

113TH CONGRESS
1ST SESSION

H. R. 1358

To direct the Director of the Office of Science and Technology Policy to carry out programs and activities to ensure that Federal science agencies and institutions of higher education receiving Federal research and development funding are fully engaging their entire talent pool, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 21, 2013

Ms. EDDIE BERNICE JOHNSON of Texas (for herself, Ms. CLARKE, Mr. LARSEN of Washington, Mr. HINOJOSA, Ms. NORTON, Ms. LOFGREN, Ms. BROWNLEY of California, Mr. HONDA, Mr. TAKANO, Mr. DANNY K. DAVIS of Illinois, Mr. KILMER, Mrs. CHRISTENSEN, Ms. SCHWARTZ, and Mr. RUSH) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To direct the Director of the Office of Science and Technology Policy to carry out programs and activities to ensure that Federal science agencies and institutions of higher education receiving Federal research and development funding are fully engaging their entire talent pool, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE; FINDINGS.**

2 (a) SHORT TITLE.—This Act may be cited as the
3 “STEM Opportunities Act of 2013”.

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

5 (1) Many reports over the past decade have
6 found that it is critical to our Nation’s economic
7 leadership and global competitiveness that we edu-
8 cate and train more scientists and engineers.

9 (2) Research shows that women and minorities
10 who are interested in STEM careers are lost at
11 every educational transition, from high school on
12 through full professorships.

13 (3) According to data compiled by the National
14 Science Foundation, women now earn about half of
15 all science and engineering bachelor’s degrees, but
16 major variations persist among fields. For example,
17 women still receive only 20 percent of all bachelor’s
18 degrees awarded in engineering and 10 percent in
19 computer sciences. Based on Bureau of Labor Sta-
20 tistics data, jobs in computing occupations are ex-
21 pected to account for 62 percent of the projected an-
22 nual growth of newly created STEM job openings
23 from 2010 to 2020.

24 (4) In 2007 underrepresented minority groups
25 comprised 33.2 percent of the college-age population
26 of the United States, but only 17.7 percent of un-

1 dergraduate students earning bachelor's degrees in
2 STEM fields. The Higher Education Research Insti-
3 tute at the University of California, Los Angeles,
4 found that, while freshmen from underrepresented
5 minority groups express an interest in pursuing a
6 STEM undergraduate degree at the same rate as all
7 other freshmen, only 22.1 percent of Latino stu-
8 dents, 18.4 percent of African-American students,
9 and 18.8 percent of Native American students
10 studying in STEM fields complete their degree with-
11 in 5 years, compared to an approximate 33 percent
12 and 42 percent 5-year completion rate for White and
13 Asian students, respectively.

14 (5) Statistics are particularly alarming in spe-
15 cific STEM fields. For example, even though under-
16 represented minorities make up approximately 33
17 percent of the college-age population, according to
18 an analysis of National Science Foundation data
19 performed by the National Action Council for Mi-
20 norities in Engineering, students from underrep-
21 resented minority groups earned only 13 percent of
22 all engineering degrees in 2009.

23 (6) Even in science and engineering fields with
24 a higher representation of women, such as the social
25 and behavioral sciences, women remain underrep-

1 resented among university faculty. According to data
2 compiled by the National Science Foundation, for
3 over 30 years women have made up over 30 percent
4 of the doctorates awarded in social sciences and be-
5 havioral sciences and over 20 percent in the life
6 sciences. Yet, at the top research institutions, only
7 15.4 percent of the full professors in the social and
8 behavioral sciences and 14.8 percent in the life
9 sciences are women.

10 (7) Underrepresented minority groups currently
11 make up about 29 percent of the United States pop-
12 ulation. However, only about 8 percent of tenure-
13 track science and engineering faculty members at
14 universities and 4-year colleges and less than 1 per-
15 cent of tenure-track science and engineering faculty
16 members at the top 100 research universities in the
17 United States are from underrepresented minority
18 groups.

19 (8) By 2050 underrepresented minorities will
20 comprise 52 percent of the college-age population of
21 the United States. If the percentage of female stu-
22 dents and students from underrepresented minority
23 groups earning bachelor's degrees in STEM fields
24 does not significantly increase, the United States
25 will face an acute shortfall in the overall number of

1 students who earn degrees in STEM fields just as
2 United States companies are increasingly seeking
3 students with those skills. With this impending
4 shortfall, the United States will almost certainly lose
5 its competitive edge in the 21st century global econ-
6 omy.

7 (9) According to a recent Association for
8 Women in Science survey of over 4,000 scientists
9 across the globe, 70 percent of whom were men,
10 STEM researchers face significant challenges in
11 work-life integration. Researchers in the United
12 States were among the most likely to experience a
13 conflict between work and their personal life at least
14 weekly. One-third of researchers surveyed said that
15 ensuring good work-life integration has negatively
16 impacted their careers, and, of researchers intending
17 to leave their current job within the next year, 9
18 percent indicated it was because they were unable to
19 balance work and life demands.

