I

112TH CONGRESS
1ST SESSION

H. R. 889

To provide for fulfilling the potential of women in academic science and engineering, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 2, 2011

Ms. EDDIE BERNICE JOHNSON of Texas (for herself, Mr. STARK, Mr. REYES, Mr. MARKEY, Ms. EDWARDS, Ms. FUDGE, Mr. HONDA, Mr. HINOJOSA, Mr. TONKO, Mr. HOLT, Mr. WU, Mr. DAVIS of Illinois, Ms. WASSERMAN SCHULTZ, Ms. WOOLSEY, Ms. WILSON of Florida, Mr. GRIJALVA, and Ms. NORTON) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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A BILL

To provide for fulfilling the potential of women in academic science and engineering, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Fulfilling the Potential of Women in Academic Science and Engineering Act of 2011''.

SEC. 2. FINDINGS.

The Congress finds the following:

(1) Many reports over the past decade have found that it is critical to our Nation's economic leadership and global competitiveness that we educate and train more scientists and engineers.

(2) In its 2007 report entitled ''Beyond Bias and Barriers'', the National Academies stated that, in order to maintain its scientific and engineering leadership amid increasing economic and educational globalization, the United States must aggressively pursue the innovative capacity of all of its people—women and men.

(3) Research shows that the number of women who are interested in science, technology, engineering, and mathematics (STEM) careers is reduced at every educational transition, from high school on through full professorships.

(4) According to data compiled by National Science Foundation in 2006, women now earn about half of all science and engineering bachelor's degrees, but major variations persist among fields. For example, women still receive only 20 percent of all bachelor's degrees awarded in engineering and physics.

(5) Even in science and engineering fields with a higher representation of women, such as the social

and behavioral sciences, women remain underrepresented among university faculty. According to data compiled by the National Science Foundation, for over 30 years women have made up over 30 percent of the doctorates in social sciences and behavioral sciences and over 20 percent in the life sciences. Yet, at the top research institutions, only 15.4 percent of the full professors in the social and behavioral sciences and 14.8 percent in the life sciences are women.

(6) Across fields, women remain a small portion of the science and engineering faculty members at major research universities, and they typically receive fewer institutional resources for their research activities than their male colleagues.

(7) Studies have not found any significant biological differences between men and women in performing science and mathematics that can account for the lower representation of women in academic faculty and scientific leadership positions in these fields.

(8) A substantial body of evidence establishes that most people hold implicit biases. Decades of cognitive psychology research reveals that most people carry prejudices of which they are unaware but

that nonetheless play a large role in evaluations of people and their work. Unintentional biases and outmoded institutional structures are hindering the access for women to, and advancement of women in, science and engineering.

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

(10) The Federal Government provides over 60 percent of research funding at institutions of higher education, and through its grant making policies has had significant influence on institution of higher education policies, including policies related to institutional culture and structure.

SEC. 3. FULFILLING THE POTENTIAL OF WOMEN IN ACADEMIC SCIENCE AND ENGINEERING.

(a) DEFINITIONS.—In this section—

(1) the term ''Federal science agency'' means any Federal agency that is responsible for at least 2 percent of total Federal research and development funding to institutions of higher education, according to the most recent data available from the National Science Foundation;

(2) the term ''institution of higher education'' has the meaning given such term in section 101(a)

of the Higher Education Act of 1965 (20 U.S.C. 1001(a));

(3) the term ''STEM'' means science, technology, engineering, and mathematics; and

(4) the term ''United States'' means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

(b) WORKSHOPS TO ENHANCE GENDER EQUITY IN ACADEMIC SCIENCE AND ENGINEERING.—

(1) IN GENERAL.—Not later than 6 months after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall develop a uniform policy for all Federal science agencies to carry out a program of workshops that educate program officers, members of grant review panels, institution of higher education STEM department chairs, and other federally funded researchers about methods that minimize the effects of gender bias in evaluation of Federal research grants and in the related academic advancement of actual and potential recipients of these grants, including hiring, tenure, promotion, and selection for any

honor based in part on the recipient's research record.

