

110TH CONGRESS  
1ST SESSION

# S. 1199

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

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IN THE SENATE OF THE UNITED STATES

APRIL 24, 2007

Mr. WYDEN (for himself, Mr. SMITH, Mr. PRYOR, and Mr. KERRY) introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

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## 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. FINDINGS AND PURPOSE.**

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 of nanotechnology, including nanoscience  
11 and microtechnology, in the face of determined com-  
12 petition from other nations.

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 Act 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       **SEC. 3. DEFINITIONS.**

17       In this Act:

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

20                       (A) a public or charter secondary school  
21                       that offers 1 or more advanced placement  
22                       science courses or international baccalaureate  
23                       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); or

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

8 (2) INSTITUTION OF HIGHER EDUCATION; SEC-  
9 ONDARY SCHOOL; SECRETARY.—The terms “institu-  
10 tion of higher education”, “secondary school”, and  
11 “Secretary” have the meanings given the terms in  
12 section 9101 of the Elementary and Secondary Edu-  
13 cation Act of 1965 (20 U.S.C. 7801).

14 (3) QUALIFIED NANOTECHNOLOGY EQUIP-  
15 MENT.—The term “qualified nanotechnology equip-  
16 ment” means equipment, instrumentation, or hard-  
17 ware that is—

18 (A) used for teaching nanotechnology in  
19 the classroom; and

20 (B) manufactured in the United States at  
21 least 50 percent from articles, materials, or  
22 supplies that are mined, produced, or manufac-  
23 tured, as the case may be, in the United States.

1 **SEC. 4. PROGRAM AUTHORIZED.**

2 (a) IN GENERAL.—The Director of the National  
3 Science Foundation (referred to in this Act as the “Direc-  
4 tor”) shall establish a nanotechnology in the schools pro-  
5 gram to strengthen the capacity of eligible institutions to  
6 provide instruction in nanotechnology. In carrying out the  
7 program, the Director shall award grants of not more than  
8 \$150,000 to eligible institutions to provide such instruc-  
9 tion.

10 (b) ACTIVITIES SUPPORTED.—

11 (1) IN GENERAL.—An eligible institution shall  
12 use a grant awarded under this Act—

13 (A) to acquire qualified nanotechnology  
14 equipment and software designed for teaching  
15 students about nanotechnology in the class-  
16 room;

17 (B) to develop and provide educational  
18 services, including carrying out faculty develop-  
19 ment, to prepare students or faculty seeking a  
20 degree or certificate that is approved by the  
21 State, or a regional accrediting body recognized  
22 by the Secretary of Education; and

23 (C) to provide teacher education and cer-  
24 tification to individuals who seek to acquire or  
25 enhance technology skills in order to use

1 nanotechnology in the classroom or instruc-  
2 tional process.

3 (2) LIMITATION.—

4 (A) USES.—Not more than  $\frac{1}{4}$  of the  
5 amount of the funds made available through a  
6 grant awarded under this Act may be used for  
7 software, educational services, or teacher edu-  
8 cation and certification as described in this sub-  
9 section.

10 (B) PROGRAMS.—In the case of a grant  
11 awarded under this Act to a community college  
12 or institution of higher education, the funds  
13 made available through the grant may be used  
14 only in undergraduate programs.

15 (c) APPLICATIONS AND SELECTION.—

16 (1) IN GENERAL.—To be eligible to receive a  
17 grant under this Act, an eligible institution shall  
18 submit an application to the Director at such time,  
19 in such manner, and accompanied by such informa-  
20 tion as the Director may reasonably require.

21 (2) PROCEDURE.—Not later than 180 days  
22 after the date of enactment of this Act, the Director  
23 shall establish a procedure for accepting such appli-  
24 cations and publish an announcement of such proce-

1       dure, including a statement regarding the avail-  
2       ability of funds, in the Federal Register.

3           (3) SELECTION.—In selecting eligible institu-  
4       tions to receive grants under this Act, and encour-  
5       aging eligible institutions to apply for such grants,  
6       the Director shall, to the greatest extent prac-  
7       ticable—

8           (A) select eligible entities in geographically  
9       diverse locations;

10          (B) encourage the application of histori-  
11       cally Black colleges and universities (meaning  
12       part B institutions, as defined in section 322 of  
13       the Higher Education Act of 1965 (20 U.S.C.  
14       1061)) and minority institutions (as defined in  
15       section 365 of such Act (20 U.S.C. 1067k));  
16       and

17          (C) select eligible institutions that include  
18       institutions located in States participating in  
19       the Experimental Program to Stimulate Com-  
20       petitive Research (commonly known as  
21       “EPSCoR”).

22       (d) MATCHING REQUIREMENT AND LIMITATION.—

23           (1) IN GENERAL.—

24           (A) REQUIREMENT.—The Director may  
25       not award a grant to an eligible institution

1 under this Act unless such institution agrees  
2 that, with respect to the costs to be incurred by  
3 the institution in carrying out the program for  
4 which the grant was awarded, such institution  
5 will make available (directly or through dona-  
6 tions from public or private entities) non-Fed-  
7 eral contributions in an amount equal to  $\frac{1}{4}$  of  
8 the amount of the grant.

9 (B) WAIVER.—The Director shall waive  
10 the matching requirement described in subpara-  
11 graph (A) for any institution with no endow-  
12 ment, or an endowment that has a dollar value  
13 lower than \$5,000,000, as of the date of the  
14 waiver.

15 (2) LIMITATION.—

16 (A) BRANCHES.—If a branch described in  
17 section 3(1)(C) receives a grant under this Act  
18 that exceeds \$100,000, that branch shall not be  
19 eligible, until 2 years after the date of receipt  
20 of the grant, to receive another grant under this  
21 Act.

22 (B) OTHER ELIGIBLE INSTITUTIONS.—If  
23 an eligible institution other than a branch re-  
24 ferred to in subparagraph (A) receives a grant  
25 under this Act that exceeds \$100,000, that in-

1           stitution shall not be eligible, until 2 years after  
2           the date of receipt of the grant, to receive an-  
3           other grant under this Act.

4 **SEC. 5. ANNUAL REPORT AND EVALUATION.**

5           (a) **REPORT BY INSTITUTIONS.**—Each institution  
6 that receives a grant under this Act shall prepare and sub-  
7 mit a report to the Director, not later than 1 year after  
8 the date of receipt of the grant, on its use of the grant  
9 funds.

10          (b) **REVIEW AND EVALUATION.**—

11           (1) **REVIEW.**—The Director shall annually re-  
12 view the reports submitted under subsection (a).

13           (2) **EVALUATION.**—At the end of every third  
14 year, the Director shall evaluate the program au-  
15 thorized by this Act on the basis of those reports.  
16 The Director, in the evaluation, shall describe the  
17 activities carried out by the institutions receiving  
18 grants under this Act and shall assess the short-  
19 range and long-range impact of the activities carried  
20 out under the grants on the students, faculty, and  
21 staff of the institutions.

22           (c) **REPORT TO CONGRESS.**—Not later than 6  
23 months after conducting an evaluation under subsection  
24 (b), the Director shall prepare and submit a report to Con-  
25 gress based on the evaluation. In the report, the Director

1 shall include such recommendations, including rec-  
2 ommendations concerning the continuing need for Federal  
3 support of the program carried out under this Act, as may  
4 be appropriate.

5 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

6       There are authorized to be appropriated to the Direc-  
7 tor to carry out this Act \$15,000,000 for fiscal year 2008,  
8 and such sums as may be necessary for fiscal years 2009  
9 through 2011.

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