20 (10) Female students and students from under-
21 represented minority groups at institutions of higher
22 education who see few others “like themselves”
23 among faculty and student populations often do not
24 experience the social integration that is necessary for
25 success in all disciplines, including STEM.

1 (11) A substantial body of evidence establishes
2 that most people hold implicit biases. Decades of
3 cognitive psychology research reveal that most peo-
4 ple carry prejudices of which they are unaware but
5 that nonetheless play a large role in evaluations of
6 people and their work. Unintentional biases and out-
7 moded institutional structures are hindering the ac-
8 cess and advancement of women and minorities in
9 science and engineering.

10 (12) Workshops held to educate faculty about
11 unintentional biases have demonstrated success in
12 raising awareness of such biases.

13 (13) In 2012 the National Aeronautics and
14 Space Administration's Office of Diversity and
15 Equal Opportunity completed a report specifically
16 designed to help NASA grant recipients identify why
17 the dearth of women in STEM fields continues and
18 to ensure that it is not due to discrimination. The
19 report provides guidance to institutions of higher
20 education on how to conduct meaningful self-evalua-
21 tions of campus culture and policies. This report and
22 its guidance are equally applicable to all institutions
23 of higher education receiving significant Federal re-
24 search funding.

1 (14) The Federal Government provides over 60
2 percent of research funding at institutions of higher
3 education and, through its grant-making policies,
4 has had significant influence on institution of higher
5 education policies, including policies related to insti-
6 tutional culture and structure.

7 **SEC. 2. PURPOSE.**

8 (a) IN GENERAL.—The Director, acting through the
9 Federal science agencies, shall carry out programs and ac-
10 tivities with the purpose of ensuring that Federal science
11 agencies and institutions of higher education receiving
12 Federal research and development funding are fully en-
13 gaging their entire talent pool.

14 (b) PURPOSES.—The purposes of this Act are as fol-
15 lows:

16 (1) To promote research on and increase under-
17 standing of the participation and trajectories of
18 women and underrepresented minorities in STEM
19 careers at institutions of higher education and Fed-
20 eral science agencies, including Federal laboratories.

21 (2) To raise awareness within Federal science
22 agencies, including Federal laboratories, and institu-
23 tions of higher education about cultural and institu-
24 tional barriers limiting the recruitment, retention,
25 promotion, and other indicators of participation and

1 achievement of women and underrepresented minori-
2 ties in academic and Government STEM research
3 careers at all levels.

4 (3) To identify, disseminate, and implement
5 best practices at Federal science agencies, including
6 Federal laboratories, and at institutions of higher
7 education to remove or reduce cultural and institu-
8 tional barriers limiting the recruitment, retention,
9 and success of women and underrepresented minori-
10 ties in academic and Government STEM research
11 careers.

12 (4) To provide grants to institutions of higher
13 education to recruit, retain, and advance STEM fac-
14 ulty members from underrepresented minority
15 groups and to implement or expand reforms in un-
16 dergraduate STEM education in order to increase
17 the number of students from underrepresented mi-
18 nority groups receiving degrees in these fields.

19 **SEC. 3. FEDERAL SCIENCE AGENCY POLICIES FOR CARE-**
20 **GIVERS.**

21 (a) OSTP GUIDANCE.—Not later than 6 months
22 after the date of enactment of this Act, the Director shall
23 provide guidance to Federal science agencies to establish
24 policies that—

25 (1) apply to all—

1 (A) intramural and extramural research
2 awards; and

3 (B) primary investigators who have
4 caregiving responsibilities, including care for a
5 newborn or newly adopted child and care for an
6 immediate family member who is sick or dis-
7 abled; and

8 (2) provide—

9 (A) flexibility in timing for the initiation of
10 approved research awards;

11 (B) no-cost extensions of research awards;

12 (C) grant supplements as appropriate to
13 research awards for research technicians or
14 equivalent to sustain research activities; and

15 (D) any other appropriate accommodations
16 at the discretion of the director of each agency.

17 (b) UNIFORMITY OF GUIDANCE.—In providing such
18 guidance, the Director shall encourage uniformity and
19 consistency in the policies across all agencies.

20 (c) ESTABLISHMENT OF POLICIES.—Consistent with
21 the guidance provided under this section, Federal science
22 agencies shall maintain or develop and implement policies
23 for caregivers and shall broadly disseminate such policies
24 to current and potential grantees.

1 (d) DATA ON USAGE.—Federal science agencies
2 shall—

3 (1) collect data on the usage of the policies
4 under subsection (c), by gender, at both institutions
5 of higher education and Federal laboratories; and

6 (2) report such data on an annual basis to the
7 Director in such form as required by the Director.

