be in accordance with the func-  
20          tions of the Foundation as specified by the National  
21          Science Foundation Act of 1950 (42 U.S.C. 1861 et seq.).  
22          The Foundation may accomplish such investments  
23          through the Foundation’s support of basic scientific re-  
24          search and science education and of research fundamental  
25          to the engineering process and engineering education.

1 (d) PURPOSE.—The purpose of this Act is to author-  
2 ize the programs of the Foundation at a level of funding  
3 and authority sufficient to carry out the objectives of the  
4 Foundation.

5 (e) FISCAL YEAR 1995.—For the following cat-  
6 egories, there are authorized to be appropriated to the  
7 Foundation for fiscal year 1995 the following sums:

8 (1) Research and related activities,  
9 \$2,348,700,000.

10 (2) Education and human resources activities,  
11 \$605,974,000.

12 (3) Academic research instrumentation and fa-  
13 cilities, \$300,000,000.

14 (4) Major research equipment, \$150,000,000.

15 (5) Salaries and expenses, \$130,720,000.

16 (6) National Science Foundation headquarters  
17 relocation, \$5,200,000.

18 (7) Office of Inspector General, \$4,380,000.

19 (f) FISCAL YEAR 1996.—For the following cat-  
20 egories, there are authorized to be appropriated to the  
21 Foundation for fiscal year 1996 the following amounts:

22 (1) Research and related activities,  
23 \$2,583,600,000.

24 (2) Education and human resources activities,  
25 \$644,600,000.

1           (3) Academic research instrumentation and fa-  
2           cilities, \$400,000,000.

3           (4) Major research equipment, \$150,000,000.

4           (5) Salaries and expenses, \$135,900,000.

5           (6) National Science Foundation headquarters  
6           relocation, \$5,200,000.

7           (7) Office of Inspector General, \$4,500,000.

8           (g) FISCAL YEAR 1997.—For the following cat-  
9           egories, there are authorized to be appropriated to the  
10          Foundation for fiscal year 1997 the following amounts:

11           (1) Research and related activities,  
12           \$2,842,000,000.

13           (2) Education and human resources activities,  
14           \$709,000,000.

15           (3) Academic research instrumentation and fa-  
16           cilities, \$500,000,000.

17           (4) Major research equipment, \$150,000,000.

18           (5) Salaries and expenses, \$141,300,000.

19           (6) National Science Foundation headquarters  
20           relocation, \$5,200,000.

21           (7) Office of Inspector General, \$4,620,000.

22           (h) FISCAL YEAR 1998.—For the following cat-  
23           egories, there are authorized to be appropriated to the  
24          Foundation for fiscal year 1998 the following amounts:

1           (1) Research and related activities,  
2           \$3,126,000,000.

3           (2) Education and human resources activities,  
4           \$780,000,000.

5           (3) Academic research instrumentation and fa-  
6           cilities, \$500,000,000.

7           (4) Major research equipment, \$150,000,000.

8           (5) Salaries and expenses, \$147,000,000.

9           (6) National Science Foundation headquarters  
10          relocation, \$5,200,000.

11          (7) Office of Inspector General, \$4,750,000.

12          (i) FISCAL YEAR 1999.—For the following cat-  
13          egories, there are authorized to be appropriated to the  
14          Foundation for fiscal year 1999 the following amounts:

15           (1) Research and related activities,  
16           \$3,439,000,000.

17           (2) Education and human resources activities,  
18           \$858,000,000.

19           (3) Academic research instrumentation and fa-  
20           cilities, \$500,000,000.

21           (4) Major research equipment, \$150,000,000.

22           (5) Salaries and expenses, \$152,700,000.

23           (6) Office of Inspector General, \$4,880,000.

24          (j) FUNDING PRIORITIES.—In allocating funds au-  
25          thorized under subsections (e), (f), (g), (h), and (i), the

1 Foundation shall give priority to meeting the goals and  
2 objectives of the Foundation through the support of basic  
3 research and education in the strategic areas authorized  
4 under title II.

5 (k) CRITICAL TECHNOLOGIES INSTITUTE.—There  
6 are authorized to be appropriated to the Critical Tech-  
7 nologies Institute \$2,500,000 for fiscal year 1995, and  
8 \$4,000,000 for each of the fiscal years 1996 through  
9 1999.

10 **SEC. 102. CONSULTATION AND REPRESENTATION**  
11 **EXPENSES.**

12 From appropriations made under authorizations pro-  
13 vided in this Act, not more than \$10,000 may be used  
14 in each fiscal year for official consultation, representation,  
15 or other extraordinary expenses at the discretion of, and  
16 as determined by, the Director. The determination of the  
17 Director with respect to such expenses shall be final and  
18 conclusive upon the accounting officers of the Govern-  
19 ment.

20 **SEC. 103. STRATEGIC PLAN.**

21 (a) PLAN.—Section 3(f) of the National Science  
22 Foundation Act of 1950 (42 U.S.C. 1862) is amended to  
23 read as follows:

24 “(f) The Foundation shall prepare and submit to the  
25 President an annual strategic plan that shall be submitted

1 by the Director to the Congress at the time of the Presi-  
2 dent's annual budget submission. The strategic plan  
3 shall—

4           “(1) define the overall goals for the Foundation  
5           and specific goals for each major cross-directorate  
6           strategic research and education initiative;

7           “(2) describe how the identified goals relate to  
8           national needs and will exploit new opportunities in  
9           science and technology;

10           “(3) contain a plan for the organization and  
11           management of each cross-directorate strategic re-  
12           search and education initiative that is consistent  
13           with title II;

14           “(4) identify the criteria and describe the proce-  
15           dures that the Foundation will use to assess  
16           progress toward achieving the goals identified in ac-  
17           cordance with paragraphs (1) and (2);

18           “(5) review the activities of the Foundation  
19           during the preceding year that have contributed to-  
20           ward the achievement of the goals identified in ac-  
21           cordance with paragraphs (1) and (2), and summa-  
22           rize planned activities for the 3 years succeeding the  
23           submission of such report in the context of the iden-  
24           tified goals, with particular emphasis on the Foun-

1        dation’s planned contributions to major multiagency  
2        research and education initiatives;

3            “(6) contain such recommendations as the  
4        Foundation considers appropriate; and

5            “(7) include information on the acquisition and  
6        disposition by the Foundation of any patents and  
7        patent rights and licensing agreements.”.

8        (b) CONFORMING AMENDMENT.—Section 107 of the  
9        Education for Economic Security Act is repealed (20  
10       U.S.C. 3917).

