AMENDMENT TO THE COMMITTEE PRINT OFFERED BY MR. LIPINSKI OF ILLINOIS

Page 8, line 9, strike "Congress" and insert "appropriate Congressional committees of jurisdiction"

Page 8, lines 21 and 22, amend subparagraph (B) to read as follows:

(B) by striking "the audit required under paragraph (3) along with" and inserting "any"; and

Page 9, line 14, strike "K-12" and insert "pre-K-12".

Page 10, line 16, insert "education or research" after "other nonprofit".

Page 11, after line 6, insert the following new section:

SEC. 105. NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS.

(a) ESTABLISHMENT.—There is established within the Foundation a National Center for Science and Engineering Statistics (in this section referred to as the "Center"), that shall serve as a central Federal clearinghouse

for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development.

(b) DUTIES.—In carrying out subsection (a) of this section, the Director, acting through the Center shall—

(1) collect, acquire, analyze, report, and disseminate statistical data related to the science and engineering enterprise in the United States and other nations that is relevant and useful to practitioners, researchers, policymakers, and the public, including statistical data on—

(A) research and development trends;

(B) the science and engineering workforce;

(C) United States competitiveness in science, engineering, technology, and research and development; and

(D) the condition and progress of United States STEM education;

(2) support research using the data it collects, and on methodologies in areas related to the work of the Center; and

(3) support the education and training of researchers in the use of large-scale, nationally representative data sets.

(c) STATISTICAL REPORTS.—The Director or the National Science Board, acting through the Center, shall issue regular, and as necessary, special statistical reports on topics related to the national and international science and engineering enterprise such as the biennial report required by section 4 (j)(1) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(j)(1)) on indicators of the state of science and engineering in the United States.

Page 11, line 13, strike "basic, high-risk, high-reward" and insert "high-risk, high-reward basic".

Page 11, lines 21 and 22, strike "high-risk, high-reward" and insert "high-risk, high-reward basic".

Page 12, line 5, strike "high-risk, high-reward" and insert "high-risk, high-reward basic".

Page 12, line 8, strike "high-risk, high-reward research" and insert "high-risk, high-reward basic research".

Page 13, line 8, strike "use" and insert "utilize".

Page 13,line 9, insert "and" after "simulation-based science".

At the end of title II, add the following new section:

SEC. 207. PARTNERSHIPS FOR INNOVATION.

(a) IN GENERAL.—The Director shall carry out a program to award merit-reviewed, competitive grants to institutions of higher education to establish and to expand partnerships that promote innovation and increase the economic and social impact of research by developing tools and resources to connect new scientific discoveries to practical uses.

(b) PARTNERSHIPS.—

(1) IN GENERAL.—To be eligible for funding under this section, an institution of higher education must propose establishment of a partnership that—

(A) includes at least one private sector entity; and

(B) may include other institutions of higher education, public sector institutions, and private sector entities.

(2) PRIORITY.—In selecting grant recipients under this section, the Director shall give priority to partnerships that include one or more institutions of higher education that are among the 100 institutions receiving, over the 3-year period immediately preceding the awarding of grants, the highest amount of research funding from the Foundation and at least one of the following:

(A) A minority serving institution.

(B) A primarily undergraduate institution.

(C) A 2-year college.

(c) PROGRAM.—Proposals funded under this section shall seek to—

(1) increase the economic or social impact of the most promising research at the institution or institutions of higher education that are members of the partnership through knowledge transfer or commercialization;

(2) increase the engagement of faculty and students across multiple disciplines and departments, including faculty and students in schools of business and other appropriate non-STEM fields and disciplines in knowledge transfer activities;

(3) enhance education and mentoring of students and faculty in innovation and entrepreneurship through networks, courses, and development of best practices and curricula;

(4) strengthen the culture of the institution or institutions of higher education to undertake and participate in activities related to innovation and leading to economic or social impact;

(5) broaden the participation of all types of institutions of higher education in activities to meet

STEM workforce needs and promote innovation and knowledge transfer; and

(6) build lasting partnerships with local and regional businesses, local and State governments, and other relevant entities.

(d) ADDITIONAL CRITERIA.—In selecting grant recipients under this section, the Director shall also consider the extent to which the applicants are able to demonstrate evidence of institutional support for, and commitment to—

(1) achieving the goals of the program as described in subsection (c);

(2) expansion to a university-wide program if the initial proposal is not for a university-wide program; and

(3) sustaining any new innovation tools and resources generated from funding under this program.

