

(3) Criteria

Criteria for a grant awarded under this subsection shall be based on—

- (A) the potential to attract new students to the program;
- (B) academic rigor; and
- (C) the ability to offer hands-on learning opportunities.

(4) Duration and amount**(A) Duration**

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$1,000,000 for each year of the grant period.

(5) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

- (A) recruit and retain new faculty;
- (B) develop core and specialized course content;
- (C) encourage collaboration between faculty and researchers in the hydrocarbon systems science field; and
- (D) support outreach efforts to recruit students.

(e) Hydrocarbon systems science competitiveness grants for institutions of higher education**(1) In general**

The Secretary shall award up to 5 competitive grants for each fiscal year to institutions of higher education with existing academic degree programs that produce graduates in hydrocarbon systems science.

(2) Criteria

Criteria for a grant awarded under this subsection shall be based on the potential for increasing the number and academic quality of graduates in hydrocarbon systems sciences who enter into careers in natural gas and other petroleum exploration, development, and production related fields.

(3) Duration and amount**(A) Duration**

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$500,000 for each year of the grant period.

(4) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

- (A) increase the number of graduates in the hydrocarbon systems sciences that enter into careers in the natural gas and other petroleum exploration, development, and production science fields;
- (B) enhance the teaching of advanced natural gas and other petroleum exploration, development, and production technologies;

(C) aggressively pursue collaboration opportunities with industry and the National Laboratories, including the National Energy Technology Laboratory;

(D) bolster or sustain natural gas and other petroleum exploration, development, and production infrastructure and research facilities of the institution of higher education, such as research and training or laboratories; and

(E) provide tuition assistance and stipends to undergraduate and graduate students.

(f) Authorization of appropriations**(1) Hydrocarbon systems science program expansion grants for institutions of higher education**

There are authorized to be appropriated to carry out subsection (d)—

- (A) \$3,500,000 for fiscal year 2008;
- (B) \$6,500,000 for fiscal year 2009;
- (C) \$9,500,000 for fiscal year 2010;
- (D) \$9,800,000 for fiscal year 2011;
- (E) \$10,000,000 for fiscal year 2012; and
- (F) \$10,400,000 for fiscal year 2013.

(2) Hydrocarbon systems science competitiveness grants for institutions of higher education

There are authorized to be appropriated to carry out subsection (e)—

- (A) \$3,000,000 for fiscal year 2008;
- (B) \$5,500,000 for fiscal year 2009; and
- (C) \$8,000,000 for fiscal year 2010.

(Pub. L. 110-69, title V, §5005, Aug. 9, 2007, 121 Stat. 613; Pub. L. 111-358, title IX, §902(b), Jan. 4, 2011, 124 Stat. 4044.)

Editorial Notes**AMENDMENTS**

2011—Subsec. (b)(2)(J). Pub. L. 111-358, §902(b)(1), added subpar. (J).

Subsec. (f)(1)(D) to (F). Pub. L. 111-358, §902(b)(2), added subpars. (D) to (F).

§ 16534. Department of Energy early career awards for science, engineering, and mathematics researchers**(a) Grant awards**

The Director of the Office of Science of the Department (referred to in this section as the “Director”) shall carry out a program to award grants to scientists and engineers at an early career stage at institutions of higher education and organizations described in subsection (c) to conduct research in fields relevant to the mission of the Department.

(b) Amount and duration**(1) Amount**

The amount of a grant awarded under this section shall be—

- (A) not less than \$80,000; and
- (B) not more than \$125,000.

(2) Duration

The term of a grant awarded under this section shall be not more than 5 years.

(c) Eligibility**(1) In general**

To be eligible to receive a grant under this section, an individual shall, as determined by the Director—

(A) subject to paragraph (2), have completed a doctorate or other terminal degree not more than 10 years before the date on which the proposal for a grant is submitted under subsection (e)(1);

(B) have demonstrated promise in a science, engineering, or mathematics field relevant to the missions of the Department; and

(C) be employed—

(i) in a tenure track-position as an assistant professor or equivalent title at an institution of higher education in the United States;

(ii) at an organization in the United States that is a nonprofit, nondegree-granting research organization such as a museum, observatory, or research laboratory; or

(iii) as a scientist at a National Laboratory.

(2) Waiver

Notwithstanding paragraph (1)(A), the Director may determine that an individual who has completed a doctorate more than 10 years before the date of submission of a proposal under subsection (e)(1) is eligible to receive a grant under this section if the individual was unable to conduct research for a period of time because of extenuating circumstances, including military service or family responsibilities, as determined by the Director.

(d) Selection

Grant recipients shall be selected on a competitive, merit-reviewed basis.

(e) Selection process and criteria

(1) Proposal

To be eligible to receive a grant under this section, an individual shall submit to the Director a proposal at such time, in such manner, and containing such information as the Director may require.

(2) Evaluation

In evaluating the proposals submitted under paragraph (1), the Director shall take into consideration, at a minimum—

(A) the intellectual merit of the proposed project;

(B) the innovative or transformative nature of the proposed research;

(C) the extent to which the proposal integrates research and education, including undergraduate education in science and engineering disciplines; and

(D) the potential of the applicant for leadership at the frontiers of knowledge.

(f) Diversity requirement

(1) In general

In awarding grants under this section, the Director shall endeavor to ensure that the grant recipients represent a variety of types of institutions of higher education and nonprofit, nondegree-granting research organizations.