(2) INTERAGENCY COORDINATION.—The Director of the Office of Science and Technology Policy shall ensure that programs of workshops across the Federal science agencies are coordinated and supported jointly as appropriate. As part of this process, the Director of the Office of Science and Technology Policy shall ensure that at least 1 workshop is supported every 2 years among the Federal science agencies in each of the major science and engineering disciplines supported by those agencies.

(3) ORGANIZATIONS ELIGIBLE TO CARRY OUT WORKSHOPS.—Federal science agencies may carry out the program of workshops under this subsection by making grants to eligible organizations. In addition to any other organizations made eligible by the Federal science agencies, the following organizations are eligible for grants under this subsection:

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

(B) Nonprofit organizations that have the primary mission of advancing the participation of women in STEM.

(4) CHARACTERISTICS OF WORKSHOPS.—The workshops shall have the following characteristics:

(A) Invitees to workshops shall include at least—

(i) the chairs of departments in the relevant discipline from at least the top 50 institutions of higher education, as determined by the amount of Federal research and development funds obligated to each institution of higher education in the prior year based on data available from the National Science Foundation;

(ii) members of any standing research grant review panel appointed by the Federal science agencies in the relevant discipline;

(iii) in the case of science and engineering disciplines supported by the Department of Energy, the individuals from each of the Department of Energy National Laboratories with personnel management responsibilities comparable to those of an institution of higher education department chair; and

(iv) Federal science agency program officers in the relevant discipline, other than program officers that participate in comparable workshops organized and run specifically for that agency's program officers.

(B) Activities at the workshops shall include research presentations and interactive discussions or other activities that increase the awareness of the existence of gender bias in the grant-making process and the development of the academic record necessary to qualify as a grant recipient, including recruitment, hiring, tenure review, promotion, and other forms of formal recognition of individual achievement, and provide strategies to overcome such bias.

(C) Research presentations and other workshop programs, as appropriate, shall include a discussion of the unique challenges faced by women who are members of historically underrepresented groups.

(D) Workshop programs shall include information on best practices and the value of mentoring undergraduate and graduate women

students as well as outreach to girls earlier in their STEM education.

(5) REPORT.—

(A) IN GENERAL.—Not later than 5 years after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall transmit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report evaluating the effectiveness of the program carried out under this subsection to reduce gender bias towards women engaged in research funded by the Federal Government. The Director of the Office of Science and Technology Policy shall include in this report any recommendations for improving the evaluation process described in subparagraph (B).

(B) MINIMUM CRITERIA FOR EVALUATION.—In determining the effectiveness of the program, the Director of the Office of Science and Technology Policy shall consider, at a minimum—

(i) the rates of participation by invitees in the workshops authorized under this subsection;

(ii) the results of attitudinal surveys conducted on workshop participants before and after the workshops;

(iii) any relevant institutional policy or practice changes reported by participants; and

(iv) for individuals described in paragraph (4)(A) (i) or (iii) who participated in at least 1 workshop 3 or more years prior to the due date for the report, trends in the data for the department represented by the chair or employee including faculty data related to gender as described in section 4.

(C) INSTITUTIONAL ATTENDANCE AT WORKSHOPS.—As part of the report under subparagraph (A), the Director of the Office of Science and Technology Policy shall include a list of institutions of higher education science and engineering departments whose representatives attended the workshops required under this subsection.

(6) MINIMIZING COSTS.—To the extent practicable, workshops shall be held in conjunction with national or regional disciplinary meetings to minimize costs associated with participant travel.