11       **SEC. 104. MAJOR RESEARCH EQUIPMENT.**

12        No funds appropriated under this title for the pur-  
13        poses of funding any project that involves the construc-  
14        tion, acquisition, or procurement of new major research  
15        equipment or construction necessary for upgrading the ca-  
16        pabilities of existing major research equipment, for which  
17        the estimated cost to the Foundation for the construction,  
18        acquisition, upgrading or procurement of the major re-  
19        search equipment exceeds \$25,000,000, shall be obligated  
20        for any grant, contract, subcontract, or cooperative agree-  
21        ment unless the funds are specifically approved by the Na-  
22        tional Science Board. This section shall not apply to major  
23        research equipment projects approved by the National  
24        Science Board prior to June 30, 1994.

1 **SEC. 105. INDIRECT COSTS.**

2       None of the funds in this Act may be used to reim-  
3 burse grantees for indirect costs at an amount that differs  
4 from the amount that would result from procedures in use  
5 by Federal agencies on June 1, 1994, or from Office of  
6 Management and Budget Circular A-21, as published in  
7 the Federal Register on July 26, 1993, on pages 39996  
8 through 39999.

9 **SEC. 106. ARCTIC RESEARCH.**

10       (a) *LOGISTICS SUPPORT PROGRAM.*—*The Director is*  
11 *authorized and directed to develop an Arctic logistics sup-*  
12 *port program in the United States Arctic and a correspond-*  
13 *ing budget to offset the high cost of logistics associated with*  
14 *research conducted in the Arctic and to facilitate logistical*  
15 *needs of Arctic researchers. Such program shall be estab-*  
16 *lished for inclusion beginning in the fiscal year 1996 budg-*  
17 *et, and the Director shall consult with the Congress on the*  
18 *recommended structure of and management plan for such*  
19 *program by December 30, 1994.*

20       (b) *ORGANIZATIONAL REVIEW.*—*The Director shall*  
21 *conduct an organizational review of the Arctic related as-*  
22 *pects of the foundation toward implementing a single point*  
23 *of contact for Arctic research proposals and to coordinate*  
24 *the research aspect of science grant proposals within the*  
25 *foundation directorates and the logistics support program*  
26 *under subsection (a).*

1           (c) *OCEANS VESSEL*.—*The Director is strongly encour-*  
2 *aged to obtain or lease an Arctic research icebreaking vessel*  
3 *that meets the science mission requirements developed by*  
4 *UNOLS, is managed in conjunction with a significant Arc-*  
5 *tic oceanographic research program, and enhances the re-*  
6 *sponsiveness of the Nation’s oceanographic research commu-*  
7 *nity in close proximity to the United States Arctic coast.*  
8 *The Director shall report to the Congress by January 15,*  
9 *1995 his plan for obtaining or leasing such a vessel.*

10          (d) *AUTHORIZATION*.—*For activities under subsection*  
11 *(a), \$15 million are authorized in fiscal year 1996 and \$20*  
12 *million are authorized in each fiscal year thereafter through*  
13 *fiscal year 1999.*

## 14 **TITLE II—RESEARCH AND EDU-** 15 **CATION IN STRATEGIC AREAS**

### 16 **SEC. 201. SHORT TITLE.**

17          This title may be cited as the “National Science  
18 Foundation Strategic Research and Education Authoriza-  
19 tion Act of 1994”.

### 20 **SEC. 202. FINDINGS AND PURPOSE.**

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

22               (1) Strategic research and education invest-  
23               ments should support discovery, integration, dissemi-  
24               nation, and application of knowledge in areas of

1 clear strategic importance to the United States and  
2 where national goals have been identified.

3 (2) Investments in strategic areas require the  
4 contributions of many scientific and engineering dis-  
5 ciplines to address complex problems important to  
6 the United States.

7 (3) Strong links must be developed and main-  
8 tained between strategic research and education in-  
9 vestments made by the Foundation and related ef-  
10 forts supported by the public and private sectors.

11 (4) The results of investments in strategic re-  
12 search and education must be evaluated according to  
13 performance-based milestones that measure progress  
14 toward the national goals identified for such invest-  
15 ments, and this progress must guide the future in-  
16 vestment strategy.

17 (5) For fiscal year 1995, the Foundation has  
18 proposed the following strategic initiatives:

19 (A) Advanced manufacturing technology.

20 (B) Advanced materials and processing.

21 (C) Biotechnology.

22 (D) Civil infrastructure systems.

23 (E) Global change research.

24 (F) Environmental research.

1 (G) High performance computing and com-  
2 munications.

3 (H) Science, mathematics, engineering,  
4 and technology education.

5 (b) PURPOSE.—It is the purpose of this title to  
6 strengthen the Foundation’s investment in fundamental  
7 research and education and training programs in a variety  
8 of strategic areas.

9 **SEC. 203. ADVANCED MANUFACTURING TECHNOLOGY.**

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

11 (1) Manufacturing is fundamental to the  
12 strength of the economy of the United States.

13 (2) Continuing development of manufacturing  
14 technology, management, and education, including  
15 environmentally conscious manufacturing, will be es-  
16 sential for the future economic security of the Unit-  
17 ed States.

18 (3) The Foundation should support an inte-  
19 grated initiative in research and education, empha-  
20 sizing interdisciplinary research and innovative part-  
21 nerships among the academic community, industry,  
22 and government, to develop the advanced tech-  
23 nologies, processes, and practices, that will enable  
24 high-performance manufacturing in the 21st cen-  
25 tury.

1 (b) ESTABLISHMENT OF INITIATIVE.—(1) The Direc-  
2 tor is authorized to establish a cross-directorate advanced  
3 manufacturing technology initiative that complements the  
4 efforts of other government agencies and the private sec-  
5 tor. Under the initiative, competitive, merit-based awards  
6 shall be made to individuals, small groups, and research  
7 centers to support research and education activities that  
8 will accelerate the development and application of ad-  
9 vanced manufacturing technologies to meet national  
10 needs.

11 (2) *Within the advanced manufacturing technology*  
12 *initiative, the Director is authorized and directed to estab-*  
13 *lish and support an initiative to make awards, through a*  
14 *competitive merit-based selection process, to universities or*  
15 *consortia of universities for research and education activi-*  
16 *ties to accelerate the development and application of ad-*  
17 *vanced manufacturing technologies of particular value to*  
18 *regions of low population density.*

19 (c) FUNDING.—From the amounts appropriated for  
20 a fiscal year under section 101, the Director shall make  
21 available, to carry out this section, not more than—

22 (1) ~~\$213,170,000 for fiscal year 1995;~~

23 (2) ~~\$253,670,000 for fiscal year 1996;~~

24 (3) ~~\$301,870,000 for fiscal year 1997;~~

1           (1) \$213,170,000 for fiscal year 1995, of which  
2           not more than \$5,000,000 may be used for the pro-  
3           gram in subsection (b)(2);

4           (2) \$253,670,000 for fiscal year 1995, of which  
5           not more than \$10,000,000 may be used for the pro-  
6           gram in subsection (b)(2);

7           (3) \$301,870,000 for fiscal year 1995, of which  
8           not more than \$10,000,000 may be used for the pro-  
9           gram in subsection (b)(2);

10           (4) \$359,230,000 for fiscal year 1998; and

11           (5) \$427,480,000 for fiscal year 1999.