(e) LIMITATION.—No funds provided under this section may be used to construct or renovate a building or structure.

Page 18, lines 19 through 21, strike "at least" and all that follows through "is matriculated" and insert "$12,000".

Page 20, line 3, strike "K-12" and insert "pre-K-12".

Page 20, line 6, insert "and progressions" after "learning processes".

Page 20, line 12, strike "student assessment" and insert "assessment of student learning".

Page 22, lines 7 and 8, strike "or broadening participation in STEM by underrepresented groups" and insert ", or on broadening participation in STEM by underrepresented groups,".

Page 23, lines 3 and 4, strike "or broadening participation in STEM by underrepresented groups" and insert ", or on broadening participation in STEM by underrepresented groups,".

At the end of title III, add the following new sections:

SEC. 308. TRANSFORMING UNDERGRADUATE EDUCATION IN STEM.

Section 17 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–6) is amended to read as follows:

"SEC. 17. TRANSFORMING UNDERGRADUATE EDUCATION IN STEM.

"(a) IN GENERAL.—The Director shall award grants, on a competitive, merit-reviewed basis, to institutions of higher education to reform undergraduate STEM edu-

cation for the purpose of increasing the number and quality of students studying toward and completing baccalaureate degrees in STEM and improving the STEM learning outcomes for all undergraduate students, including through—

"(1) development, implementation, and assessment of innovative, research-based approaches to transforming the teaching and learning of disciplinary or interdisciplinary STEM at the undergraduate level; and

"(2) expansion of successful STEM reform efforts beyond a single course or group of courses to achieve reform within an entire academic unit, or expansion of successful reform efforts beyond a single academic unit to other STEM academic units within an institution or to comparable academic units at other institutions.

"(b) USES OF FUNDS.—Activities supported by grants under this section may include—

"(1) creation of multidisciplinary or interdisciplinary courses or programs that formalize collaborations for the purpose of improved student instruction and research in STEM;

"(2) expansion of undergraduate STEM research opportunities to include interdisciplinary re-

search opportunities and research opportunities in industry, at Federal labs, and at international research institutions or research sites;

"(3) implementation or expansion of bridge, cohort, tutoring, or mentoring programs proven to enhance student recruitment or persistence to degree completion in STEM, including programs that address student transition from two-year to four-year institutions;

"(4) improvement of undergraduate STEM education for nonmajors, including education majors;

"(5) implementation of evidence-based, technology-driven reform efforts that directly impact undergraduate STEM instruction or research experiences;

"(6) development and implementation of faculty and graduate teaching assistant development programs focused on improved instruction, mentoring, assessment of student learning, and support of undergraduate STEM students;

"(7) support for graduate students and postdoctoral fellows to participate in instructional or assessment activities at primarily undergraduate institutions; and

"(8) research on teaching and learning of STEM at the undergraduate level related to the proposed reform effort, including assessment and evaluation of the proposed reform activities, research on scalability and sustainability of approaches to reform, and development and implementation of longitudinal studies of students included in the proposed reform effort.

"(c) PARTNERSHIP.—An institution of higher education may partner with one or more other nonprofit education or research organizations, including scientific and engineering societies, for the purposes of carrying out the activities authorized under this section.

"(d) SELECTION PROCESS.—

"(1) APPLICATIONS.—An institution of higher education seeking a grant under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

"(A) a description of the proposed reform effort;

"(B) a description of the research findings that will serve as the basis for the proposed reform effort or, in the case of applications that

propose an expansion of a previously implemented reform effort, a description of the previously implemented reform effort, including indicators of success such as data on student recruitment, persistence to degree completion, and academic achievement;

"(C) evidence of institutional support for, and commitment to, the proposed reform effort, including long-term commitment to implement successful strategies from the current reform effort beyond the academic unit or units included in the grant proposal or to disseminate successful strategies to other institutions;

"(D) a description of existing or planned institutional policies and practices regarding faculty hiring, promotion, tenure, and teaching assignment that reward faculty contributions to undergraduate STEM education; and

"(E) a description of the plans for assessment and evaluation of the proposed reform activities, including evidence of participation by individuals with experience in assessment and evaluation of teaching and learning programs.