8 **SEC. 4. COLLECTION AND REPORTING OF DATA ON FED-**
9 **ERAL RESEARCH GRANTS.**

10 (a) COLLECTION OF DATA.—

11 (1) IN GENERAL.—Each Federal science agency
12 shall collect standardized record-level annual infor-
13 mation on demographics, primary field, award type,
14 review rating (as practicable), budget request, fund-
15 ing outcome, and awarded budget for all applications
16 for merit-reviewed research and development grants
17 to institutions of higher education and Federal lab-
18 oratories supported by that agency.

19 (2) UNIFORMITY AND STANDARDIZATION.—The
20 Director shall establish a policy to ensure uniformity
21 and standardization of the data collection required
22 under paragraph (1).

23 (3) RECORD-LEVEL DATA.—

24 (A) REQUIREMENT.—On an annual basis,
25 beginning with the deadline under subpara-

graph (C), each Federal science agency shall submit to the Director of the National Science Foundation record-level data collected under paragraph (1) in the form required by such Director.

(B) PREVIOUS DATA.—As part of the first submission under subparagraph (A), each Federal science agency, to the extent practicable, shall also submit comparable record-level data for the 5 years preceding the deadline under subparagraph (C).

(C) DEADLINE.—The deadline under this paragraph is a date that is not later than 2 years after the date of enactment of this Act.

(b) REPORTING OF DATA.—The Director of the National Science Foundation shall publish statistical summary data collected under this section, disaggregated and cross-tabulated by race, ethnicity, gender, age, and years since completion of doctoral degree, including in conjunction with the National Science Foundation's report required by section 37 of the Science and Technology Equal Opportunities Act (42 U.S.C. 1885d; Public Law 96–516).

1 **SEC. 5. POLICIES FOR REVIEW OF FEDERAL RESEARCH**
2 **GRANTS.**

3 (a) IN GENERAL.—The Director, in collaboration
4 with the Director of the National Science Foundation,
5 shall identify information and best practices useful for
6 educating program officers and members of standing peer
7 review committees at Federal science agencies about—

8 (1) research on implicit bias based on gender,
9 race, or ethnicity; and

10 (2) methods to minimize the effect of such bias
11 in the review of extramural and intramural Federal
12 research grants.

13 (b) GUIDANCE TO ALL FEDERAL SCIENCE AGEN-
14 CIES.—The Director shall disseminate the information
15 and best practices identified in subsection (a) to all Fed-
16 eral science agencies and provide guidance as necessary
17 on policies to implement such practices within each agen-
18 cy.

19 (c) ESTABLISHMENT OF POLICIES.—Consistent with
20 the guidance provided in subsection (b), Federal science
21 agencies shall maintain or develop and implement policies
22 and practices to minimize the effects of implicit bias in
23 the review of extramural and intramural Federal research
24 grants.

25 (d) REPORT TO CONGRESS.—Not later than 2 years
26 after the date of enactment of this Act, the Director shall

1 report to Congress on what steps all Federal science agen-
2 cies have taken to implement policies and practices to min-
3 imize the effects of bias in the review of extramural and
4 intramural Federal research grants.

5 **SEC. 6. COLLECTION OF DATA ON DEMOGRAPHICS OF FAC-**
6 **ULTY.**

7 (a) COLLECTION OF DATA.—

8 (1) IN GENERAL.—Not later than 3 years after
9 the date of enactment of this Act, and at least every
10 5 years thereafter, the Director of the National
11 Science Foundation shall carry out a survey to col-
12 lect institution-level data on the demographics of
13 STEM faculty, by broad fields of STEM, at dif-
14 ferent types of institutions of higher education.

15 (2) CONSIDERATIONS.—To the extent prac-
16 ticable, the Director of the National Science Foun-
17 dation shall consider, by gender, race, ethnicity, citi-
18 zenship status, age, and years since completion of
19 doctoral degree—

20 (A) the number and percentage of faculty;

21 (B) the number and percentage of faculty
22 at each rank;

23 (C) the number and percentage of faculty
24 who are in nontenure-track positions, including
25 teaching and research;

1 (D) the number and percentage of faculty
2 who are reviewed for promotion, including ten-
3 ure, and the percentage of that number who are
4 promoted, including being awarded tenure;

5 (E) faculty years in rank;

6 (F) the number and percentage of faculty
7 to leave tenure-track positions;

8 (G) the number and percentage of faculty
9 hired, by rank; and

10 (H) the number and percentage of faculty
11 in leadership positions.