12           (d) *ADDITIONAL AUTHORITIES IN MANUFACTURING.*—

13           (1) *The Director, after, as appropriate, consultation with*  
14           *other Federal officials, shall—*

15                   (A) *work with United States companies to iden-*  
16                   *tify areas of research in advanced manufacturing*  
17                   *technologies and advanced workplace practices that*  
18                   *offer the potential to improve United States produc-*  
19                   *tivity, competitiveness, and employment;*

20                   (B) *support research at United States univer-*  
21                   *sities to improve advanced manufacturing tech-*  
22                   *nologies and advanced workplace practices; and*

23                   (C) *work with other Federal agencies to acceler-*  
24                   *ate the transfer to United States companies of manu-*

1        *facturing research and innovations developed at uni-*  
2        *versities.*

3        *(2) The Director shall strengthen and expand the num-*  
4        *ber of Engineering Research Centers and strengthen and ex-*  
5        *pand the Industry/University Cooperative Research Centers*  
6        *Program with the goals of increasing the engineering talent*  
7        *base versed in technologies and workplace practices critical*  
8        *to the Nation's future, with emphasis on advanced manu-*  
9        *facturing technologies, and of advancing fundamental engi-*  
10       *neering knowledge in these technologies. At least one Engi-*  
11       *neering Research Center shall have a research and edu-*  
12       *cation focus on the concerns of United States manufactur-*  
13       *ers, including small- and medium-sized manufacturers that*  
14       *are trying to modernize their operations. Awards under this*  
15       *subsection shall be made on a competitive, merit review*  
16       *basis. Such awards may include support for acquisition of*  
17       *instrumentation, equipment, and facilities related to the re-*  
18       *search and education activities of the Engineering Research*  
19       *Centers and support for undergraduate students to partici-*  
20       *pate in the activities of the Engineering Research Centers.*

21       *(3) The Director may establish a program to provide*  
22       *traineeships to United States citizens or permanent resident*  
23       *aliens who are graduate students at institutions of higher*  
24       *education within the United States who choose to pursue*  
25       *masters or doctoral degrees in manufacturing or industrial*

1 *engineering. The Director of the National Science Founda-*  
2 *tion shall make an effort to ensure the provision of*  
3 *traineeships under this subsection to socially and economi-*  
4 *cally disadvantaged individuals (within the meaning of sec-*  
5 *tion 8(a) (5) and (6) of the Small Business Act, and includ-*  
6 *ing women).*

7       (4) *The Director may establish a program to provide*  
8 *fellowships, on a cost-shared basis, to individuals from in-*  
9 *dustry with experience in manufacturing to serve for 1 or*  
10 *2 years as instructors in manufacturing at 2-year commu-*  
11 *nity and technical colleges in the United States. In selecting*  
12 *fellows, the Director shall place special emphasis on sup-*  
13 *porting individuals who not only have expertise and prac-*  
14 *tical experience in manufacturing but who also will work*  
15 *to foster cooperation between 2-year colleges and nearby*  
16 *manufacturing firms.*

17       (5) *The Director may establish a program to develop*  
18 *innovative curricula, courses, and materials for use by in-*  
19 *stitutions of higher education for instruction in total qual-*  
20 *ity management and related management practices, in*  
21 *order to help improve the productivity of United States*  
22 *companies.*

23       (6)(A) *The Director, acting in cooperation with other*  
24 *appropriate Federal officials, may establish and carry out*  
25 *a pilot program, known as the Small Manufacturers Re-*

1 *newal and Training Program (in this subsection referred*  
2 *to as the “Program”), to award grants to eligible partner-*  
3 *ships for internship activities under this section. Partner-*  
4 *ships between engineering colleges and manufacturing ex-*  
5 *tension centers are eligible to apply for grants under the*  
6 *Program and be designated as SMaRT Partnerships. The*  
7 *Director may establish requirements for proposals for fund-*  
8 *ing under the Program, for activities undertaken by*  
9 *SMaRT Partnerships with such funding, and for reporting*  
10 *by SMaRT Partnerships and other persons participating*  
11 *in the Program, and criteria for selecting proposals, includ-*  
12 *ing economic need.*

13 *(B) Each SMaRT Partnership receiving a grant under*  
14 *the Program shall use such grant funds to sponsor qualified*  
15 *engineering students to work as interns with eligible small*  
16 *manufacturers, especially very small manufacturers, by*  
17 *paying the host company the Federal share of the intern’s*  
18 *wages, not to exceed the Federal minimum wage.*

19 *(C) A small manufacturer shall be eligible to host in-*  
20 *terns under the Program only for manufacturing operations*  
21 *in the United States, shall provide adequate supervision to*  
22 *each intern, and shall use funds provided under the Pro-*  
23 *gram only to pay wages to the intern that supplement the*  
24 *host company share of the intern’s wages, not be less than*  
25 *the Federal minimum wage. No company shall be eligible*

1 *to receive funding in excess of two years wages at the Fed-*  
2 *eral minimum wage.*

3 **SEC. 204. ADVANCED MATERIALS AND PROCESSING.**

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

5 (1) Advances in materials have made dramatic  
6 improvements in the capabilities, potential, reliabil-  
7 ity, and limitations of technology over the past sev-  
8 eral decades, and further investment promises to en-  
9 able progress across a broad range of technological  
10 areas important to build a more productive economy  
11 and improve the quality of life.

12 (2) The Foundation should support inter-  
13 disciplinary research and education to develop new  
14 materials and processing technologies for such mate-  
15 rials in a way that couples academic materials re-  
16 search effectively with potential users of research re-  
17 sults in materials-dependent industries.

18 (b) ESTABLISHMENT OF INITIATIVE.—The Director  
19 is authorized to establish a cross-directorate advanced ma-  
20 terials and processing initiative that complements the ef-  
21 forts of the Advanced Research Projects Agency, other  
22 government agencies, and the private sector. Under the  
23 initiative, competitive, merit-based awards shall be made  
24 to individuals, small groups, and research centers to sup-  
25 port research and education activities that will accelerate

1 the development and application of new research results  
2 that can be applied toward a variety of national needs.