"(2) REVIEW OF APPLICATIONS.—In selecting grant recipients under this section, the Director shall consider at a minimum—

"(A) the likelihood of success in undertaking the proposed effort at the institution submitting the application, including the extent to which the faculty, staff, and administrators of the institution are committed to making the proposed institutional reform a priority of the participating academic unit or units;

"(B) the degree to which the proposed reform will contribute to change in institutional culture and policy such that a greater value is placed on faculty engagement in undergraduate education;

"(C) the likelihood that the institution will sustain or expand the reform beyond the period of the grant; and

"(D) the degree to which scholarly assessment and evaluation plans are included in the design of the reform effort, including the degree to which such assessment and evaluation contribute to the systematic accumulation of knowledge on STEM education.

"(3) PRIORITY.—For proposals that include an expansion of existing reform efforts beyond a single academic unit, the Director shall give priority to proposals for which a senior institutional administrator, including a dean or other administrator of equal or higher rank, serves as the principal investigator or a coprincipal investigator.

"(4) GRANT DISTRIBUTION.—The Director shall ensure, to the extent practicable, that grants awarded under this section are made to a variety of types of institutions of higher education.".

SEC. 309. 21ST CENTURY GRADUATE EDUCATION.

(a) IN GENERAL.—The Director shall award grants, on a competitive, merit-reviewed basis, to institutions of higher education to implement or expand research-based reforms in master's and doctoral level STEM education that emphasize preparation for diverse careers utilizing STEM degrees, including at diverse types of institutions of higher education, in industry, and at government agencies and research laboratories.

(b) USES OF FUNDS.—Activities supported by grants under this section may include—

(1) creation of multidisciplinary or interdisciplinary courses or programs for the purpose of improved student instruction and research in STEM;

(2) expansion of graduate STEM research opportunities to include interdisciplinary research opportunities and research opportunities in industry, at Federal laboratories, and at international research institutions or research sites;

(3) development and implementation of future faculty training programs focused on improved instruction, mentoring, assessment of student learning, and support of undergraduate STEM students;

(4) support and training for graduate students to participate in instructional activities beyond the traditional teaching assistantship, and especially as part of ongoing educational reform efforts, including at pre-K-12 schools, informal science education institutions, and primarily undergraduate institutions;

(5) creation, improvement, or expansion of innovative graduate programs such as science master's degree programs;

(6) development and implementation of seminars, workshops, and other professional development activities that increase the ability of graduate students to engage in innovation, technology transfer, and entrepreneurship;

(7) development and implementation of seminars, workshops, and other professional development

activities that increase the ability of graduate students to effectively communicate their research findings to technical audiences outside of their own discipline and to nontechnical audiences;

(8) expansion of successful STEM reform efforts beyond a single academic unit to other STEM academic units within an institution or to comparable academic units at other institutions; and

(9) research on teaching and learning of STEM at the graduate level related to the proposed reform effort, including assessment and evaluation of the proposed reform activities and research on scalability and sustainability of approaches to reform.

(c) PARTNERSHIP.—An institution of higher education may partner with one or more other nonprofit education or research organizations, including scientific and engineering societies, for the purposes of carrying out the activities authorized under this section.

(d) SELECTION PROCESS.—

(1) APPLICATIONS.—An institution of higher education seeking a grant under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the proposed reform effort;

(B) in the case of applications that propose an expansion of a previously implemented reform effort at the applicant's institution or at other institutions, a description of the previously implemented reform effort;

(C) evidence of institutional support for, and commitment to, the proposed reform effort, including long-term commitment to implement successful strategies from the current reform effort beyond the academic unit or units included in the grant proposal or to disseminate successful strategies to other institutions; and

(D) a description of the plans for assessment and evaluation of the grant proposed reform activities.

(2) REVIEW OF APPLICATIONS.—In selecting grant recipients under this section, the Director shall consider at a minimum—

(A) the likelihood of success in undertaking the proposed effort at the institution submitting the application, including the extent to which the faculty, staff, and administrators of the institution are committed to making the

proposed institutional reform a priority of the participating academic unit or units;

(B) the degree to which the proposed reform will contribute to change in institutional culture and policy such that a greater value is placed on preparing graduate students for diverse careers utilizing STEM degrees;

(C) the likelihood that the institution will sustain or expand the reform beyond the period of the grant; and

(D) the degree to which scholarly assessment and evaluation plans are included in the design of the reform effort.