12 (b) EXISTING SURVEYS.—The Director of the Na-
13 tional Science Foundation—

14 (1) may carry out the requirements under sub-
15 section (a) by collaborating with statistical centers
16 at other Federal agencies to modify or expand, as
17 necessary, existing Federal surveys of higher edu-
18 cation; or

19 (2) may award a grant or contract to an insti-
20 tution of higher education or other nonprofit organi-
21 zation to design and carry out the requirements
22 under subsection (a).

23 (c) REPORTING DATA.—The Director of the National
24 Science Foundation shall publish statistical summary data
25 collected under this section, including as part of the Na-

1 tional Science Foundation's report required by section 37
2 of the Science and Technology Equal Opportunities Act
3 (42 U.S.C. 1885d; Public Law 96–516).

4 (d) AUTHORIZATION OF APPROPRIATIONS.—There
5 are authorized to be appropriated to the Director of the
6 National Science Foundation \$3,000,000 in each of fiscal
7 years 2014 through 2016 to develop and carry out the
8 initial survey required in subsection (a).

9 **SEC. 7. CULTURAL AND INSTITUTIONAL BARRIERS TO EX-**
10 **PANDING THE ACADEMIC AND FEDERAL**
11 **STEM WORKFORCE.**

12 (a) BEST PRACTICES AT INSTITUTIONS OF HIGHER
13 EDUCATION.—

14 (1) DEVELOPMENT OF GUIDANCE.—Not later
15 than 6 months after the date of enactment of this
16 Act, the Director of the National Science Founda-
17 tion shall develop written guidance for institutions of
18 higher education on the best practices for—

19 (A) conducting periodic campus culture
20 surveys of STEM departments, with a par-
21 ticular focus on identifying any cultural or in-
22 stitutional barriers to or successful enablers for
23 the recruitment, retention, promotion, and
24 other indicators of participation and achieve-
25 ment, of women and underrepresented minori-

1 ties in STEM degree programs and academic
2 STEM careers; and

3 (B) providing educational opportunities, in-
4 cluding workshops as described in subsection
5 (c), for STEM faculty and administrators to
6 learn about current research on implicit bias in
7 recruitment, evaluation, and promotion of fac-
8 ulty in STEM and recruitment and evaluation
9 of undergraduate and graduate students in
10 STEM degree programs.

11 (2) EXISTING GUIDANCE.—In developing the
12 guidance in paragraph (1), the Director of the Na-
13 tional Science Foundation shall utilize guidance al-
14 ready developed by the National Aeronautics and
15 Space Administration, the Department of Energy,
16 and the Department of Education.

17 (3) DISSEMINATION OF GUIDANCE.—The Direc-
18 tor of the National Science Foundation shall broadly
19 disseminate the guidance developed in paragraph (1)
20 to institutions of higher education that receive Fed-
21 eral research funding.

22 (4) REPORTS TO THE NATIONAL SCIENCE
23 FOUNDATION.—The Director of the National Science
24 Foundation shall develop a policy that—

1 (A) applies to, at a minimum, the institu-
2 tions classified by the Carnegie Foundation for
3 the Advancement of Teaching on January 1,
4 2013, as a doctorate-granting university with a
5 very high level of research activity; and

6 (B) requires each institution identified in
7 subparagraph (A), not later than 3 years after
8 the date of enactment of this Act, to report to
9 the Director of the National Science Founda-
10 tion on activities and policies developed and im-
11 plemented based on the guidance provided in
12 paragraph (1).

13 (b) BEST PRACTICES AT FEDERAL LABORA-
14 TORIES.—

15 (1) DEVELOPMENT OF GUIDANCE.—Not later
16 than 6 months after the date of enactment of this
17 Act, the Director shall develop written guidance for
18 Federal laboratories to develop and implement prac-
19 tices and policies to—

20 (A) conduct periodic laboratorywide culture
21 surveys of research personnel at all levels, with
22 a particular focus on identifying any cultural or
23 institutional barriers to the recruitment, reten-
24 tion, and success of women and underrep-

resented minorities in STEM careers at Federal laboratories; and

(B) provide educational opportunities, including workshops as described in subsection (c), for STEM research personnel to learn about current research in implicit bias in recruitment, evaluation, and promotion of research personnel at Federal laboratories.

(2) ESTABLISHMENT OF POLICIES.—Consistent with the guidance provided in paragraph (1), Federal science agencies with Federal laboratories shall maintain or develop and implement policies for their respective Federal laboratories.

(c) WORKSHOPS TO ADDRESS CULTURAL BARRIERS TO EXPANDING THE ACADEMIC AND FEDERAL STEM WORKFORCE.—

(1) IN GENERAL.—Not later than 6 months after the date of enactment of this Act, the Director of the National Science Foundation shall recommend a uniform policy for Federal science agencies to carry out a program of workshops that educate STEM department chairs at institutions of higher education, senior managers at Federal laboratories, and other federally funded researchers about methods that minimize the effects of implicit bias in the

1 career advancement, including hiring, tenure, pro-
2 motion, and selection for any honor based in part on
3 the recipient's research record, of academic and Fed-
4 eral STEM researchers.