3 (c) FUNDING.—From the amounts appropriated for  
4 a fiscal year under section 101, the Director shall make  
5 available, to carry out this section, not more than—

6 (1) \$313,180,000 for fiscal year 1995;

7 (2) \$344,500,000 for fiscal year 1996;

8 (3) \$378,950,000 for fiscal year 1997;

9 (4) \$416,840,000 for fiscal year 1998; and

10 (5) \$458,530,000 for fiscal year 1999.

11 **SEC. 205. BIOTECHNOLOGY.**

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

13 (1) By the year 2000, the biotechnology indus-  
14 try is projected to have sales reaching  
15 \$50,000,000,000 in the United States, with the po-  
16 tential for thousands of new jobs, and renewed eco-  
17 nomic growth if the United States maintains its  
18 leadership in such industry.

19 (2) The Foundation should invest in a research  
20 and education initiative, supporting a wide range of  
21 areas including environmental biotechnology,  
22 bioprocessing, bioconversion, plant biotechnology,  
23 marine biotechnology, the social and economic di-  
24 mensions of biotechnology, and infrastructure-build-

1 ing in instrumentation, databases, research re-  
2 sources, and training.

3 (b) ESTABLISHMENT OF INITIATIVE.—The Director  
4 is authorized to establish a cross-directorate biotechnology  
5 research initiative that complements the efforts of other  
6 government agencies and the private sector. Under the ini-  
7 tiative, competitive, merit-based awards shall be made to  
8 individuals, small groups, and research centers to support  
9 research and education activities that—

10 (1) will extend the scientific and technical foun-  
11 dations necessary for progress in biotechnology;

12 (2) ensure the development of human resource  
13 foundations;

14 (3) accelerate the transfer of biotechnology re-  
15 search discoveries to commercial applications and  
16 eliminate unnecessary barriers to commercialization;  
17 and

18 (4) realize the benefits of biotechnology to the  
19 health and well-being of the population and the pro-  
20 tection and restoration of the environment.

21 (c) FUNDING.—From the amounts appropriated for  
22 a fiscal year under section 101, the Director shall make  
23 available, to carry out this section, not more than—

24 (1) \$205,690,000 for fiscal year 1995;

25 (2) \$230,370,000 for fiscal year 1996;

1 (3) \$258,020,000 for fiscal year 1997;

2 (4) \$288,980,000 for fiscal year 1998; and

3 (5) \$323,660,000 for fiscal year 1999.

4 **SEC. 206. CIVIL INFRASTRUCTURE SYSTEMS.**

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

6 (1) The economic security and quality of life for  
7 United States citizens depend on the vitality of the  
8 national civil infrastructure.

9 (2) There is an urgent need to rebuild obsolete  
10 and deteriorated civil infrastructure systems, but the  
11 cost may be prohibitive without innovations in mate-  
12 rials, construction automation, nondestructive eval-  
13 uation methods, strategic management and mainte-  
14 nance, design based on total system performance,  
15 safety and reliability, adaptive functionality, and  
16 evaluation of socioeconomic impacts.

17 (3) The Foundation should invest in an inter-  
18 disciplinary, systems-oriented research and education  
19 program that can effectively address the challenge of  
20 intelligent infrastructure renewal.

21 (b) ESTABLISHMENT OF INITIATIVE.—The Director  
22 is authorized to establish a cross-directorate civil infra-  
23 structure systems initiative that complements the efforts  
24 of other government agencies and the private sector.  
25 Under the initiative, competitive, merit-based awards shall

1 be made to individuals, small groups, and research centers  
2 to support research and education activities that will sup-  
3 port the development and application of new scientific and  
4 engineering knowledge in such areas as deterioration  
5 science, assessment technologies, renewal engineering, and  
6 institutional effectiveness and productivity.

7 (c) FUNDING.—From the amounts appropriated for  
8 a fiscal year under section 101, the Director shall make  
9 available, to carry out this section, not more than—

- 10 (1) \$54,100,000 for fiscal year 1995;
- 11 (2) \$64,920,000 for fiscal year 1996;
- 12 (3) \$77,900,000 for fiscal year 1997;
- 13 (4) \$93,480,000 for fiscal year 1998; and
- 14 (5) \$112,180,000 for fiscal year 1999.

15 **SEC. 207. GLOBAL CHANGE RESEARCH.**

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

17 (1) Global change research provides the founda-  
18 tion for understanding and evaluating the changing  
19 world, and encourages wise decisions for the future  
20 of the United States and the international commu-  
21 nity.

22 (2) The global change research and education  
23 initiative of the Foundation should be coordinated  
24 with the interagency Global Change Research Pro-  
25 gram and should seek to—

1           (A) develop options for increasing the sus-  
2           tainability of human communities and protect-  
3           ing the environment; and

4           (B) support national and international pol-  
5           icy formulation and evaluation.

6           (b) ESTABLISHMENT OF INITIATIVE.—The Director  
7 is authorized to establish a cross-directorate global change  
8 research initiative that complements the efforts of the  
9 interagency Global Change Research Program. Under the  
10 initiative, competitive, merit-based awards shall be made  
11 to individuals, small groups, and research centers to sup-  
12 port research and education activities that will advance  
13 fundamental understandings of dynamic physical, biologi-  
14 cal, and socioeconomic systems and the interactions  
15 among such systems, and the likelihood and extent of pos-  
16 sible global change.

17          (c) FUNDING.—From the amounts appropriated for  
18 a fiscal year under section 101, the Director shall make  
19 available, to carry out this section, not more than—

20           (1) \$190,520,000 for fiscal year 1995;

21           (2) \$200,050,000 for fiscal year 1996;

22           (3) \$210,050,000 for fiscal year 1997;

23           (4) \$220,550,000 for fiscal year 1998; and

24           (5) \$231,580,000 for fiscal year 1999.

1 **SEC. 208. ENVIRONMENTAL RESEARCH.**

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

3 (1) Today, the Federal Government spends an  
4 estimated \$6,000,000,000 on environmental research  
5 and development, yet environmental problems persist  
6 and new problems emerge that endanger the quality  
7 of life.

8 (2) Federally supported environmental research  
9 must be coupled more closely to environmental policy  
10 in order to focus the research on critical policy ques-  
11 tions and to enable decisionmakers to take advan-  
12 tage of the most recent, highest quality research re-  
13 sults.