(e) REPEAL.—Section 7034 of the America COMPETES Act (42 U.S.C. 1862o–13) is repealed.

AMENDMENT TO THE COMMITTEE PRINT OFFERED BY MR. LIPINSKI OF ILLINOIS

At the end of title II, add the following new section:

SEC. 207. PRIZE AWARDS.

(a) IN GENERAL.—The Director shall carry out a pilot program to award innovation inducement cash prizes in any area of research supported by the Foundation. The Director may carry out a program of cash prizes only in conformity with this section.

(b) TOPICS.—In identifying topics for prize competitions under this section, the Director shall—

(1) consult widely both within and outside the Federal Government;

(2) give priority to high-risk, high-reward research challenges and to problems whose solution could improve the economic competitiveness of the United States; and

(3) give consideration to the extent to which the topics have the potential to raise public awareness about federally sponsored research.

(c) TYPES OF CONTESTS.—The Director shall consider all categories of innovation inducement prizes, including—

(1) contests in which the award is to the first team or individual who accomplishes a stated objective; and

(2) contests in which the winner is the team or individual who comes closest to achieving an objective within a specified time.

(d) ADVERTISING AND ANNOUNCEMENT.—

(1) ADVERTISING AND SOLICITATION OF COMPETITORS.—The Director shall widely advertise prize competitions to encourage broad participation, including by individuals, institutions of higher education, nonprofit organizations, and businesses.

(2) ANNOUNCEMENT THROUGH FEDERAL REGISTER NOTICE.—The Director shall announce each prize competition by publishing a notice in the Federal Register. This notice shall include the subject of the competition, the duration of the competition, the eligibility requirements for participation in the competition, the process for participants to register for the competition, the amount of the prize, and the criteria for awarding the prize, including the method by which the prize winner or winners will be selected.

(3) TIME TO ANNOUNCEMENT.—The Director shall announce a prize competition within 18 months after receipt of appropriated funds.

(e) FUNDING.—

(1) FUNDING SOURCES.—Prizes under this section shall consist of Federal appropriated funds and any funds raised pursuant to donations authorized under section 11(f) of the National Science Foundation Act of 1950 (42 U.S.C. 1870(f)) for specific prize competitions.

(2) ANNOUNCEMENT OF PRIZES.—The Director may not issue a notice as required by subsection (d)(2) until all of the funds needed to pay out the announced amount of the prize have been appropriated or committed in writing by another entity pursuant to paragraph (1).

(f) ELIGIBILITY.—To be eligible to win a prize under this section, an individual or entity—

(1) shall have complied with all of the requirements under this section;

(2) in the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a United States citizen or national, or an

alien lawfully admitted to the United States for permanent residence; and

(3) shall not be a Federal entity, a Federal employee acting within the scope of his or her employment, or a person employed at a Federal laboratory acting within the scope of his or her employment.

(g) AWARDS.—

(1) NUMBER OF COMPETITIONS.—The Director may announce up to 5 prize competitions through the end of fiscal year 2013.

(2) SIZE OF AWARD.—The Director may determine the amount of each prize award based on the prize topic, but no award shall be less than $1,000,000 or greater than $3,000,000.

(3) SELECTING WINNERS.—The Director may convene an expert panel to select a winner of a prize competition. If the panel is unable to select a winner, the Director shall determine the winner of the prize.

(4) PUBLIC OUTREACH.—The Director shall publicly award prizes utilizing the Foundation's existing public affairs and public outreach resources.

(h) ADMINISTERING THE COMPETITION.—The Director may enter into an agreement with a private, nonprofit

entity to administer the prize competition, subject to the provisions of this section.

(i) INTELLECTUAL PROPERTY.—The Federal Government shall not, by virtue of offering or awarding a prize under this section, be entitled to any intellectual property rights derived as a consequence of, or in direct relation to, the participation by a registered participant in a competition authorized by this section. This subsection shall not be construed to prevent the Federal Government from negotiating a license for the use of intellectual property developed for a prize competition under this section.

(j) LIABILITY.—The Director may require a registered participant in a prize competition under this section to waive liability against the Federal Government for injuries and damages that result from participation in such competition.