5 (2) INTERAGENCY COORDINATION.—The Direc-
6 tor of the National Science Foundation shall ensure
7 that workshops supported under this subsection are
8 coordinated across Federal science agencies and
9 jointly supported as appropriate.

10 (3) MINIMIZING COSTS.—To the extent prac-
11 ticable, workshops shall be held in conjunction with
12 national or regional STEM disciplinary meetings to
13 minimize costs associated with participant travel.

14 (4) PRIORITY FIELDS FOR ACADEMIC PARTICI-
15 PANTS.—In considering the participation of STEM
16 department chairs and other academic researchers,
17 the Director shall prioritize workshops for the broad
18 fields of STEM in which the national rate of rep-
19 resentation of women among tenured or tenure-track
20 faculty or non-faculty researchers at doctorate-
21 granting institutions of higher education is less than
22 25 percent, according to the most recent data avail-
23 able from the National Center for Science and Engi-
24 neering Statistics.

1 (5) ORGANIZATIONS ELIGIBLE TO CARRY OUT
2 WORKSHOPS.—Federal science agencies may carry
3 out the program of workshops under this subsection
4 by making grants to eligible organizations. In addi-
5 tion to any other organizations made eligible by the
6 Federal science agencies, the following organizations
7 are eligible for grants under this subsection:

8 (A) Nonprofit scientific and professional
9 societies and organizations that represent one
10 or more STEM disciplines.

11 (B) Nonprofit organizations that have the
12 primary mission of advancing the participation
13 of women or underrepresented minorities in
14 STEM.

15 (6) CHARACTERISTICS OF WORKSHOPS.—The
16 workshops shall have the following characteristics:

17 (A) Invitees to workshops shall include at
18 least—

19 (i) the chairs of departments in the
20 relevant STEM discipline or disciplines
21 from at least the top 50 institutions of
22 higher education, as determined by the
23 amount of Federal research and develop-
24 ment funds obligated to each institution of
25 higher education in the prior year based on

1 data available from the National Science
2 Foundation; and

3 (ii) in the case of Federal laboratories,
4 individuals with personnel management re-
5 sponsibilities comparable to those of an in-
6 stitution of higher education department
7 chair.

8 (B) Activities at the workshops shall in-
9 clude research presentations and interactive dis-
10 cussions or other activities that increase the
11 awareness of the existence of implicit bias in re-
12 cruitment, hiring, tenure review, promotion, and
13 other forms of formal recognition of individual
14 achievement for faculty and other federally
15 funded STEM researchers and shall provide
16 strategies to overcome such bias.

17 (C) Research presentations and other
18 workshop programs, as appropriate, shall in-
19 clude a discussion of the unique challenges
20 faced by underrepresented sub-groups, includ-
21 ing minority women, minority men, and first
22 generation minority graduates in research.

23 (D) Workshop programs shall include in-
24 formation on best practices for mentoring un-

1 dergraduate and graduate women and under-
2 represented minority students.

3 (7) DATA ON WORKSHOPS.—Any proposal for
4 funding by an organization seeking to carry out a
5 workshop under this subsection shall include a de-
6 scription of how such organization will—

7 (A) collect data on the rates of attendance
8 by invitees in workshops, including information
9 on the home institution and department of
10 attendees, and the rank of faculty attendees;

11 (B) conduct attitudinal surveys on work-
12 shop attendees before and after the workshops;
13 and

14 (C) collect follow-up data on any relevant
15 institutional policy or practice changes reported
16 by attendees not later than one year after at-
17 tendance in such a workshop.

18 (8) REPORT TO NSF.—Organizations receiving
19 funding to carry out workshops under this sub-
20 section shall report the data required in paragraph
21 (7) to the Director of the National Science Founda-
22 tion in such form as required by such Director.

23 (d) REPORT TO CONGRESS.—Not later than 4 years
24 after the date of enactment of this Act, the Director of

1 the National Science Foundation shall submit a report to
2 Congress that includes—

3 (1) a summary and analysis of the types and
4 frequency of activities and policies developed and
5 carried out under subsection (a) based on the re-
6 ports submitted under paragraph (4) of such sub-
7 section; and

8 (2) a description and evaluation of the status
9 and effectiveness of the program of workshops re-
10 quired under subsection (c), including a summary of
11 any data reported under paragraph (8) of such sub-
12 section.

13 (e) AUTHORIZATION OF APPROPRIATIONS.—There
14 are authorized to be appropriated to the Director of the
15 National Science Foundation \$2,000,000 in each of fiscal
16 years 2014 through 2018 to carry out this section.