14 (b) ESTABLISHMENT OF INITIATIVE.—

15 (1) IN GENERAL.—The Director is authorized  
16 to establish a cross-directorate environmental re-  
17 search initiative that complements the efforts of  
18 other government agencies and the private sector.  
19 Under the initiative, competitive, merit-based awards  
20 shall be made to individuals, small groups, and re-  
21 search centers to support research and education ac-  
22 tivities that will focus on such topics as—

23 (A) research on the effects of biodiversity  
24 on the health of ecosystems;

25 (B) infrastructure support for biological  
26 *and agricultural* field stations;

1 (C) environmental education;

2 (D) computer modeling of changing envi-  
3 ronmental conditions; and

4 (E) research on new technologies for pollu-  
5 tion prevention and environmental remediation,  
6 *construction technologies*, and environmentally  
7 benign chemical synthesis and processing.

8 (2) ESTABLISHMENT OF A NATIONAL ENVIRON-  
9 MENTAL RESEARCH PROGRAM.—As part of the envi-  
10 ronmental research initiative authorized under para-  
11 graph (1), the Director is authorized to establish a  
12 National Environmental Research Program to in-  
13 clude the following components:

14 (A) NATIONAL ENVIRONMENTAL RE-  
15 SEARCH FORUM.—The Director is authorized to  
16 establish a National Environmental Research  
17 Forum composed of representatives of the pri-  
18 vate sector, including industrial consortia, sci-  
19 entific and engineering societies and associa-  
20 tions, nongovernmental organizations, the  
21 Foundation, and other relevant Federal agen-  
22 cies for the purpose of developing an environ-  
23 mental research agenda that will be scientif-  
24 ically significant, be relevant from a sociopoliti-  
25 cal point of view, will have a direct connection

1 to the knowledge needs of managers and others  
2 whose decisions have environmental con-  
3 sequences, ~~and~~ will use risk-benefit criteria to  
4 assign priorities on the research agenda, *and*  
5 *will recognize the unique environmental concerns*  
6 *of various regions of the United States, including*  
7 *rural, resource-rich States.*

8 (B) NATIONAL ENVIRONMENTAL RE-  
9 SEARCH CENTERS.—The Director, with the co-  
10 operation of other Federal agencies, is author-  
11 ized to establish, through a competitive, merit-  
12 based review process, one or more National  
13 Centers for Environmental Research to conduct  
14 multidisciplinary research that responds to the  
15 information needs of, and the research agenda  
16 established by, the National Environmental Re-  
17 search Forum.

18 (C) NATIONAL ENVIRONMENTAL FELLOW-  
19 SHIP PROGRAM.—The Director, with the co-  
20 operation of other relevant Federal agencies, is  
21 authorized to establish, through a competitive,  
22 merit-based process, a fellowship program to  
23 provide support for personnel exchanges be-  
24 tween academic institutions, Federal, State, and  
25 local agencies, industry and industrial consor-

1           tia, and other private sector organizations con-  
2           cerned with information needs and responsibil-  
3           ities for environmental decisionmaking.

4           (c) FUNDING.—From the amounts appropriated for  
5 a fiscal year under section 101, the Director shall make  
6 available not more than—

7           (1) \$156,040,000 for fiscal year 1995, of which  
8           not more than \$20,000,000 may be used for the Na-  
9           tional Environmental Research Program;

10          (2) \$171,640,000 for fiscal year 1996, of which  
11          not more than \$30,000,000 may be used for the Na-  
12          tional Environmental Research Program;

13          (3) \$188,810,000 for fiscal year 1997, of which  
14          not more than \$40,000,000 may be used for the Na-  
15          tional Environmental Research Program;

16          (4) \$207,690,000 for fiscal year 1998, of which  
17          not more than \$50,000,000 may be used for the Na-  
18          tional Environmental Research Program; and

19          (5) \$228,460,000 for fiscal year 1999, of which  
20          not more than \$60,000,000 may be used for the Na-  
21          tional Environmental Research Program.

22 **SEC. 209. HIGH PERFORMANCE COMPUTING AND COMMU-**  
23 **NICATIONS.**

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

1           (1) High performance computing and commu-  
2           nications promote sharing of information, wide dis-  
3           semination of advances in innovative technologies,  
4           and improved productivity and industrial competi-  
5           tiveness.

6           (2) In addition to supporting innovative re-  
7           search and education, the investments of the Foun-  
8           dation in high performance computing and commu-  
9           nications should—

10                   (A) support the National Information In-  
11                    rastructure through application-driven research  
12                    including proof-of-principle demonstrations;

13                   (B) develop, provide, and support national  
14                    research and education networking services and  
15                    capabilities; and

16                   (C) make advanced computing, commu-  
17                    nications, and information infrastructure acces-  
18                    sible to the broadest possible segment of soci-  
19                    ety.

20           (b) ESTABLISHMENT OF INITIATIVE.—The Director  
21           is authorized to establish a cross-directorate high perform-  
22           ance computing and communications initiative under  
23           which competitive, merit-based awards shall be made to  
24           individuals, small groups, and research centers to support

1 research and education activities that will focus on such  
2 issues as—

3           (1) the expansion and technological develop-  
4           ment of the National Science Foundation Computer  
5           Network (NSFNET);

6           (2) support for existing supercomputer and re-  
7           search centers;

8           (3) Grand Challenge and National Challenge  
9           application groups;

10          (4) research infrastructure;

11          (5) disciplinary high performance computing re-  
12          search programs; and

13          (6) education and training.

14          (c) FUNDING.—From the amounts appropriated for  
15 a fiscal year under section 101, the Director shall make  
16 available, to carry out this section, not more than—

17           (1) \$328,620,000 for fiscal year 1995;

18           (2) \$345,050,000 for fiscal year 1996;

19           (3) \$362,300,000 for fiscal year 1997;

20           (4) \$380,420,000 for fiscal year 1998; and

21           (5) \$399,440,000 for fiscal year 1999.

22 **SEC. 210. SCIENCE, MATHEMATICS, ENGINEERING, AND**  
23 **TECHNOLOGY EDUCATION.**

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

1           (1) In international comparisons, the United  
2 States ranks below most other developed nations in  
3 science and mathematics.

4           (2) The United States will need a broadly com-  
5 petent, scientifically literate workforce in order to  
6 sustain a strong and productive economy in the com-  
7 ing decades.

8           (3) The Foundation is the appropriate agency  
9 to lead an interagency initiative to support innova-  
10 tive approaches to improve science, mathematics, en-  
11 gineering, and technology education at all levels so  
12 that all citizens of the United States can work in  
13 and enjoy the benefits of the rapidly changing, high-  
14 technology economy.