(c) EXTENDED RESEARCH GRANT SUPPORT AND INTERIM TECHNICAL SUPPORT FOR CAREGIVERS.—

(1) POLICIES FOR CAREGIVERS.—Not later than 6 months after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall develop a uniform policy to—

(A) extend the period of grant support for federally funded researchers who have caregiving responsibilities; and

(B) provide funding for interim technical staff support for federally funded researchers who take a leave of absence for caregiving responsibilities.

(2) REPORT.—Upon developing the policy required under paragraph (1), the Director of the Office of Science and Technology Policy shall transmit a copy of the policy to the Committee on Science, Space, and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate.

(d) COLLECTION OF DATA ON FEDERAL RESEARCH GRANTS.—

(1) IN GENERAL.—Each Federal science agency shall collect standardized annual composite information on demographics, field, award type and budget request, review score, and funding outcome for all applications for research and development grants to institutions of higher education supported by that agency.

(2) REPORTING OF DATA.—

(A) The Director of the Office of Science and Technology Policy shall establish a policy to ensure uniformity and standardization of data collection required under paragraph (1).

(B) Not later than 2 years after the date of enactment of this Act, and annually thereafter, each Federal science agency shall submit data collected under paragraph (1) to the National Science Foundation.

(C) The National Science Foundation shall be responsible for storing and publishing all of the grant data submitted under subparagraph (B), disaggregated and cross-tabulated by race, ethnicity, and gender, in conjunction with the biennial report required under section 37 of the

Science and Engineering Equal Opportunities Act (42 U.S.C. 1885d).

(e) PUBLICATION OF LIST OF INSTITUTIONAL PARTICIPATION IN WORKSHOPS TO ENHANCE GENDER EQUITY IN ACADEMIC SCIENCE AND ENGINEERING.—The Director of the Office of Science and Technology Policy, on the basis of data reported by the Federal science agencies, shall publish annually a list of institutions of higher education science and engineering departments represented by individuals who attend the workshops described in this section. The list shall be publicly available through the Web site of the Office of Science and Technology Policy. Any institution of higher education science and engineering department that is publicized on the list may publicize its receipt of such recognition on its Web site, in printed materials, or through other means.

SEC. 4. COLLECTION OF DATA ON DEMOGRAPHICS OF FACULTY.

(a) COLLECTION OF DATA.—The Director of the National Science Foundation shall report, in conjunction with the biennial report required under section 37 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885d), statistical summary data on the demographics of STEM discipline faculty at institutions of higher education in the United States, disaggregated and

cross-tabulated by race, ethnicity, and gender. At a minimum, the Director shall consider—

(1) the number and percent of faculty by gender, race, and age;

(2) the number and percent of faculty at each rank, by gender, race, and age;

(3) the number and percent of faculty who are in nontenure-track positions, including teaching and research, by gender, race, and age;

(4) the number of faculty who are reviewed for promotion, including tenure, and the percentage of that number who are promoted, by gender, race, and age;

(5) faculty years in rank by gender, race, and age;

(6) faculty attrition by gender, race, and age;

(7) the number and percent of faculty hired by rank, gender, race, and age; and

(8) the number and percent of faculty in leadership positions, including endowed or named chairs, serving on promotion and tenure committees, by gender, race, and age.

(b) RECOMMENDATIONS.—The Director of the National Science Foundation shall solicit input and recommendations from relevant stakeholders, including rep-

resentatives from institutions of higher education and nonprofit organizations, on the collection of data required under subsection (a), including the development of standard definitions on the terms and categories to be used in the collection of such data.

(c) REPORT TO CONGRESS.—Not later than 2 years after the date of enactment of this Act, the Director of the National Science Foundation shall submit a report to Congress on how the National Science Foundation will gather the demographic data on STEM faculty, including—

(1) a description of the data to be reported and the sources of those data;

(2) justification for the exclusion of any data described in paragraph (1); and

(3) a list of the definitions for the terms and categories, such as ''faculty'' and ''leadership positions'', to be applied in the reporting of all data described in paragraph (1).

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