

114TH CONGRESS
1ST SESSION

H. R. 467

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

JANUARY 22, 2015

Ms. EDDIE BERNICE JOHNSON of Texas (for herself, Ms. CLARK of Massachusetts, Mr. HINOJOSA, Ms. NORTON, Mr. TAKANO, Mr. VEASEY, Mr. KENNEDY, Mr. HONDA, Ms. LOFGREN, Ms. BONAMICI, Ms. SLAUGHTER, Mr. DANNY K. DAVIS of Illinois, Ms. EDWARDS, and Ms. DELAURO) 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 2015”.

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 dispropor-
11 tionately lost at nearly every educational transition.

12 (3) The National Center for Science and Engi-
13 neering Statistics at the National Science Founda-
14 tion collects, compiles, and publishes data on the de-
15 mographics of STEM degrees and STEM jobs in the
16 United States.

17 (4) Women now earn nearly 40 percent of all
18 STEM bachelor’s degrees, but major variations per-
19 sist among fields. In 2012, women earned only 19
20 percent of all bachelor’s degrees awarded in engi-
21 neering and 18 percent in computer sciences. Based
22 on Bureau of Labor Statistics data, jobs in com-
23 puting occupations are expected to account for about
24 $\frac{2}{3}$ of the projected annual growth of newly created
25 STEM job openings from 2012 to 2022.

1 (5) In 2012, underrepresented minority groups
2 comprised 36.4 percent of the college-age population
3 of the United States, but only 14.7 percent of stu-
4 dents earning bachelor’s degrees in STEM fields.
5 The Higher Education Research Institute at the
6 University of California, Los Angeles, found that,
7 while freshmen from underrepresented minority
8 groups express an interest in pursuing a STEM un-
9 dergraduate degree at the same rate as all other
10 freshmen, only 22.1 percent of Latino students, 18.4
11 percent of African-American students, and 18.8 per-
12 cent of Native American students studying in STEM
13 fields complete their degree within 5 years, com-
14 pared to approximately 33 percent and 42 percent 5-
15 year completion rate for White and Asian students,
16 respectively.

17 (6) In some STEM fields, including the com-
18 puter sciences, women persist at about the same rate
19 through doctorate degrees. In other fields, including
20 the physical sciences, their numbers decrease by as
21 much as 1 in 4. Overall, women earned 35 percent
22 of STEM doctorate degrees in 2012. The number of
23 minority students earning STEM doctorate degrees
24 drops by nearly $\frac{2}{3}$. Students from underrepresented

1 minority groups accounted for only 5.5 percent of
2 STEM doctorate degrees awarded in 2012.

3 (7) The representation of women in STEM
4 drops significantly again at the faculty level. Overall,
5 women hold only 25 percent of all tenured and ten-
6 ure-track positions and 17 percent of full professor
7 positions in STEM fields in our Nation's universities
8 and 4-year colleges. Black and Hispanic faculty to-
9 gether hold about 6.5 percent of all tenured and ten-
10 ure-track positions and 5 percent of full professor
11 positions. Many of the numbers in the American In-
12 dian or Alaskan Native and Native Hawaiian or
13 Other Pacific Islander categories for different fac-
14 ulty ranks were too small for the National Science
15 Foundation to report publicly without potentially
16 compromising confidential information about the in-
17 dividuals being surveyed.

18 (8) The representation of women is especially
19 low at our Nation's top research universities. Even
20 in the biological sciences, in which women now earn
21 more than 50 percent of the doctorates and passed
22 the 25 percent level 35 years ago, women make up
23 only 25 percent of the full professors at the 100 or
24 so most research-intensive universities. In the phys-
25 ical sciences and mathematics, they make up only 11

1 percent of these senior positions, in computer
2 sciences only 10 percent, and across engineering
3 fields only 7 percent. The data suggest that approxi-
4 mately 6 percent of all tenure-track STEM faculty
5 members at the most research intensive universities
6 are from underrepresented minority groups, but in
7 some fields the numbers are too small to report pub-
8 licly.