(k) NONSUBSTITUTION.—Any programs created under this section shall not be considered a substitute for Federal research and development programs.

(l) REPORTING REQUIREMENT.—Not later than 5 years after the date of enactment of this Act, the National Science Board shall transmit to Congress a report containing the results of a review and assessment of the pilot program under this section, including—

(1) a description of the nature and status of all completed or ongoing prize competitions carried out under this section, including any scientific achievements, publications, intellectual property, or commercialized technology that resulted from such competitions;

(2) any recommendations regarding changes to, the termination of, or continuation of the pilot program;

(3) an analysis of whether the program is attracting contestants more diverse than the Foundation's traditional academic constituency;

(4) an analysis of whether public awareness of innovation or of the goal of the particular prize or prizes is enhanced;

(5) an analysis of whether the Foundation's public image or ability to increase public scientific literacy is enhanced through the use of innovation inducement prizes; and

(6) an analysis of the extent to which private funds are being used to support registered participants.

(m) EARLY TERMINATION OF CONTESTS.—The Director shall terminate a prize contest before any registered participant wins if the Director determines that an unreg-

istered entity has produced an innovation that would otherwise have qualified for the prize award.

(n) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—

(A) AWARDS.—There are authorized to be appropriated to the Director for the period encompassing fiscal years 2011 through 2013 $12,000,000 for carrying out this section.

(B) ADMINISTRATION.—Of the amounts authorized in subparagraph (A), not more than 15 percent for each fiscal year shall be available for the administrative costs of carrying out this section.

(2) CARRYOVER OF FUNDS.—Funds appropriated for prize awards under this section shall remain available until expended, and may be transferred, reprogrammed, or expended for other purposes as authorized by law only after the expiration of 7 fiscal years after the fiscal year for which the funds were originally appropriated. No provision in this section permits obligation or payment of funds in violation of section 1341 of title 31 of the United States Code (commonly referred to as the Anti-Deficiency Act).

AMENDMENT TO THE COMMITTEE PRINT OFFERED BY MS. EDDIE BERNICE JOHNSON OF TEXAS

At the end of title III, add the following new section:

SEC. 308. UNDERGRADUATE BROADENING PARTICIPATION PROGRAM.

(a) UNDERGRADUATE BROADENING PARTICIPATION PROGRAM.—The Foundation shall continue to support the Historically Black Colleges and Universities Undergraduate Program, the Louis Stokes Alliances for Minority Participation program, and the Tribal Colleges and Universities Program as separate programs at least through September 30, 2011.

(b) PLAN.—Prior to any realignment or consolidation of the programs described in subsection (a), the Director shall develop a plan clarifying the objectives and rationale for such changes. The plan shall include a description of how such changes would result in—

(1) meeting or strengthening the common goal of the separate programs to increase the number of individuals from underrepresented groups attaining undergraduate STEM degrees; and

(2) addressing the unique needs of the different types of minority serving institutions and underrepresented groups currently provided for by the separate programs.

(c) RECOMMENDATIONS.—In the development of the plan required under subsection (b), the Director shall at a minimum—

(1) consider the recommendations and findings of the National Academy of Sciences' report required by section 7032 of the America COMPETES Act (Public Law 110–69); and

(2) solicit recommendations and feedback from a wide range of stakeholders, including representatives from minority serving institutions, other institutions of higher education, and other entities with expertise on effective mechanisms to increase the recruitment and retention of members of underrepresented groups in STEM fields, and the attainment of STEM degrees by underrepresented groups.

(d) APPROVAL BY CONGRESS.—The plan developed under this section shall be transmitted to Congress at least 3 months prior to the implementation of any realignment or consolidation of the programs described in subsection (a).

AMENDMENT TO THE COMMITTEE PRINT OFFERED BY MS. FUDGE OF OHIO

At the end of title III, add the following new section:

SEC. 308. GRAND CHALLENGES IN EDUCATION RESEARCH.

(a) IN GENERAL.—The Director and the Secretary of Education shall collaborate in—

(1) identifying, prioritizing, and developing strategies to address grand challenges in research and development on the teaching and learning of STEM at the pre-K-12 level, in formal and informal settings, for diverse learning populations, including individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b); and

(2) ensuring the dissemination of the results of such research and development.

