

110TH CONGRESS
1ST SESSION

H. R. 2436

To strengthen the capacity of eligible institutions to provide instruction in nanotechnology.

IN THE HOUSE OF REPRESENTATIVES

MAY 22, 2007

Ms. HOOLEY (for herself, Mr. WU, Mr. DEFazio, Mr. BLUMENAUER, Mr. HONDA, Mr. LIPINSKI, and Mr. KIND) introduced the following bill; which was referred to the Committee on Science and Technology

A BILL

To strengthen the capacity of eligible institutions to provide instruction in nanotechnology.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Nanotechnology in the
5 Schools Act”.

6 **SEC. 2. NANOTECHNOLOGY IN SCHOOLS.**

7 (a) FINDINGS.—Congress makes the following find-
8 ings:

9 (1) The rapidly growing field of nanotechnology
10 is generating scientific and technological break-

1 throughs that will benefit society by improving the
2 way many things are designed and made.

3 (2) Nanotechnology is likely to have a signifi-
4 cant, positive impact on the security, economic well-
5 being, and health of Americans as fields related to
6 nanotechnology expand.

7 (3) In order to maximize the benefits of
8 nanotechnology to individuals in the United States,
9 the United States must maintain world leadership in
10 the field, including nanoscience and microtechnology,
11 in the face of determined competition from other na-
12 tions.

13 (4) According to the National Science Founda-
14 tion, foreign students on temporary visas earned 32
15 percent of all science and engineering doctorates
16 awarded in the United States in 2003, the last year
17 for which data is available. Foreign students earned
18 55 percent of the engineering doctorates. Many of
19 these students expressed an intent to return to their
20 country of origin after completing their study.

21 (5) To maintain world leadership in
22 nanotechnology, the United States must make a
23 long-term investment in educating United States
24 students in secondary schools and institutions of
25 higher education, so that the students are able to

1 conduct nanoscience research and develop and com-
2 mercialize nanotechnology applications.

3 (6) Preparing United States students for ca-
4 reers in nanotechnology, including nanoscience, re-
5 quires that the students have access to the necessary
6 scientific tools, including scanning electron micro-
7 scopes designed for teaching, and requires training
8 to enable teachers and professors to use those tools
9 in the classroom and the laboratory.

10 (b) PURPOSE.—The purpose of this section is to
11 strengthen the capacity of United States secondary
12 schools and institutions of higher education to prepare
13 students for careers in nanotechnology by providing grants
14 to those schools and institutions to provide the tools nec-
15 essary for such preparation.

16 (c) DEFINITIONS.—In this section:

17 (1) DIRECTOR.—The term “Director” means
18 the Director of the National Science Foundation.

19 (2) ELIGIBLE INSTITUTION.—The term “eligi-
20 ble institution” means an institution that is—

21 (A) a public, private, parochial, or charter
22 secondary school that offers 1 or more ad-
23 vanced placement science courses or inter-
24 national baccalaureate science courses;

1 (B) a community college, as defined in sec-
 2 tion 3301 of the Elementary and Secondary
 3 Education Act of 1965 (20 U.S.C. 7011);

4 (C) a 4-year institution of higher education
 5 or a branch, within the meaning of section
 6 498(j) of the Higher Education Act of 1965
 7 (20 U.S.C. 1099c(j)), of such an institution; or

8 (D) a informal learning science and tech-
 9 nology center.

10 (3) QUALIFIED NANOTECHNOLOGY EQUIP-
 11 MENT.—The term “qualified nanotechnology equip-
 12 ment” means equipment, instrumentation, or hard-
 13 ware that is—

14 (A) used for teaching nanotechnology in
 15 the classroom; and

16 (B) manufactured in the United States at
 17 least 50 percent from articles, materials, or
 18 supplies that are mined, produced, or manufac-
 19 tured, as the case may be, in the United States.

20 (d) PROGRAM AUTHORIZED.—

21 (1) PROGRAM AUTHORIZED.—The Director
 22 shall establish a nanotechnology in the schools pro-
 23 gram to strengthen the capacity of eligible institu-
 24 tions to provide instruction in nanotechnology. In
 25 carrying out the program, the Director shall award

1 grants of not more than \$150,000 to eligible institu-
2 tions to provide such instruction.

3 (2) ACTIVITIES SUPPORTED.—

4 (A) IN GENERAL.—An eligible institution
5 shall use a grant awarded under this section—

6 (i) to acquire qualified nanotechnology
7 equipment and software designed for
8 teaching students about nanotechnology in
9 the classroom;

10 (ii) to develop and provide educational
11 services, including carrying out faculty de-
12 velopment, to prepare students or faculty
13 seeking a degree or certificate that is ap-
14 proved by the State, or a regional accred-
15 iting body recognized by the Secretary of
16 Education; and

17 (iii) to provide teacher education and
18 certification to individuals who seek to ac-
19 quire or enhance technology skills in order
20 to use nanotechnology in the classroom or
21 instructional process.