15       (b) ESTABLISHMENT OF INITIATIVE.—The Director  
16 is authorized to establish a cross-directorate science,  
17 mathematics, engineering, and technology education ini-  
18 tiative under which competitive, merit-based awards shall  
19 be made, in cooperation with the Department of Edu-  
20 cation and other relevant Federal agencies, States and  
21 local government, institutions of higher education, and the  
22 private sector, to individuals, small groups, and centers  
23 to support research and education activities that fun-  
24 damentally will reform and improve the mathematics and

1 science education enterprise of the United States at all  
2 levels of education.

3 (c) FUNDING.—From the amounts appropriated for  
4 a fiscal year under section 101, the Director shall make  
5 available, to carry out this section, not more than—

6 (1) \$650,190,000 for fiscal year 1995;

7 (2) \$715,210,000 for fiscal year 1996;

8 (3) \$786,730,000 for fiscal year 1997;

9 (4) \$865,400,000 for fiscal year 1998; and

10 (5) \$951,940,000 for fiscal year 1999.

11 **SEC. 211. ADDITIONAL STRATEGIC INITIATIVES.**

12 The Director, with the advice and consent of the  
13 Board and in consultation with the Office of Science and  
14 Technology Policy, is authorized to support, modify, and  
15 as, appropriate, add or eliminate strategic initiatives in re-  
16 search and education based on emerging national needs  
17 and the ability of science and engineering to contribute  
18 in meaningful and significant ways toward identified na-  
19 tional needs and objectives.

20 **SEC. 212. SUPPORT FOR STRATEGIC INITIATIVES.**

21 To support the strategic initiatives authorized by this  
22 title, the Director shall make available not more than—

23 (1) \$1,760,400,000 for fiscal year 1995;

24 (2) \$1,936,920,000 for fiscal year 1996;

25 (3) \$2,130,600,000 for fiscal year 1997;

1 (4) \$2,343,600,000 for fiscal year 1998; and

2 (5) \$2,578,200,000 for fiscal year 1999.

3 **SEC. 213. TRANSFER AUTHORITY.**

4 (a) IN GENERAL.—Funds may be transferred among  
5 directorates and strategic initiatives within the research  
6 and related activities category so long as the net funds  
7 transferred to or from any directorate or initiative does  
8 not exceed 10 percent of the amount budgeted for that  
9 directorate or strategic initiative.

10 (b) TRANSFERS EXCEEDING TEN PERCENT.—In ad-  
11 dition, the Director may propose transfer to or from any  
12 directorate or strategic initiative within the research and  
13 related activities category an amount exceeding 10 percent  
14 of the amount budgeted for that directorate or strategic  
15 initiative. An explanation of any such proposed transfer  
16 must be transmitted in writing to the Committees on  
17 Labor and Human Resources and Commerce, Science, and  
18 Transportation of the Senate and the Committee on  
19 Science, Space, and Technology of the House of Rep-  
20 resentatives. The proposed transfer may not be made until  
21 30 calendar days after the date of the transmission of the  
22 written explanation.

1                   **TITLE III—GENERAL**  
2                   **PROVISIONS**

3   **SEC. 301. AMENDMENTS TO THE ACADEMIC RESEARCH FA-**  
4                   **CILITIES MODERNIZATION ACT OF 1988.**

5           (a) AUTHORIZATION.—Section 203(a)(1) of the Aca-  
6   demic Research Facilities Modernization Act of 1988 (42  
7   U.S.C. 1862b(a)(1)) is amended to read as follows:

8           “(a)(1) To carry out this title, the Director shall es-  
9   tablish a new Academic Research Instrumentation and  
10   Facilities Modernization Program (hereafter in this title  
11   referred to as the “Program”) to provide awards to insti-  
12   tutions of higher education, independent nonprofit re-  
13   search institutions, and research museums, and consortia  
14   thereof, to carry out projects with respect to—

15           “(A) the acquisition of research instrumenta-  
16   tion; or

17           “(B) the repair, renovation, or, in exceptional  
18   cases, replacement of obsolete science and engineer-  
19   ing facilities that are primarily used for research.”.

20           (b) PROGRAM PROJECTS.—Section 203(b)(1) of the  
21   Academic Research Facilities Modernization Act of 1988  
22   (42 U.S.C. 1862b(b)(1)) is amended to read as follows:

23           “(b)(1) The Program shall be carried out through  
24   projects—

25           “(1) that involve—



1       “(c)(1) The Congress finds that Native Hawaiian  
2 students, students who are Pacific Islanders, and Native  
3 American students are underrepresented in science, com-  
4 puter science, and engineering. Such students face both  
5 cultural barriers to the study of science and geographical  
6 isolation.

7       “(2) The Director is authorized to make awards to  
8 institutions of higher education, including community col-  
9 leges, and local educational agencies to work in partner-  
10 ship with community organizations to develop and imple-  
11 ment science, computer science, technology, and mathe-  
12 matics curricula that—

13               “(A) are in accord with the traditional cultural  
14 values of the students described in paragraph (1);

15               “(B) emphasize the scientific achievements of  
16 the native cultures of such students; and

17               “(C) encourage enrollment of such students in  
18 higher education.”.

19       (b) COMMITTEE ON EQUAL OPPORTUNITIES IN  
20 SCIENCE AND TECHNOLOGY.—Section 36 of the Science  
21 and Engineering Equal Opportunities Act (42 U.S.C.  
22 1885c) is amended—

23               (1) in subsection (a), by inserting “individuals  
24 with disabilities,” after “minorities,”;

1           (2) in subsection (b), by striking the second  
2 sentence and inserting the following: “The Chair-  
3 persons of relevant committees or subcommittees of  
4 the National Science Board, as designated by the  
5 Chairperson of the Board, shall be ex officio mem-  
6 bers of the Committee.”;

7           (3) by striking subsections (c) and (d);

8           (4) by redesignating subsections (e) and (f) as  
9 subsections (d) and (e), respectively;

10          (5) by inserting after subsection (b) the follow-  
11 ing new subsection:

12          “(c) The Committee shall be responsible for reviewing  
13 and evaluating all Foundation matters as such matters re-  
14 late to participation in, opportunities for, and advance-  
15 ment in education, training, and research in science and  
16 engineering of members of underrepresented groups.”;  
17 and

18          (6) in subsection (d) (as redesignated by para-  
19 graph (4)), by striking “additional”.

20 **SEC. 303. INTERNATIONAL COLLABORATIVE PROGRAMS.**

21          (a) COOPERATIVE PROJECTS WITH LATIN AMERICA  
22 GRANTS.—

23          (1) FINDINGS.—The Congress finds the follow-  
24 ing:

1           (A) The recent lowering of trade barriers  
2 will increase the exchange of technologies and  
3 technically trained personnel with the countries  
4 of Latin America.