(b) STAKEHOLDER INPUT.—In identifying the grand challenges required in subsection (a), the Director and the Secretary shall—

(1) take into consideration critical research gaps identified in existing reports, including reports by the National Academies, on the teaching and

learning of STEM at the pre-K-12 level in formal and informal settings; and

(2) solicit input from a wide range of stakeholders, including local and State education officials, STEM teachers, STEM education researchers, scientific and engineering societies, STEM faculty at institutions of higher education, informal STEM education providers, businesses with a large STEM workforce, and other stakeholders in the teaching and learning of STEM at the pre-K-12 level, and may enter into an arrangement with the National Research Council for these purposes.

(c) TOPICS TO CONSIDER.—In identifying the grand challenges required in subsection (a), the Director and the Secretary shall, at a minimum, consider the following topics:

(1) Research on scalability, sustainability, and replication of successful STEM activities, programs, and models, in formal and informal environments.

(2) Research that utilizes a systems approach to identifying challenges and opportunities to improve the teaching and learning of STEM, including development of model systems that support improved teaching and learning of STEM across entire school districts and States, and encompassing and inte-

grating the teaching and learning of STEM in formal and informal venues, and in K-12 schools and institutions of higher education.

(3) Research to understand what makes a STEM teacher effective and STEM teacher professional development effective, including development of tools and methodologies to measure STEM teacher effectiveness.

(4) Research and development on cyber-enabled tools and programs and television based tools and programs for learning and teaching STEM, including development of tools and methodologies for assessing cyber and television enabled teaching and learning.

(5) Research and development on STEM teaching and learning in informal environments, including development of tools and methodologies for assessing STEM teaching and learning in informal environments.

(6) Research and development on how integrating engineering with mathematics and science education may—

(A) improve student learning of mathematics and science;

(B) increase student interest and persistence in STEM; or

(C) improve student understanding of engineering design principles and of the built world.

(d) REPORT TO CONGRESS.—Not later than 18 months after the date of enactment of this Act, the Director and the Secretary shall report back to Congress with a description of—

(1) the grand challenges identified pursuant to this section;

(2) the role of each agency in supporting research and development activities to address the grand challenges;

(3) the common metrics that will be used to assess progress toward meeting the grand challenges;

(4) plans for periodically updating the grand challenges;

(5) how the agencies will disseminate the results of research and development activities carried out under this section to STEM education practitioners, to other Federal agencies that support STEM programs and activities, and to non-Federal funders of STEM education; and

(6) how the agencies will support implementation of best practices identified by the research and development activities.

AMENDMENT TO THE COMMITTEE PRINT OFFERED BY MR. TONKO OF NEW YORK

At the end of title III, insert the following new section:

SEC. 308. RESEARCH EXPERIENCES FOR UNDERGRADUATES.

(a) RESEARCH SITES.—The Director shall award grants, on a merit-reviewed, competitive basis, to institutions of higher education, nonprofit organizations, or consortia of such institutions and organizations, for sites designated by the Director to provide research experiences for 10 or more undergraduate STEM students. The Director shall ensure that—

(1) at least half of the students participating in a program funded by a grant under this subsection at each site shall be recruited from institutions of higher education where research opportunities in STEM are limited;

(2) the awards provide undergraduate research experiences in a wide range of STEM disciplines;

(3) the awards support a variety of projects, including independent investigator-led projects, inter-

disciplinary projects, and multi-institutional projects (including virtual projects);

(4) students participating in each program funded have mentors, including during the academic year to the extent practicable, to help connect the students' research experiences to the overall academic course of study and to help students achieve success in courses of study leading to a baccalaureate degree in a STEM field;

(5) mentors and students are supported with appropriate salary or stipends; and

(6) student participants are tracked, for employment and continued matriculation in STEM fields, through receipt of the undergraduate degree and for at least 3 years thereafter.

(b) INCLUSION OF UNDERGRADUATES IN STANDARD RESEARCH GRANTS.—The Director shall require that every recipient of a research grant from the Foundation proposing to include 1 or more undergraduate students in carrying out the research under the grant shall request support, including stipend support, for such undergraduate students as part of the research proposal itself rather than as a supplement to the research proposal, un-

less such undergraduate participation was not foreseeable at the time of the original proposal.

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