

cyber security in information technology networks, products, and services.

(5) Criteria

In evaluating the applications submitted under paragraph (4), the Director shall consider, at a minimum—

(A) the ability of the applicant to generate innovative approaches to computer and network security and effectively carry out the research program;

(B) the experience of the applicant in conducting research on computer and network security and the capacity of the applicant to foster new multidisciplinary collaborations;

(C) the capacity of the applicant to attract and provide adequate support for a diverse group of undergraduate and graduate students and postdoctoral fellows to pursue computer and network security research; and

(D) the extent to which the applicant will partner with government laboratories, for-profit entities, other institutions of higher education, or nonprofit research institutions, and the role the partners will play in the research undertaken by the Center.

(6) Annual meeting

The Director shall convene an annual meeting of the Centers in order to foster collaboration and communication between Center participants.

(7) Authorization of appropriations

There are authorized to be appropriated for the National Science Foundation to carry out this subsection—

(A) \$12,000,000 for fiscal year 2003;

(B) \$24,000,000 for fiscal year 2004;

(C) \$36,000,000 for fiscal year 2005;

(D) \$36,000,000 for fiscal year 2006; and

(E) \$36,000,000 for fiscal year 2007.

(Pub. L. 107-305, § 4, Nov. 27, 2002, 116 Stat. 2368.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 278h, 7405 of this title.

§ 7404. National Science Foundation computer and network security programs

(a) Computer and network security capacity building grants

(1) In general

The Director shall establish a program to award grants to institutions of higher education (or consortia thereof) to establish or improve undergraduate and master's degree programs in computer and network security, to increase the number of students, including the number of students from groups historically underrepresented in these fields, who pursue undergraduate or master's degrees in fields related to computer and network security, and to provide students with experience in government or industry related to their computer and network security studies.

(2) Merit review

Grants shall be awarded under this subsection on a merit-reviewed competitive basis.

(3) Use of funds

Grants awarded under this subsection shall be used for activities that enhance the ability of an institution of higher education (or consortium thereof) to provide high-quality undergraduate and master's degree programs in computer and network security and to recruit and retain increased numbers of students to such programs. Activities may include—

(A) revising curriculum to better prepare undergraduate and master's degree students for careers in computer and network security;

(B) establishing degree and certificate programs in computer and network security;

(C) creating opportunities for undergraduate students to participate in computer and network security research projects;

(D) acquiring equipment necessary for student instruction in computer and network security, including the installation of testbed networks for student use;

(E) providing opportunities for faculty to work with local or Federal Government agencies, private industry, nonprofit research institutions, or other academic institutions to develop new expertise or to formulate new research directions in computer and network security;

(F) establishing collaborations with other academic institutions or academic departments that seek to establish, expand, or enhance programs in computer and network security;

(G) establishing student internships in computer and network security at government agencies or in private industry;

(H) establishing collaborations with other academic institutions to establish or enhance a web-based collection of computer and network security courseware and laboratory exercises for sharing with other institutions of higher education, including community colleges;

(I) establishing or enhancing bridge programs in computer and network security between community colleges and universities; and

(J) any other activities the Director determines will accomplish the goals of this subsection.

(4) Selection process

(A) Application

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

(i) a description of the applicant's computer and network security research and instructional capacity, and in the case of an application from a consortium of institutions of higher education, a description of the role that each member will play in implementing the proposal;

(ii) a comprehensive plan by which the institution or consortium will build instructional capacity in computer and information security;

(iii) a description of relevant collaborations with government agencies or private industry that inform the instructional program in computer and network security;

(iv) a survey of the applicant's historic student enrollment and placement data in fields related to computer and network security and a study of potential enrollment and placement for students enrolled in the proposed computer and network security program; and

(v) a plan to evaluate the success of the proposed computer and network security program, including post-graduation assessment of graduate school and job placement and retention rates as well as the relevance of the instructional program to graduate study and to the workplace.

(B) Awards

(i) The Director shall ensure, to the extent practicable, that grants are awarded under this subsection in a wide range of geographic areas and categories of institutions of higher education, including minority serving institutions.

(ii) The Director shall award grants under this subsection for a period not to exceed 5 years.

(5) Assessment required

The Director shall evaluate the program established under this subsection no later than 6 years after the establishment of the program. At a minimum, the Director shall evaluate the extent to which the program achieved its objectives of increasing the quality and quantity of students, including students from groups historically underrepresented in computer and network security related disciplines, pursuing undergraduate or master's degrees in computer and network security.

(6) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

- (A) \$15,000,000 for fiscal year 2003;
- (B) \$20,000,000 for fiscal year 2004;
- (C) \$20,000,000 for fiscal year 2005;
- (D) \$20,000,000 for fiscal year 2006; and
- (E) \$20,000,000 for fiscal year 2007.

(b) Scientific and Advanced Technology Act of 1992

(1) Grants

The Director shall provide grants under the Scientific and Advanced Technology Act of 1992 (42 U.S.C. 1862i) [42 U.S.C. 1862h et seq.] for the purposes of section 3(a) and (b) of that Act [42 U.S.C. 1862i(a), (b)], except that the activities supported pursuant to this subsection shall be limited to improving education in fields related to computer and network security.

(2) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

- (A) \$1,000,000 for fiscal year 2003;
- (B) \$1,250,000 for fiscal year 2004;

(C) \$1,250,000 for fiscal year 2005;

(D) \$1,250,000 for fiscal year 2006; and

(E) \$1,250,000 for fiscal year 2007.