9 (9) By 2050 underrepresented minorities will
10 comprise 52 percent of the college-age population of
11 the United States. If the percentage of female stu-
12 dents and students from underrepresented minority
13 groups earning bachelor's degrees in STEM fields
14 does not significantly increase, the United States
15 will face an acute shortfall in the overall number of
16 students who earn degrees in STEM fields just as
17 United States companies are increasingly seeking
18 students with those skills. With this impending
19 shortfall, the United States will almost certainly lose
20 its competitive edge in the 21st century global econ-
21 omy.

22 (10) According to a recent Association for
23 Women in Science survey of over 4,000 scientists
24 across the globe, 70 percent of whom were men,
25 STEM researchers face significant challenges in

1 work-life integration. Researchers in the United
2 States were among the most likely to experience a
3 conflict between work and their personal life at least
4 weekly. One-third of researchers surveyed said that
5 ensuring good work-life integration has negatively
6 impacted their careers, and, of researchers intending
7 to leave their current job within the next year, 9
8 percent indicated it was because they were unable to
9 balance work and life demands.

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

16 (12) A substantial body of evidence establishes
17 that most people hold implicit biases. Decades of
18 cognitive psychology research reveal that most peo-
19 ple carry prejudices of which they are unaware but
20 that nonetheless play a large role in evaluations of
21 people and their work. Unintentional biases and out-
22 moded institutional structures are hindering the ac-
23 cess and advancement of women and minorities in
24 science and engineering.

1 (13) Workshops held to educate faculty about
2 unintentional biases have demonstrated success in
3 raising awareness of such biases.

4 (14) In 2012 the National Aeronautics and
5 Space Administration’s Office of Diversity and
6 Equal Opportunity completed a report specifically
7 designed to help NASA grant recipients identify why
8 the dearth of women in STEM fields continues and
9 to ensure that it is not due to discrimination. The
10 report provides guidance to institutions of higher
11 education on how to conduct meaningful self-evalua-
12 tions of campus culture and policies. This report and
13 its guidance are equally applicable to all institutions
14 of higher education receiving significant Federal re-
15 search funding.

16 (15) The Federal Government provides over 60
17 percent of research funding at institutions of higher
18 education and, through its grant-making policies,
19 has had significant influence on institution of higher
20 education policies, including policies related to insti-
21 tutional culture and structure.

22 **SEC. 2. PURPOSE.**

23 (a) IN GENERAL.—The Director, acting through the
24 Federal science agencies, shall carry out programs and ac-
25 tivities with the purpose of ensuring that Federal science

1 agencies and institutions of higher education receiving
2 Federal research and development funding are fully en-
3 gaging their entire talent pool.

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

6 (1) To promote research on and increase under-
7 standing of the participation and trajectories of
8 women and underrepresented minorities in STEM
9 careers at institutions of higher education and Fed-
10 eral science agencies, including Federal laboratories.

11 (2) To raise awareness within Federal science
12 agencies, including Federal laboratories, and institu-
13 tions of higher education about cultural and institu-
14 tional barriers limiting the recruitment, retention,
15 promotion, and other indicators of participation and
16 achievement of women and underrepresented minori-
17 ties in academic and Government STEM research
18 careers at all levels.

19 (3) To identify, disseminate, and implement
20 best practices at Federal science agencies, including
21 Federal laboratories, and at institutions of higher
22 education to remove or reduce cultural and institu-
23 tional barriers limiting the recruitment, retention,
24 and success of women and underrepresented minori-

1 ties in academic and Government STEM research
2 careers.

3 (4) To provide grants to institutions of higher
4 education to recruit, retain, and advance STEM fac-
5 ulty members from underrepresented minority
6 groups and to implement or expand reforms in un-
7 dergraduate STEM education in order to increase
8 the number of students from underrepresented mi-
9 nority groups receiving degrees in these fields.

10 **SEC. 3. FEDERAL SCIENCE AGENCY POLICIES FOR CARE-**
11 **GIVERS.**

12 (a) OSTP GUIDANCE.—Not later than 6 months
13 after the date of enactment of this Act, the Director shall
14 provide guidance to Federal science agencies to establish
15 policies that—

16 (1) apply to all—

17 (A) intramural and extramural research
18 awards; and

19 (B) primary investigators who have
20 caregiving responsibilities, including care for a
21 newborn or newly adopted child and care for an
22 immediate family member who is sick or dis-
23 abled; and

24 (2) provide—

1 (A) flexibility in timing for the initiation of
2 approved research awards;

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

4 (C) grant supplements as appropriate to
5 research awards for research technicians or
6 equivalent to sustain research activities; and

7 (D) any other appropriate accommodations
8 at the discretion of the director of each agency.