17 **SEC. 8. RESEARCH AND DISSEMINATION AT THE NATIONAL**
18 **SCIENCE FOUNDATION.**

19 (a) IN GENERAL.—The Director of the National
20 Science Foundation shall award research grants and carry
21 out dissemination activities consistent with the purposes
22 of this Act, including—

23 (1) research grants to analyze the record-level
24 data collected under section 4 and section 6, con-

1 sistent with policies to ensure the privacy of individ-
2 uals identifiable by such data;

3 (2) research grants to study best practices for
4 work-life accommodation;

5 (3) research grants to study the impact of poli-
6 cies and practices that are implemented under this
7 Act or that are otherwise consistent with the pur-
8 poses of this Act;

9 (4) collaboration with other Federal science
10 agencies and professional associations to exchange
11 best practices, harmonize work-life accommodation
12 policies and practices, and overcome common bar-
13 riers to work-life accommodation; and

14 (5) collaboration with institutions of higher
15 education in order to clarify and catalyze the adop-
16 tion of a coherent and consistent set of work-life ac-
17 commodation policies and practices.

18 (b) AUTHORIZATION OF APPROPRIATIONS.—There
19 are authorized to be appropriated to the Director of the
20 National Science Foundation \$5,000,000 in each of fiscal
21 years 2014 through 2018 to carry out this section.

22 **SEC. 9. REPORT TO CONGRESS.**

23 Not later than 4 years after the date of enactment
24 of this Act, the Director shall submit a report to Congress
25 that includes—

1 (1) a description and evaluation of the status
2 and usage of caregiver policies at all Federal science
3 agencies, including any recommendations for revis-
4 ing or expanding such policies;

5 (2) a description of any significant updates to
6 the policies for review of Federal research grants re-
7 quired under section 5, and any evidence of the im-
8 pact of such policies on the review or awarding of
9 Federal research grants; and

10 (3) a description and evaluation of the status of
11 Federal laboratory policies and practices required
12 under section 7(b), including any recommendations
13 for revising or expanding such policies.

14 **SEC. 10. NATIONAL SCIENCE FOUNDATION SUPPORT FOR**
15 **INCREASING DIVERSITY AMONG STEM FAC-**
16 **ULTY AT INSTITUTIONS OF HIGHER EDU-**
17 **CATION.**

18 (a) GRANTS.—The Director of the National Science
19 Foundation shall award grants to institutions of higher
20 education (or consortia thereof) for the development of in-
21 novative reform efforts designed to increase the recruit-
22 ment, retention, and advancement of individuals from
23 underrepresented minority groups in academic STEM ca-
24 reers.

1 (b) MERIT REVIEW; COMPETITION.—Grants shall be
2 awarded under this section on a merit-reviewed, competi-
3 tive basis.

4 (c) USE OF FUNDS.—Activities supported by grants
5 under this section may include—

6 (1) institutional assessment activities, such as
7 data analyses and policy review, in order to identify
8 and address specific issues in the recruitment, reten-
9 tion, and advancement of faculty members from
10 underrepresented minority groups;

11 (2) implementation of institution-wide improve-
12 ments in workload distribution, such that faculty
13 members from underrepresented minority groups are
14 not disadvantaged in the amount of time available to
15 focus on research, publishing papers, and engaging
16 in other activities required to achieve tenure status
17 and run a productive research program;

18 (3) development and implementation of training
19 courses for administrators and search committee
20 members to ensure that candidates from underrep-
21 resented minority groups are not subject to implicit
22 biases in the search and hiring process;

23 (4) development and hosting of intra- or inter-
24 institutional workshops to propagate best practices

1 in recruiting, retaining, and advancing faculty mem-
2 bers from underrepresented minority groups;

3 (5) professional development opportunities for
4 faculty members from underrepresented minority
5 groups;

6 (6) activities aimed at making undergraduate
7 STEM students from underrepresented minority
8 groups aware of opportunities for academic careers
9 in STEM fields;

10 (7) activities to identify and engage exceptional
11 graduate students from underrepresented minority
12 groups at various stages of their studies and to en-
13 courage them to enter academic careers; and

14 (8) other activities consistent with subsection
15 (a), as determined by the Director of the National
16 Science Foundation.