(c) Graduate traineeships in computer and network security research

(1) In general

The Director shall establish a program to award grants to institutions of higher education to establish traineeship programs for graduate students who pursue computer and network security research leading to a doctorate degree by providing funding and other assistance, and by providing graduate students with research experience in government or industry related to the students' computer and network security studies.

(2) Merit review

Grants shall be provided under this subsection on a merit-reviewed competitive basis.

(3) Use of funds

An institution of higher education shall use grant funds for the purposes of—

(A) providing traineeships to students who are citizens, nationals, or lawfully admitted permanent resident aliens of the United States and are pursuing research in computer or network security leading to a doctorate degree;

(B) paying tuition and fees for students receiving traineeships under subparagraph (A);

(C) establishing scientific internship programs for students receiving traineeships under subparagraph (A) in computer and network security at for-profit institutions, nonprofit research institutions, or government laboratories; and

(D) other costs associated with the administration of the program.

(4) Traineeship amount

Traineeships provided under paragraph (3)(A) shall be in the amount of \$25,000 per year, or the level of the National Science Foundation Graduate Research Fellowships, whichever is greater, for up to 3 years.

(5) Selection process

An institution of higher education seeking funding under this subsection shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum, a description of—

(A) the instructional program and research opportunities in computer and network security available to graduate students at the applicant's institution; and

(B) the internship program to be established, including the opportunities that will be made available to students for internships at for-profit institutions, nonprofit research institutions, and government laboratories.

(6) Review of applications

In evaluating the applications submitted under paragraph (5), the Director shall consider—

(A) the ability of the applicant to effectively carry out the proposed program;

(B) the quality of the applicant's existing research and education programs;

(C) the likelihood that the program will recruit increased numbers of students, including students from groups historically underrepresented in computer and network security related disciplines, to pursue and earn doctorate degrees in computer and network security;

(D) the nature and quality of the internship program established through collaborations with government laboratories, non-profit research institutions, and for-profit institutions;

(E) the integration of internship opportunities into graduate students' research; and

(F) the relevance of the proposed program to current and future computer and network security needs.

(7) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

- (A) \$10,000,000 for fiscal year 2003;
- (B) \$20,000,000 for fiscal year 2004;
- (C) \$20,000,000 for fiscal year 2005;
- (D) \$20,000,000 for fiscal year 2006; and
- (E) \$20,000,000 for fiscal year 2007.

(d) Graduate Research Fellowships program support

Computer and network security shall be included among the fields of specialization supported by the National Science Foundation's Graduate Research Fellowships program under section 1869 of title 42.

(e) Cyber security faculty development traineeship program

(1) In general

The Director shall establish a program to award grants to institutions of higher education to establish traineeship programs to enable graduate students to pursue academic careers in cyber security upon completion of doctoral degrees.

(2) Merit review; competition

Grants shall be awarded under this section on a merit-reviewed competitive basis.

(3) Application

Each institution of higher education desiring to receive a grant under this subsection shall submit an application to the Director at such time, in such manner, and containing such information as the Director shall require.

(4) Use of funds

Funds received by an institution of higher education under this paragraph shall—

(A) be made available to individuals on a merit-reviewed competitive basis and in accordance with the requirements established in paragraph (7);

(B) be in an amount that is sufficient to cover annual tuition and fees for doctoral study at an institution of higher education for the duration of the graduate traineeship, and shall include, in addition, an annual living stipend of \$25,000; and

(C) be provided to individuals for a duration of no more than 5 years, the specific du-

ration of each graduate traineeship to be determined by the institution of higher education, on a case-by-case basis.

(5) Repayment

Each graduate traineeship shall—

(A) subject to paragraph (5)(B), be subject to full repayment upon completion of the doctoral degree according to a repayment schedule established and administered by the institution of higher education;

(B) be forgiven at the rate of 20 percent of the total amount of the graduate traineeship assistance received under this section for each academic year that a recipient is employed as a full-time faculty member at an institution of higher education for a period not to exceed 5 years; and

(C) be monitored by the institution of higher education receiving a grant under this subsection to ensure compliance with this subsection.

(6) Exceptions

The Director may provide for the partial or total waiver or suspension of any service obligation or payment by an individual under this section whenever compliance by the individual is impossible or would involve extreme hardship to the individual, or if enforcement of such obligation with respect to the individual would be unconscionable.

(7) Eligibility

To be eligible to receive a graduate traineeship under this section, an individual shall—

(A) be a citizen, national, or lawfully admitted permanent resident alien of the United States; and

(B) demonstrate a commitment to a career in higher education.

(8) Consideration

In making selections for graduate traineeships under this paragraph, an institution receiving a grant under this subsection shall consider, to the extent possible, a diverse pool of applicants whose interests are of an interdisciplinary nature, encompassing the social scientific as well as the technical dimensions of cyber security.

(9) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this paragraph \$5,000,000 for each of fiscal years 2003 through 2007.

(Pub. L. 107-305, § 5, Nov. 27, 2002, 116 Stat. 2370.)

REFERENCES IN TEXT

The Scientific and Advanced Technology Act of 1992, referred to in subsec. (b)(1), is Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, as amended, which is classified generally to section 1862h et seq. of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 1861 of Title 42 and Tables.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in section 7405 of this title.

§ 7405. Consultation

In carrying out sections 7403 and 7404 of this title, the Director shall consult with other Federal agencies.