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

12 (c) ESTABLISHMENT OF POLICIES.—Consistent with
13 the guidance provided under this section, Federal science
14 agencies shall maintain or develop and implement policies
15 for caregivers and shall broadly disseminate such policies
16 to current and potential grantees.

17 (d) DATA ON USAGE.—Federal science agencies
18 shall—

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

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

1 **SEC. 4. COLLECTION AND REPORTING OF DATA ON FED-**
2 **ERAL RESEARCH GRANTS.**

3 (a) **COLLECTION OF DATA.—**

4 (1) **IN GENERAL.—**Each Federal science agency
5 shall collect standardized record-level annual infor-
6 mation on demographics, primary field, award type,
7 review rating (as practicable), budget request, fund-
8 ing outcome, and awarded budget for all applications
9 for merit-reviewed research and development grants
10 to institutions of higher education and Federal lab-
11 oratories supported by that agency.

12 (2) **UNIFORMITY AND STANDARDIZATION.—**The
13 Director shall establish a policy to ensure uniformity
14 and standardization of the data collection required
15 under paragraph (1).

16 (3) **RECORD-LEVEL DATA.—**

17 (A) **REQUIREMENT.—**On an annual basis,
18 beginning with the deadline under subpara-
19 graph (C), each Federal science agency shall
20 submit to the Director of the National Science
21 Foundation record-level data collected under
22 paragraph (1) in the form required by such Di-
23 rector.

24 (B) **PREVIOUS DATA.—**As part of the first
25 submission under subparagraph (A), each Fed-
26 eral science agency, to the extent practicable,

1 shall also submit comparable record-level data
2 for the 5 years preceding the deadline under
3 subparagraph (C).

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

7 (b) REPORTING OF DATA.—The Director of the Na-
8 tional Science Foundation shall publish statistical sum-
9 mary data collected under this section, disaggregated and
10 cross-tabulated by race, ethnicity, gender, age, and years
11 since completion of doctoral degree, including in conjunc-
12 tion with the National Science Foundation’s report re-
13 quired by section 37 of the Science and Technology Equal
14 Opportunities Act (42 U.S.C. 1885d; Public Law 96–
15 516).

16 **SEC. 5. POLICIES FOR REVIEW OF FEDERAL RESEARCH**
17 **GRANTS.**

18 (a) IN GENERAL.—The Director, in collaboration
19 with the Director of the National Science Foundation,
20 shall identify information and best practices useful for
21 educating program officers and members of standing peer
22 review committees at Federal science agencies about—

23 (1) research on implicit bias based on gender,
24 race, or ethnicity; and

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

4 (b) **GUIDANCE TO ALL FEDERAL SCIENCE AGEN-**
5 **CIES.**—The Director shall disseminate the information
6 and best practices identified in subsection (a) to all Fed-
7 eral science agencies and provide guidance as necessary
8 on policies to implement such practices within each agen-
9 cy.

10 (c) **ESTABLISHMENT OF POLICIES.**—Consistent with
11 the guidance provided in subsection (b), Federal science
12 agencies shall maintain or develop and implement policies
13 and practices to minimize the effects of implicit bias in
14 the review of extramural and intramural Federal research
15 grants.

16 (d) **REPORT TO CONGRESS.**—Not later than 2 years
17 after the date of enactment of this Act, the Director shall
18 report to Congress on what steps all Federal science agen-
19 cies have taken to implement policies and practices to min-
20 imize the effects of bias in the review of extramural and
21 intramural Federal research grants.