17 (d) SELECTION PROCESS.—

18 (1) APPLICATION.—An institution of higher
19 education (or consortia thereof) seeking funding
20 under this section shall submit an application to the
21 Director of the National Science Foundation at such
22 time, in such manner, and containing such informa-
23 tion and assurances as such Director may require.
24 The application shall include, at a minimum, a de-
25 scription of—

1 (A) the reform effort that is being pro-
2 posed for implementation by the institution of
3 higher education;

4 (B) any available evidence of specific dif-
5 ficulties in the recruitment, retention, and ad-
6 vancement of faculty members from underrep-
7 resented minority groups in STEM academic
8 careers within the institution of higher edu-
9 cation submitting an application, and how the
10 proposed reform effort would address such
11 issues;

12 (C) how the institution of higher education
13 submitting an application plans to sustain the
14 proposed reform effort beyond the duration of
15 the grant; and

16 (D) how the success and effectiveness of
17 the proposed reform effort will be evaluated and
18 assessed in order to contribute to the national
19 knowledge base about models for catalyzing in-
20 stitutional change.

21 (2) REVIEW OF APPLICATIONS.—In selecting
22 grant recipients under this section, the Director of
23 the National Science Foundation shall consider, at a
24 minimum—

1 (A) the likelihood of success in under-
2 taking the proposed reform effort at the institu-
3 tion of higher education submitting the applica-
4 tion, including the extent to which the adminis-
5 trators of the institution are committed to mak-
6 ing the proposed reform effort a priority;

7 (B) the degree to which the proposed re-
8 form effort will contribute to change in institu-
9 tional culture and policy such that greater value
10 is placed on the recruitment, retention, and ad-
11 vancement of faculty members from underrep-
12 resented minority groups;

13 (C) the likelihood that the institution of
14 higher education will sustain or expand the pro-
15 posed reform effort beyond the period of the
16 grant; and

17 (D) the degree to which evaluation and as-
18 sessment plans are included in the design of the
19 proposed reform effort.

20 (3) GRANT DISTRIBUTION.—The Director of
21 the National Science Foundation shall ensure, to the
22 extent practicable, that grants awarded under this
23 section are made to a variety of types of institutions
24 of higher education.

1 (e) AUTHORIZATION OF APPROPRIATIONS.—There
2 are authorized to be appropriated to the Director of the
3 National Science Foundation \$10,000,000 in each of fiscal
4 years 2014 through 2018 to carry out this section.

5 **SEC. 11. NATIONAL SCIENCE FOUNDATION SUPPORT FOR**
6 **BROADENING PARTICIPATION IN UNDER-**
7 **GRADUATE STEM EDUCATION.**

8 (a) GRANTS.—The Director of the National Science
9 Foundation shall award grants to institutions of higher
10 education (or consortia thereof) to implement or expand
11 research-based reforms in undergraduate STEM edu-
12 cation for the purpose of recruiting and retaining students
13 from minority groups who are underrepresented in STEM
14 fields, with a priority focus on natural science and engi-
15 neering fields.

16 (b) MERIT REVIEW; COMPETITION.—Grants shall be
17 awarded under this section on a merit-reviewed, competi-
18 tive basis.

19 (c) USE OF FUNDS.—Activities supported by grants
20 under this section may include—

21 (1) implementation or expansion of innovative,
22 research-based approaches to broaden participation
23 of underrepresented minority groups in STEM
24 fields;

1 (2) implementation or expansion of bridge, co-
2 hort, tutoring, or mentoring programs designed to
3 enhance the recruitment and retention of students
4 from underrepresented minority groups in STEM
5 fields;

6 (3) implementation or expansion of outreach
7 programs linking institutions of higher education
8 and K–12 school systems in order to heighten
9 awareness among pre-college students from under-
10 represented minority groups of opportunities in col-
11 lege-level STEM fields and STEM careers;

12 (4) implementation or expansion of faculty de-
13 velopment programs focused on improving retention
14 of undergraduate STEM students from underrep-
15 resented minority groups;

16 (5) implementation or expansion of mechanisms
17 designed to recognize and reward faculty members
18 who demonstrate a commitment to increasing the
19 participation of students from underrepresented mi-
20 nority groups in STEM fields;

21 (6) expansion of successful reforms aimed at in-
22 creasing the number of STEM students from under-
23 represented minority groups beyond a single course
24 or group of courses to achieve reform within an en-
25 tire academic unit, or expansion of successful reform

1 efforts beyond a single academic unit to other
2 STEM academic units within an institution of high-
3 er education;

4 (7) expansion of opportunities for students from
5 underrepresented minority groups to conduct STEM
6 research in industry, at Federal labs, and at inter-
7 national research institutions or research sites;

8 (8) provision of stipends for students from
9 underrepresented minority groups participating in
10 research;

11 (9) development of research collaborations be-
12 tween research-intensive universities and primarily
13 undergraduate minority-serving institutions;

14 (10) support for graduate students and post-
15 doctoral fellows from underrepresented minority
16 groups to participate in instructional or assessment
17 activities at primarily undergraduate institutions, in-
18 cluding primarily undergraduate minority-serving in-
19 stitutions and two-year institutions of higher edu-
20 cation; and

21 (11) other activities consistent with subsection
22 (a), as determined by the Director of the National
23 Science Foundation.