22 (B) LIMITATIONS.—

23 (i) USES.—Not more than $\frac{1}{4}$ of the
24 amount of the funds made available
25 through a grant awarded under this sec-

1 tion may be used for software, educational
2 services, or teacher education and certifi-
3 cation as described in this paragraph.

4 (ii) PROGRAMS.—In the case of a
5 grant awarded under this section to a com-
6 munity college or institution of higher edu-
7 cation, the funds made available through
8 the grant may be used only in under-
9 graduate programs.

10 (3) APPLICATIONS AND SELECTION.—

11 (A) IN GENERAL.—To be eligible to receive
12 a grant under this section, an eligible institu-
13 tion shall submit an application to the Director
14 at such time, in such manner, and accompanied
15 by such information as the Director may rea-
16 sonably require.

17 (B) PROCEDURE.—Not later than 180
18 days after the date of enactment of this Act,
19 the Director shall establish a procedure for ac-
20 cepting such applications and publish an an-
21 nouncement of such procedure, including a
22 statement regarding the availability of funds, in
23 the Federal Register.

24 (C) SELECTION.—In selecting eligible in-
25 stitutions to receive grants under this section,

1 and encouraging eligible institutions to apply
2 for such grants, the Director shall, to the great-
3 est extent practicable—

4 (i) select eligible entities in geographi-
5 cally diverse locations;

6 (ii) encourage the application of his-
7 torically Black colleges and universities
8 (meaning part B institutions, as defined in
9 section 322 of the Higher Education Act
10 of 1965 (20 U.S.C. 1061)) and minority
11 institutions (as defined in section 365 of
12 such Act (20 U.S.C. 1067k)); and

13 (iii) select eligible institutions that in-
14 clude institutions located in States partici-
15 pating in the Experimental Program to
16 Stimulate Competitive Research (com-
17 monly known as “EPSCoR”).

18 (4) MATCHING REQUIREMENT AND LIMITA-
19 TION.—

20 (A) IN GENERAL.—

21 (i) REQUIREMENT.—The Director
22 may not award a grant to an eligible insti-
23 tution under this section unless such insti-
24 tution agrees that, with respect to the
25 costs to be incurred by the institution in

1 carrying out the program for which the
2 grant was awarded, such institution will
3 make available (directly or through dona-
4 tions from public or private entities) non-
5 Federal contributions in an amount equal
6 to $\frac{1}{4}$ of the amount of the grant.

7 (ii) WAIVER.—The Director shall
8 waive the matching requirement described
9 in clause (i) for any institution with no en-
10 dowment, or an endowment that has a dol-
11 lar value lower than \$5,000,000, as of the
12 date of the waiver.

13 (B) LIMITATION.—

14 (i) BRANCHES.—If a branch described
15 in subsection (c)(1)(C) receives a grant
16 under this section that exceeds \$100,000,
17 that branch shall not be eligible, until 2
18 years after the date of receipt of the grant,
19 to receive another grant under this section.

20 (ii) OTHER ELIGIBLE INSTITU-
21 TIONS.—If an eligible institution other
22 than a branch referred to in clause (i) re-
23 ceives a grant under this section that ex-
24 ceeds \$100,000, that institution shall not
25 be eligible, until 2 years after the date of

1 receipt of the grant, to receive another
2 grant under this section.

3 (5) ANNUAL REPORT AND EVALUATION.—

4 (A) REPORT BY INSTITUTIONS.—Each in-
5 stitution that receives a grant under this sec-
6 tion shall prepare and submit a report to the
7 Director, not later than 1 year after the date of
8 receipt of the grant, on its use of the grant
9 funds.

10 (B) REVIEW AND EVALUATION.—

11 (i) REVIEW.—The Director shall an-
12 nually review the reports submitted under
13 subparagraph (A).

14 (ii) EVALUATION.—At the end of
15 every third year, the Director shall evalu-
16 ate the program authorized by this section
17 on the basis of those reports. The Director,
18 in the evaluation, shall describe the activi-
19 ties carried out by the institutions receiv-
20 ing grants under this section and shall as-
21 sess the short-range and long-range impact
22 of the activities carried out under the
23 grants on the students, faculty, and staff
24 of the institutions.

1 (C) REPORT TO CONGRESS.—Not later
2 than 6 months after conducting an evaluation
3 under subparagraph (B)(ii), the Director shall
4 prepare and submit a report to Congress based
5 on the evaluation. In the report, the Director
6 shall include such recommendations, including
7 recommendations concerning the continuing
8 need for Federal support of the program car-
9 ried out under this section, as may be appro-
10 prium.

11 (e) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated to the Director to carry
13 out this section \$15,000,000 for fiscal year 2008, and
14 such sums as may be necessary for fiscal years 2009
15 through 2011.

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