5           (B) To promote such exchange, scientists  
6 from the United States should establish cooper-  
7 ative projects in scientific and engineering re-  
8 search with scientists in the countries of Latin  
9 America.

10          (2) AUTHORITY.—The Director is authorized to  
11 make grants to organizations within the United  
12 States, including colleges and universities, for the  
13 purpose of promoting cooperative research projects  
14 between scientists in the United States and sci-  
15 entists in Latin American organizations. Prior to  
16 making any grants under this section, the Director  
17 shall make a determination that—

18           (A) the project has scientific merit as de-  
19 termined by standard Foundation procedures;

20           (B) the project will encourage the develop-  
21 ment of infrastructure connections between co-  
22 operating institutions that can be used in sup-  
23 port of future projects; and

1 (C) at least 50 percent of the funding for  
2 the project will be provided by the Latin Amer-  
3 ican partner.

4 (3) AUTHORIZATION OF APPROPRIATIONS.—  
5 There are authorized to be appropriated to carry out  
6 this section \$10,000,000 for each of the fiscal years  
7 1995, and such sums as may be necessary for each  
8 of the succeeding 3 fiscal years.

9 (4) COORDINATION.—In carrying out this sec-  
10 tion, the Director shall coordinate with Federal  
11 agencies, such as the Agency for International De-  
12 velopment, which have expertise in cooperative inter-  
13 national projects.

14 (b) U.S.-NEWLY INDEPENDENT STATES COLLABO-  
15 RATIVE RESEARCH PROGRAM.—

16 (1) FINDINGS.—The Congress finds the follow-  
17 ing:

18 (A) The dissolution of the Soviet Union  
19 has been accompanied by economic dislocation  
20 in the Russian Federation and the other repub-  
21 lics. As a result, scientific establishments have  
22 been seriously and adversely affected.

23 (B) United States support for emerging  
24 democratic institutions in the newly independ-  
25 ent states can be greatly enhanced by assisting

1 in the development of a sound economic struc-  
2 ture. A productive economy must be sustained  
3 by a healthy scientific and technological infra-  
4 structure.

5 (C) Despite their difficult environment, sci-  
6 entists in the newly independent states are  
7 world experts in selected fields. Collaborative  
8 research can benefit all international partners,  
9 including the United States.

10 (D) The newly independent states are  
11 faced with the imminent dissolution of the sci-  
12 entific and technological infrastructure of such  
13 states and the emigration of the best scientists  
14 and engineers of such states. Loss of the most  
15 highly educated and trained citizens will greatly  
16 impede development of democratic institutions  
17 and private enterprise within the region.

18 (E) Modest external resources can be le-  
19 veraged to provide a significant source of sup-  
20 port for scientists and engineers in the newly  
21 independent states, engaged in both civilian and  
22 defense related research, most of whom do not  
23 wish to leave their homelands.

24 (F) The United States has long recognized  
25 that effective communication between the re-

1 search and industrial communities is necessary  
2 for both to remain healthy and can be achieved  
3 through collaborative research projects. Sci-  
4 entists and entrepreneurs in the emerging re-  
5 publics have little understanding or experience  
6 with commercial business practice. These skills  
7 can best be developed through cooperative ar-  
8 rangements with United States counterparts.

9 (G) Collaborative research with the sci-  
10 entific community can sustain excellence while  
11 encouraging the transition toward democratiza-  
12 tion and practical application and transfer of  
13 research efforts to the emerging private sector.  
14 Such collaboration links United States research-  
15 ers and businesses to highly trained personnel  
16 and sophisticated new technologies and manu-  
17 facturing processes.

18 (H) The most effective kind of support  
19 would—

20 (i) be mutually beneficial to the both  
21 United States and the Newly Independent  
22 States scientists and engineers;

23 (ii) take advantage of existing rela-  
24 tionships, special expertise, and unique re-

1 search facilities in the newly independent  
2 states;

3 (iii) provide salary support to sci-  
4 entists and engineers in the Newly Inde-  
5 pendent States working on collaborative  
6 projects; and

7 (iv) provide support within the next 6  
8 to 12 months.

9 (2) ESTABLISHMENT OF PROGRAM.—The Di-  
10 rector is authorized to establish a cross-directorate  
11 program between the United States and the Newly  
12 Independent States under which competitive, merit-  
13 based awards shall be made to individuals, small  
14 groups, and research centers to support collaborative  
15 research efforts between scientists and engineers  
16 from the United States and the Newly Independent  
17 States. Options for support should include—

18 (A) supplements to existing National  
19 Science Foundation research centers including  
20 Engineering Research Centers, Science and  
21 Technology Centers, Industry-University Coop-  
22 erative Research Centers, and Materials Re-  
23 search Science and Engineering Centers, to es-  
24 tablish collaborative research programs with

1 counterpart institutions in the Newly Independ-  
2 ent States;

3 (B) collaborative research in the strategic  
4 areas such as environmental research, advanced  
5 materials, and related disciplines with awards  
6 and supplements made to United States institu-  
7 tions to develop joint research projects to gain  
8 access to specialized and unique facilities in the  
9 Newly Independent States;

10 (C) supplement existing individual inves-  
11 tigator research awards that would identify  
12 promising opportunities for scientific and tech-  
13 nological collaboration with scientists and engi-  
14 neers in the Newly Independent States; and

15 (D) special awards to support coordination  
16 and cooperative planning activities to improve  
17 communication and the development of long-  
18 term interactions between scientists and engi-  
19 neers in the United States and the Newly Inde-  
20 pendent States.

21 (3) AUTHORIZATION OF APPROPRIATIONS.—  
22 There are authorized to be appropriated to the Di-  
23 rector \$10,000,000 for fiscal year 1995,  
24 \$20,000,000 for fiscal year 1996, \$30,000,000 for

1 fiscal year 1997, \$40,000,000 for fiscal year 1998,  
2 and \$50,000,000 for fiscal year 1999.

3 **SEC. 304. EXPERIMENTAL PROGRAM TO STIMULATE COM-**  
4 **PETITIVE RESEARCH.**

5 (a) **AUTHORITY.**—The Director shall continue to  
6 carry out the Experimental Program to Stimulate Com-  
7 petitive Research (hereafter referred to in this section as  
8 the “Program”) to award research grants to entities that  
9 are located in States that—

10 (1) historically have received relatively little  
11 Federal research and development funding; and

12 (2) have demonstrated a commitment to develop  
13 the research bases of such States and improve  
14 science and engineering research and education pro-  
15 grams within such States.