24 (d) SELECTION PROCESS.—

1 (1) APPLICATION.—An institution of higher
2 education (or consortia thereof) seeking a grant
3 under this section shall submit an application to the
4 Director of the National Science Foundation at such
5 time, in such manner, and containing such informa-
6 tion and assurances as such Director may require.
7 The application shall include, at a minimum—

8 (A) a description of the proposed reform
9 effort;

10 (B) a description of the research findings
11 that will serve as the basis for the proposed re-
12 form effort or, in the case of applications that
13 propose an expansion of a previously imple-
14 mented reform, a description of the previously
15 implemented reform effort, including data about
16 the recruitment, retention, and academic
17 achievement of students from underrepresented
18 minority groups;

19 (C) evidence of an institutional commit-
20 ment to, and support for, the proposed reform
21 effort, including a long-term commitment to im-
22 plement successful strategies from the current
23 reform beyond the academic unit or units in-
24 cluded in the grant proposal;

1 (D) a description of existing or planned in-
2 stitutional policies and practices regarding fac-
3 ulty hiring, promotion, tenure, and teaching as-
4 signment that reward faculty contributions to
5 improving the education of students from
6 underrepresented minority groups in STEM;
7 and

8 (E) how the success and effectiveness of
9 the proposed reform effort will be evaluated and
10 assessed in order to contribute to the national
11 knowledge base about models for catalyzing in-
12 stitutional change.

13 (2) REVIEW OF APPLICATIONS.—In selecting
14 grant recipients under this section, the Director of
15 the National Science Foundation shall consider, at a
16 minimum—

17 (A) the likelihood of success of the pro-
18 posed reform effort at the institution submit-
19 ting the application, including the extent to
20 which the faculty, staff, and administrators of
21 the institution are committed to making the
22 proposed institutional reform a priority of the
23 participating academic unit or units;

24 (B) the degree to which the proposed re-
25 form effort will contribute to change in institu-

1 tional culture and policy such that greater value
2 is placed on faculty engagement in the retention
3 of students from underrepresented minority
4 groups;

5 (C) the likelihood that the institution will
6 sustain or expand the proposed reform effort
7 beyond the period of the grant; and

8 (D) the degree to which evaluation and as-
9 sessment plans are included in the design of the
10 proposed reform effort.

11 (3) PRIORITY.—For applications that include
12 an expansion of existing reforms beyond a single
13 academic unit, the Director of the National Science
14 Foundation shall give priority to applications for
15 which a senior institutional administrator, such as a
16 dean or other administrator of equal or higher rank,
17 serves as the principal investigator.

18 (4) GRANT DISTRIBUTION.—The Director of
19 the National Science Foundation shall ensure, to the
20 extent practicable, that grants awarded under this
21 section are made to a variety of types of institutions
22 of higher education, including two-year and minor-
23 ity-serving institutions of higher education.

24 (e) EDUCATION RESEARCH.—

1 (1) IN GENERAL.—All grants made under this
2 section shall include an education research compo-
3 nent that will support the design and implementa-
4 tion of a system for data collection and evaluation
5 of proposed reform efforts in order to build the
6 knowledge base on promising models for increasing
7 recruitment and retention of students from under-
8 represented minority groups in STEM education at
9 the undergraduate level across a diverse set of insti-
10 tutions.

11 (2) DISSEMINATION.—The Director of the Na-
12 tional Science Foundation shall coordinate with rel-
13 evant Federal agencies in disseminating the results
14 of the research under this subsection to ensure that
15 best practices in broadening participation in STEM
16 education at the undergraduate level are made read-
17 ily available to all institutions of higher education,
18 other Federal agencies that support STEM pro-
19 grams, non-Federal funders of STEM education,
20 and the general public.

21 (f) AUTHORIZATION OF APPROPRIATIONS.—There
22 are authorized to be appropriated to the Director of the
23 National Science Foundation \$15,000,000 in each of fiscal
24 years 2014 through 2018 to carry out this section.

1 **SEC. 12. DEFINITIONS.**

2 In this Act:

3 (1) DIRECTOR.—The term “Director” means
4 the Director of the Office of Science and Technology
5 Policy (“OSTP”).

6 (2) FEDERAL LABORATORY.—The term “Fed-
7 eral laboratory” has the meaning given such term in
8 section 4 of the Stevenson-Wydler Technology Inno-
9 vation Act of 1980 (15 U.S.C. 3703).

10 (3) FEDERAL SCIENCE AGENCY.—The term
11 “Federal science agency” means any Federal agency
12 with at least \$100 million in research and develop-
13 ment expenditures in fiscal year 2012.

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

18 (5) STEM.—The term “STEM” means the
19 academic and professional disciplines of science,
20 technology, engineering, and mathematics.

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