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

24 (a) **COLLECTION OF DATA.**—

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

8 (2) CONSIDERATIONS.—To the extent prac-
9 ticable, the Director of the National Science Foun-
10 dation shall consider, by gender, race, ethnicity, citi-
11 zenship status, age, and years since completion of
12 doctoral degree—

13 (A) the number and percentage of faculty;

14 (B) the number and percentage of faculty
15 at each rank;

16 (C) the number and percentage of faculty
17 who are in nontenure-track positions, including
18 teaching and research;

19 (D) the number and percentage of faculty
20 who are reviewed for promotion, including ten-
21 ure, and the percentage of that number who are
22 promoted, including being awarded tenure;

23 (E) faculty years in rank;

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

1 (G) the number and percentage of faculty
2 hired, by rank; and

3 (H) the number and percentage of faculty
4 in leadership positions.

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

7 (1) may carry out the requirements under sub-
8 section (a) by collaborating with statistical centers
9 at other Federal agencies to modify or expand, as
10 necessary, existing Federal surveys of higher edu-
11 cation; or

12 (2) may award a grant or contract to an insti-
13 tution of higher education or other nonprofit organi-
14 zation to design and carry out the requirements
15 under subsection (a).

16 (c) REPORTING DATA.—The Director of the National
17 Science Foundation shall publish statistical summary data
18 collected under this section, including as part of the Na-
19 tional Science Foundation's report required by section 37
20 of the Science and Technology Equal Opportunities Act
21 (42 U.S.C. 1885d; Public Law 96–516).

22 (d) AUTHORIZATION OF APPROPRIATIONS.—There
23 are authorized to be appropriated to the Director of the
24 National Science Foundation \$3,000,000 in each of fiscal

1 years 2016 through 2018 to develop and carry out the
2 initial survey required in subsection (a).

3 **SEC. 7. CULTURAL AND INSTITUTIONAL BARRIERS TO EX-**
4 **PANDING THE ACADEMIC AND FEDERAL**
5 **STEM WORKFORCE.**

6 (a) BEST PRACTICES AT INSTITUTIONS OF HIGHER
7 EDUCATION.—

8 (1) DEVELOPMENT OF GUIDANCE.—Not later
9 than 6 months after the date of enactment of this
10 Act, the Director of the National Science Founda-
11 tion shall develop written guidance for institutions of
12 higher education on the best practices for—

13 (A) conducting periodic campus culture
14 surveys of STEM departments, with a par-
15 ticular focus on identifying any cultural or in-
16 stitutional barriers to or successful enablers for
17 the recruitment, retention, promotion, and
18 other indicators of participation and achieve-
19 ment, of women and underrepresented minori-
20 ties in STEM degree programs and academic
21 STEM careers; and

22 (B) providing educational opportunities, in-
23 cluding workshops as described in subsection
24 (c), for STEM faculty and administrators to
25 learn about current research on implicit bias in

1 recruitment, evaluation, and promotion of fac-
2 ulty in STEM and recruitment and evaluation
3 of undergraduate and graduate students in
4 STEM degree programs.

5 (2) EXISTING GUIDANCE.—In developing the
6 guidance in paragraph (1), the Director of the Na-
7 tional Science Foundation shall utilize guidance al-
8 ready developed by the National Aeronautics and
9 Space Administration, the Department of Energy,
10 and the Department of Education.

11 (3) DISSEMINATION OF GUIDANCE.—The Direc-
12 tor of the National Science Foundation shall broadly
13 disseminate the guidance developed in paragraph (1)
14 to institutions of higher education that receive Fed-
15 eral research funding.

16 (4) REPORTS TO THE NATIONAL SCIENCE
17 FOUNDATION.—The Director of the National Science
18 Foundation shall develop a policy that—

19 (A) applies to, at a minimum, the institu-
20 tions classified under the Indiana University
21 Center for Postsecondary Research Carnegie
22 Classification on January 1, 2015, as a doc-
23 torate-granting university with a very high level
24 of research activity; and

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

8 (b) BEST PRACTICES AT FEDERAL LABORA-
9 TORIES.—

10 (1) DEVELOPMENT OF GUIDANCE.—Not later
11 than 6 months after the date of enactment of this
12 Act, the Director shall develop written guidance for
13 Federal laboratories to develop and implement prac-
14 tices and policies to—

15 (A) conduct periodic laboratorywide culture
16 surveys of research personnel at all levels, with
17 a particular focus on identifying any cultural or
18 institutional barriers to the recruitment, reten-
19 tion, and success of women and underrep-
20 resented minorities in STEM careers at Federal
21 laboratories; and

22 (B) provide educational opportunities, in-
23 cluding workshops as described in subsection
24 (c), for STEM research personnel to learn
25 about current research in implicit bias in re-

1 recruitment, evaluation, and promotion of re-
2 search personnel at Federal laboratories.