16 (b) **ELIGIBILITY.**—Entities in those States in which  
17 awards have been made under the Program shall be eligi-  
18 ble to compete for support under the Program provided  
19 that the State provides assurances of matching funds and  
20 submits a proposal consistent with the goals and objectives  
21 of the program as established by the Director. All awards  
22 made by the Director shall be based on a competitive,  
23 merit-based review process.

1 **SEC. 305. NATIONAL UNIVERSITY TEACHING FELLOWS PRO-**  
2 **GRAM.**

3 (a) FINDINGS.—Congress finds that—

4 (1) maintaining an economically competitive  
5 workforce requires high quality undergraduate edu-  
6 cation in science, mathematics, and engineering, not  
7 only for students who will specialize in those fields,  
8 but for all undergraduate students; and

9 (2) demonstrated excellence in providing such  
10 education is frequently not recognized appropriately.

11 (b) DEFINITIONS.—As used in this section:

12 (1) DEPARTMENT.—The term “department”  
13 means the department—

14 (A) located at the institution where a fel-  
15 low is a faculty member; and

16 (B) in which such fellow is assigned to pro-  
17 vide instruction to undergraduate students in a  
18 subject area under the jurisdiction of the de-  
19 partment.

20 (2) FELLOW.—The term “fellow” means an in-  
21 dividual who is selected as a fellow under paragraph  
22 (5) of subsection (d).

23 (3) INTERDISCIPLINARY PROGRAM.—The term  
24 “interdisciplinary program” means an instructional  
25 program that—

1 (A) combines members of two or more of  
2 the traditional academic departments; and

3 (B) is empowered to recommend members  
4 of its faculty for tenure.

5 (c) DESIGNATION OF FELLOWS.—Individuals receiv-  
6 ing awards under this section shall be known as “National  
7 Undergraduate Teaching Fellows”.

8 (d) AUTHORITY.—

9 (1) IN GENERAL.—The Director is authorized  
10 to—

11 (A) select annually individuals who are fac-  
12 ulty members teaching undergraduate courses  
13 at institutions of higher education to be teach-  
14 ing fellows;

15 (B) award fellowships to such individuals  
16 to carry out projects described in paragraph  
17 (3); and

18 (C) make grants to the departments or  
19 interdisciplinary programs of the institutions  
20 where the fellows are faculty members to carry  
21 out the activity described in paragraph (3).

22 (2) AMOUNT OF FELLOWSHIPS AND GRANTS.—

23 (A) FELLOW.—The Director is authorized  
24 to award a fellowship in the amount of at least

1           \$100,000 over 3 years to each fellow to carry  
2           out the projects described in paragraph (3).

3           (B) DEPARTMENT.—The Director is au-  
4           thorized to make a grant in the amount of at  
5           least \$60,000 over 3 years to the department or  
6           interdisciplinary program of the institution  
7           where each fellow is a faculty member.

8           (3) AUTHORIZED ACTIVITIES.—Amounts award-  
9           ed under paragraph (2) shall be used—

10           (A) in the case of a fellowship awarded to  
11           a fellow, to carry out projects to improve under-  
12           graduate science, mathematics, or engineering  
13           education; and

14           (B) in the case of a grant made to the de-  
15           partment or interdisciplinary program of an in-  
16           stitution where a fellow is a faculty member, for  
17           the improvement of undergraduate education.

18           (4) ELIGIBILITY.—To be eligible to receive a  
19           fellowship or grant under this title, an individual de-  
20           scribed in paragraph (1)(A) shall—

21           (A) be nominated by the institution where  
22           such individual is a faculty member;

23           (B) hold a tenure track appointment in  
24           such institution; and

1 (C) submit to the Director a written pro-  
2 posal, with respect to the improvement of un-  
3 dergraduate education at such institution, at  
4 such time, in such manner, and accompanied by  
5 such information as the Director may reason-  
6 ably require.

7 (5) SELECTION REQUIREMENTS.—The Director  
8 shall select a fellow on the basis of the—

9 (A) performance of such fellow in improv-  
10 ing undergraduate education at the institution  
11 where such fellow is a faculty member;

12 (B) proposal submitted under paragraph  
13 (4); and

14 (C) excellence of such fellow as an under-  
15 graduate teacher.

16 (d) AUTHORIZATION OF APPROPRIATIONS.—There  
17 are authorized to be appropriated \$1,500,000 for the fis-  
18 cal year 1995, \$3,000,000 for fiscal year 1996, and  
19 \$4,500,000 for each of the succeeding fiscal years to carry  
20 out this section.

21 **SEC. 306. ADMINISTRATIVE AMENDMENTS.**

22 (a) NATIONAL SCIENCE FOUNDATION ACT OF 1950  
23 AMENDMENTS.—

24 (1) NATIONAL SCIENCE BOARD.—Section 4(e)  
25 of the National Science Foundation Act of 1950 (42

1 U.S.C. 1863(e)) is amended by striking the second  
2 and third sentences and inserting the following:  
3 “The Board shall adopt procedures governing the  
4 conduct of its meetings, including procedures with  
5 respect to the requirements of a quorum and the de-  
6 livery of notice of meetings to members of the  
7 Board.”.

8 (2) DIRECTOR OF THE FOUNDATION.—Section  
9 5(e)(2) of the National Science Foundation Act of  
10 1950 (42 U.S.C. 1864(e)(2)) is amended to read as  
11 follows:

12 “(2) Any delegation of authority or imposition of con-  
13 ditions under paragraph (1) shall be promptly published  
14 in the Federal Register and reported to the Committees  
15 on Labor and Human Resources and Commerce, Science,  
16 and Transportation of the Senate and the Committee on  
17 Science, Space, and Technology of the House of Rep-  
18 resentatives.”.

19 (3) MISCELLANEOUS PROVISIONS.—Section 14  
20 of the National Science Foundation Act of 1950 (42  
21 U.S.C. 1873) is amended by striking subsection (j).

22 (4) SECURITY PROVISIONS.—Section 15(a) of  
23 the National Science Foundation Act of 1950 (42  
24 U.S.C. 1874(a)) is amended by striking “Atomic

1 Energy Commission” and inserting “Secretary of  
2 Energy”.

3 (b) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
4 TION ACT OF 1988 AMENDMENTS.—Section  
5 117(a)(1)(B)(v) of the National Science Foundation Au-  
6 thorization Act of 1988 is amended to read as follows:

7 “(v) from schools established outside the several  
8 States and the District of Columbia by any agency  
9 of the Federal Government for dependents of such  
10 employees.”.

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**Calendar No. 670**

103<sup>D</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 2344**

**[Report No. 103-328]**

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**A BILL**

To authorize appropriations for the National  
Science Foundation, and for other purposes.

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SEPTEMBER 28 (legislative day, SEPTEMBER 12), 1994  
Reported with amendment