(2) Requirement

In support of the goal described in paragraph (1), the Director shall broadly disseminate in-

formation regarding the deadlines applicable to, and manner in which to submit, proposals for grants under this section, including by conducting outreach activities for—

(A) part B institutions, as defined in section 1061 of title 20; and

(B) minority institutions, as defined in section 1067k of title 20.

(g) Report on recruiting and retaining early career science and engineering researchers at National Laboratories

(1) In general

Not later than 90 days after August 9, 2007, the Director shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report describing efforts of the Director to recruit and retain young scientists and engineers at early career stages at the National Laboratories.

(2) Inclusions

The report under paragraph (1) shall include—

(A) a description of applicable Department and National Laboratory policies and procedures, including policies and procedures relating to financial incentives, awards, promotions, time reserved for independent research, access to equipment or facilities, and other forms of recognition, designed to attract and retain young scientists and engineers;

(B) an evaluation of the impact of the incentives described in subparagraph (A) on—

(i) the careers of young scientists and engineers at the National Laboratories; and

(ii) the quality of the research at the National Laboratories and in Department programs;

(C) a description of barriers, if any, that exist with respect to efforts to recruit and retain young scientists and engineers, including the limited availability of full-time equivalent positions, legal and procedural requirements, and pay grading systems; and

(D) the amount of funding devoted to efforts to recruit and retain young researchers, and the source of the funds.

(h) Authorization of appropriations

There is authorized to be appropriated to the Secretary, acting through the Director, to carry out this section \$25,000,000 for each of fiscal years 2008 through 2013.

(Pub. L. 110-69, title V, §5006, Aug. 9, 2007, 121 Stat. 615; Pub. L. 111-358, title IX, §902(c), Jan. 4, 2011, 124 Stat. 4045.)

Editorial Notes

AMENDMENTS

2011—Subsec. (h). Pub. L. 111-358 substituted “2013” for “2010”.

Statutory Notes and Related Subsidiaries

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science,

Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 16535. Discovery science and engineering innovation institutes

(a) In general

The Secretary shall establish distributed, multidisciplinary institutes (referred to in this section as “Institutes”) centered at National Laboratories to apply fundamental science and engineering discoveries to technological innovations relating to—

- (1) the missions of the Department; and
- (2) the global competitiveness of the United States.

(b) Topical areas

The Institutes shall support scientific and engineering research and education activities on critical emerging technologies determined by the Secretary to be essential to global competitiveness, including activities relating to—

- (1) sustainable energy technologies;
- (2) multiscale materials and processes;
- (3) micro- and nano-engineering;
- (4) computational and information engineering; and
- (5) genomics and proteomics.

(c) Partnerships

In carrying out this section, the Secretary shall establish partnerships between the Institutes and—

- (1) institutions of higher education—
 - (A) to train undergraduate and graduate science and engineering students;
 - (B) to develop innovative undergraduate and graduate educational curricula; and
 - (C) to conduct research within the topical areas described in subsection (b); and
- (2) private industry to develop innovative technologies within the topical areas described in subsection (b).

(d) Grants

(1) In general

For each fiscal year, the Secretary may select not more than 3 Institutes to receive a grant under this section.

(2) Merit-based selection

The selection of Institutes under paragraph (1) shall be—

- (A) merit-based; and
- (B) made through an open, competitive selection process.

(3) Term

An Institute shall receive a grant under this section for not more than 3 fiscal years.

(e) Review

The Secretary shall offer to enter into an agreement with the National Academy of Sciences under which the Academy shall, by not later than 3 years after August 9, 2007—

- (1) review the performance of the Institutes under this section; and
- (2) submit to Congress and the Secretary a report describing the results of the review.

(f) Authorization of appropriations

There is authorized to be appropriated to provide grants to each Institute selected under this

section \$10,000,000 for each of fiscal years 2008 through 2010.

(Pub. L. 110-69, title V, §5008, Aug. 9, 2007, 121 Stat. 618.)

§ 16536. Protecting America’s Competitive Edge (PACE) graduate fellowship program

(a) Definition of eligible student

In this section, the term “eligible student” means a student who attends an institution of higher education that offers a doctoral degree in a field relevant to a mission area of the Department.

(b) Establishment

The Secretary shall establish a graduate fellowship program for eligible students pursuing a doctoral degree in a mission area of the Department.

(c) Selection

(1) In general

The Secretary shall award fellowships to eligible students under this section through a competitive merit review process, involving written and oral interviews, that will result in a wide distribution of awards throughout the United States, as determined by the Secretary.

(2) Criteria

The Secretary shall establish selection criteria for awarding fellowships under this section that require an eligible student—

- (A) to pursue a field of science or engineering of importance to a mission area of the Department;
- (B) to demonstrate to the Secretary—
 - (i) the capacity of the eligible student to understand technical topics relating to the fellowship that can be derived from the first principles of the technical topics;
 - (ii) imagination and creativity;
 - (iii) leadership skills in organizations or intellectual endeavors, demonstrated through awards and past experience; and
 - (iv) excellent verbal and communication skills to explain, defend, and demonstrate an understanding of technical subjects relating to the fellowship; and
- (C) to be a citizen or legal permanent resident of the United States.

(d) Awards

(1) Amount

A fellowship awarded under this section shall—

- (A) provide an annual living stipend; and
- (B) cover—
 - (i) graduate tuition at an institution of higher education described in subsection (a); and
 - (ii) incidental expenses associated with curricula and research at the institution of higher education (including books, computers, and software).

(2) Duration

A fellowship awarded under this section shall be up to 3 years duration within a 5-year period.