3 (2) ESTABLISHMENT OF POLICIES.—Consistent
4 with the guidance provided in paragraph (1), Fed-
5 eral science agencies with Federal laboratories shall
6 maintain or develop and implement policies for their
7 respective Federal laboratories.

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

11 (1) IN GENERAL.—Not later than 6 months
12 after the date of enactment of this Act, the Director
13 of the National Science Foundation shall recommend
14 a uniform policy for Federal science agencies to
15 carry out a program of workshops that educate
16 STEM department chairs at institutions of higher
17 education, senior managers at Federal laboratories,
18 and other federally funded researchers about meth-
19 ods that minimize the effects of implicit bias in the
20 career advancement, including hiring, tenure, pro-
21 motion, and selection for any honor based in part on
22 the recipient’s research record, of academic and Fed-
23 eral STEM researchers.

24 (2) INTERAGENCY COORDINATION.—The Direc-
25 tor of the National Science Foundation shall ensure

1 that workshops supported under this subsection are
2 coordinated across Federal science agencies and
3 jointly supported as appropriate.

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

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

19 (5) ORGANIZATIONS ELIGIBLE TO CARRY OUT
20 WORKSHOPS.—Federal science agencies may carry
21 out the program of workshops under this subsection
22 by making grants to eligible organizations. In addi-
23 tion to any other organizations made eligible by the
24 Federal science agencies, the following organizations
25 are eligible for grants under this subsection:

1 (A) Nonprofit scientific and professional
2 societies and organizations that represent one
3 or more STEM disciplines.

4 (B) Nonprofit organizations that have the
5 primary mission of advancing the participation
6 of women or underrepresented minorities in
7 STEM.

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

10 (A) Invitees to workshops shall include at
11 least—

12 (i) the chairs of departments in the
13 relevant STEM discipline or disciplines
14 from at least the top 50 institutions of
15 higher education, as determined by the
16 amount of Federal research and develop-
17 ment funds obligated to each institution of
18 higher education in the prior year based on
19 data available from the National Science
20 Foundation; and

21 (ii) in the case of Federal laboratories,
22 individuals with personnel management re-
23 sponsibilities comparable to those of an in-
24 stitution of higher education department
25 chair.

1 (B) Activities at the workshops shall in-
2 clude research presentations and interactive dis-
3 cussions or other activities that increase the
4 awareness of the existence of implicit bias in re-
5 cruitment, hiring, tenure review, promotion, and
6 other forms of formal recognition of individual
7 achievement for faculty and other federally
8 funded STEM researchers and shall provide
9 strategies to overcome such bias.

10 (C) Research presentations and other
11 workshop programs, as appropriate, shall in-
12 clude a discussion of the unique challenges
13 faced by underrepresented sub-groups, includ-
14 ing minority women, minority men, and first
15 generation minority graduates in research.

16 (D) Workshop programs shall include in-
17 formation on best practices for mentoring un-
18 dergraduate and graduate women and under-
19 represented minority students.

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

24 (A) collect data on the rates of attendance
25 by invitees in workshops, including information

1 on the home institution and department of
2 attendees, and the rank of faculty attendees;

3 (B) conduct attitudinal surveys on work-
4 shop attendees before and after the workshops;
5 and

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

10 (8) REPORT TO NSF.—Organizations receiving
11 funding to carry out workshops under this sub-
12 section shall report the data required in paragraph
13 (7) to the Director of the National Science Founda-
14 tion in such form as required by such Director.

15 (d) REPORT TO CONGRESS.—Not later than 4 years
16 after the date of enactment of this Act, the Director of
17 the National Science Foundation shall submit a report to
18 Congress that includes—

19 (1) a summary and analysis of the types and
20 frequency of activities and policies developed and
21 carried out under subsection (a) based on the re-
22 ports submitted under paragraph (4) of such sub-
23 section; and

24 (2) a description and evaluation of the status
25 and effectiveness of the program of workshops re-

1 quired under subsection (c), including a summary of
2 any data reported under paragraph (8) of such sub-
3 section.

4 (e) AUTHORIZATION OF APPROPRIATIONS.—There
5 are authorized to be appropriated to the Director of the
6 National Science Foundation \$2,000,000 in each of fiscal
7 years 2016 through 2020 to carry out this section.

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

10 (a) IN GENERAL.—The Director of the National
11 Science Foundation shall award research grants and carry
12 out dissemination activities consistent with the purposes
13 of this Act, including—

14 (1) research grants to analyze the record-level
15 data collected under section 4 and section 6, con-
16 sistent with policies to ensure the privacy of individ-
17 uals identifiable by such data;

18 (2) research grants to study best practices for
19 work-life accommodation;

20 (3) research grants to study the impact of poli-
21 cies and practices that are implemented under this
22 Act or that are otherwise consistent with the pur-
23 poses of this Act;

24 (4) collaboration with other Federal science
25 agencies and professional associations to exchange

1 best practices, harmonize work-life accommodation
2 policies and practices, and overcome common bar-
3 riers to work-life accommodation; and

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

8 (b) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to the Director of the
10 National Science Foundation \$5,000,000 in each of fiscal
11 years 2016 through 2020 to carry out this section.

12 **SEC. 9. REPORT TO CONGRESS.**

13 Not later than 4 years after the date of enactment
14 of this Act, the Director shall submit a report to Congress
15 that includes—

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

20 (2) a description of any significant updates to
21 the policies for review of Federal research grants re-
22 quired under section 5, and any evidence of the im-
23 pact of such policies on the review or awarding of
24 Federal research grants; and

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

5 **SEC. 10. NATIONAL SCIENCE FOUNDATION SUPPORT FOR**
6 **INCREASING DIVERSITY AMONG STEM FAC-**
7 **ULTY AT INSTITUTIONS OF HIGHER EDU-**
8 **CATION.**

9 (a) GRANTS.—The Director of the National Science
10 Foundation shall award grants to institutions of higher
11 education (or consortia thereof) for the development of in-
12 novative reform efforts designed to increase the recruit-
13 ment, retention, and advancement of individuals from
14 underrepresented minority groups in academic STEM ca-
15 reers.

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) institutional assessment activities, such as
22 data analyses and policy review, in order to identify
23 and address specific issues in the recruitment, reten-
24 tion, and advancement of faculty members from
25 underrepresented minority groups;

1 (2) implementation of institution-wide improve-
2 ments in workload distribution, such that faculty
3 members from underrepresented minority groups are
4 not disadvantaged in the amount of time available to
5 focus on research, publishing papers, and engaging
6 in other activities required to achieve tenure status
7 and run a productive research program;

8 (3) development and implementation of training
9 courses for administrators and search committee
10 members to ensure that candidates from underrep-
11 resented minority groups are not subject to implicit
12 biases in the search and hiring process;

13 (4) development and hosting of intra- or inter-
14 institutional workshops to propagate best practices
15 in recruiting, retaining, and advancing faculty mem-
16 bers from underrepresented minority groups;

17 (5) professional development opportunities for
18 faculty members from underrepresented minority
19 groups;

20 (6) activities aimed at making undergraduate
21 STEM students from underrepresented minority
22 groups aware of opportunities for academic careers
23 in STEM fields;

24 (7) activities to identify and engage exceptional
25 graduate students from underrepresented minority

1 groups at various stages of their studies and to en-
2 courage them to enter academic careers; and

3 (8) other activities consistent with subsection
4 (a), as determined by the Director of the National
5 Science Foundation.

6 (d) SELECTION PROCESS.—

7 (1) APPLICATION.—An institution of higher
8 education (or consortia thereof) seeking funding
9 under this section shall submit an application to the
10 Director of the National Science Foundation at such
11 time, in such manner, and containing such informa-
12 tion and assurances as such Director may require.
13 The application shall include, at a minimum, a de-
14 scription of—

15 (A) the reform effort that is being pro-
16 posed for implementation by the institution of
17 higher education;

18 (B) any available evidence of specific dif-
19 ficulties in the recruitment, retention, and ad-
20 vancement of faculty members from underrep-
21 resented minority groups in STEM academic
22 careers within the institution of higher edu-
23 cation submitting an application, and how the
24 proposed reform effort would address such
25 issues;

1 (C) how the institution of higher education
2 submitting an application plans to sustain the
3 proposed reform effort beyond the duration of
4 the grant; and

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

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

14 (A) the likelihood of success in under-
15 taking the proposed reform effort at the institu-
16 tion of higher education submitting the applica-
17 tion, including the extent to which the adminis-
18 trators of the institution are committed to mak-
19 ing the proposed reform effort a priority;

20 (B) the degree to which the proposed re-
21 form effort will contribute to change in institu-
22 tional culture and policy such that greater value
23 is placed on the recruitment, retention, and ad-
24 vancement of faculty members from underrep-
25 resented minority groups;

1 (C) the likelihood that the institution of
2 higher education will sustain or expand the pro-
3 posed reform effort beyond the period of the
4 grant; and

5 (D) the degree to which evaluation and as-
6 sessment plans are included in the design of the
7 proposed reform effort.

8 (3) GRANT DISTRIBUTION.—The Director of
9 the National Science Foundation shall ensure, to the
10 extent practicable, that grants awarded under this
11 section are made to a variety of types of institutions
12 of higher education.

13 (e) AUTHORIZATION OF APPROPRIATIONS.—There
14 are authorized to be appropriated to the Director of the
15 National Science Foundation \$10,000,000 in each of fiscal
16 years 2016 through 2020 to carry out this section.

17 **SEC. 11. NATIONAL SCIENCE FOUNDATION SUPPORT FOR**
18 **BROADENING PARTICIPATION IN UNDER-**
19 **GRADUATE STEM EDUCATION.**

20 (a) GRANTS.—The Director of the National Science
21 Foundation shall award grants to institutions of higher
22 education (or consortia thereof) to implement or expand
23 research-based reforms in undergraduate STEM edu-
24 cation for the purpose of recruiting and retaining students
25 from minority groups who are underrepresented in STEM

1 fields, with a priority focus on natural science and engi-
2 neering fields.

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

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

8 (1) implementation or expansion of innovative,
9 research-based approaches to broaden participation
10 of underrepresented minority groups in STEM
11 fields;

12 (2) implementation or expansion of bridge, co-
13 hort, tutoring, or mentoring programs designed to
14 enhance the recruitment and retention of students
15 from underrepresented minority groups in STEM
16 fields;

17 (3) implementation or expansion of outreach
18 programs linking institutions of higher education
19 and K–12 school systems in order to heighten
20 awareness among pre-college students from under-
21 represented minority groups of opportunities in col-
22 lege-level STEM fields and STEM careers;

23 (4) implementation or expansion of faculty de-
24 velopment programs focused on improving retention

1 of undergraduate STEM students from underrep-
2 resented minority groups;

3 (5) implementation or expansion of mechanisms
4 designed to recognize and reward faculty members
5 who demonstrate a commitment to increasing the
6 participation of students from underrepresented mi-
7 nority groups in STEM fields;

8 (6) expansion of successful reforms aimed at in-
9 creasing the number of STEM students from under-
10 represented minority groups beyond a single course
11 or group of courses to achieve reform within an en-
12 tire academic unit, or expansion of successful reform
13 efforts beyond a single academic unit to other
14 STEM academic units within an institution of high-
15 er education;

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

20 (8) provision of stipends for students from
21 underrepresented minority groups participating in
22 research;

23 (9) development of research collaborations be-
24 tween research-intensive universities and primarily
25 undergraduate minority-serving institutions;

1 (10) support for graduate students and post-
2 doctoral fellows from underrepresented minority
3 groups to participate in instructional or assessment
4 activities at primarily undergraduate institutions, in-
5 cluding primarily undergraduate minority-serving in-
6 stitutions and two-year institutions of higher edu-
7 cation; and

8 (11) other activities consistent with subsection
9 (a), as determined by the Director of the National
10 Science Foundation.

11 (d) SELECTION PROCESS.—

12 (1) APPLICATION.—An institution of higher
13 education (or consortia thereof) seeking a grant
14 under this section shall submit an application to the
15 Director of the National Science Foundation at such
16 time, in such manner, and containing such informa-
17 tion and assurances as such Director may require.
18 The application shall include, at a minimum—

19 (A) a description of the proposed reform
20 effort;

21 (B) a description of the research findings
22 that will serve as the basis for the proposed re-
23 form effort or, in the case of applications that
24 propose an expansion of a previously imple-
25 mented reform, a description of the previously

1 implemented reform effort, including data about
2 the recruitment, retention, and academic
3 achievement of students from underrepresented
4 minority groups;

5 (C) evidence of an institutional commit-
6 ment to, and support for, the proposed reform
7 effort, including a long-term commitment to im-
8 plement successful strategies from the current
9 reform beyond the academic unit or units in-
10 cluded in the grant proposal;

11 (D) a description of existing or planned in-
12 stitutional policies and practices regarding fac-
13 ulty hiring, promotion, tenure, and teaching as-
14 signment that reward faculty contributions to
15 improving the education of students from
16 underrepresented minority groups in STEM;
17 and

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

23 (2) REVIEW OF APPLICATIONS.—In selecting
24 grant recipients under this section, the Director of

1 the National Science Foundation shall consider, at a
2 minimum—

3 (A) the likelihood of success of the pro-
4 posed reform effort at the institution submit-
5 ting the application, including the extent to
6 which the faculty, staff, and administrators of
7 the institution are committed to making the
8 proposed institutional reform a priority of the
9 participating academic unit or units;

10 (B) the degree to which the proposed re-
11 form effort will contribute to change in institu-
12 tional culture and policy such that greater value
13 is placed on faculty engagement in the retention
14 of students from underrepresented minority
15 groups;

16 (C) the likelihood that the institution will
17 sustain or expand the proposed reform effort
18 beyond the period of the grant; and

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

22 (3) PRIORITY.—For applications that include
23 an expansion of existing reforms beyond a single
24 academic unit, the Director of the National Science
25 Foundation shall give priority to applications for

1 which a senior institutional administrator, such as a
2 dean or other administrator of equal or higher rank,
3 serves as the principal investigator.

4 (4) GRANT DISTRIBUTION.—The Director of
5 the National Science Foundation shall ensure, to the
6 extent practicable, that grants awarded under this
7 section are made to a variety of types of institutions
8 of higher education, including two-year and minor-
9 ity-serving institutions of higher education.

10 (e) EDUCATION RESEARCH.—

11 (1) IN GENERAL.—All grants made under this
12 section shall include an education research compo-
13 nent that will support the design and implementa-
14 tion of a system for data collection and evaluation
15 of proposed reform efforts in order to build the
16 knowledge base on promising models for increasing
17 recruitment and retention of students from under-
18 represented minority groups in STEM education at
19 the undergraduate level across a diverse set of insti-
20 tutions.

21 (2) DISSEMINATION.—The Director of the Na-
22 tional Science Foundation shall coordinate with rel-
23 evant Federal agencies in disseminating the results
24 of the research under this subsection to ensure that
25 best practices in broadening participation in STEM

1 education at the undergraduate level are made read-
2 ily available to all institutions of higher education,
3 other Federal agencies that support STEM pro-
4 grams, non-Federal funders of STEM education,
5 and the general public.

6 (f) AUTHORIZATION OF APPROPRIATIONS.—There
7 are authorized to be appropriated to the Director of the
8 National Science Foundation \$15,000,000 in each of fiscal
9 years 2016 through 2020 to carry out this section.

10 **SEC. 12. DEFINITIONS.**

11 In this Act:

12 (1) DIRECTOR.—The term “Director” means
13 the Director of the Office of Science and Technology
14 Policy (“OSTP”).

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

19 (3) FEDERAL SCIENCE AGENCY.—The term
20 “Federal science agency” means any Federal agency
21 with at least \$100,000,000 in research and develop-
22 ment expenditures in fiscal year 2014.

23 (4) INSTITUTION OF HIGHER EDUCATION.—The
24 term “institution of higher education” has the

1 meaning given such term in section 101(a) of the
2 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

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

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