

National Science Foundation (NSF) Program Plan American Recovery and Reinvestment Act of 2009

Education and Human Resources (EHR) Program Recovery Plan CFDA Number: 47.082

Objectives

Program Purpose

The EHR Program promotes excellence in STEM education through the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians, and educators; a well-informed citizenry; and access to the ideas and tools of science and engineering for all. The purposes of the EHR Program are to produce STEM K-12 teachers who commit to teaching in high need school districts; develop STEM K-12 master teachers and school based instructional leaders in mathematics and science education; and broaden graduate training and talent for industry, national laboratories, and non-governmental agencies through a new professional science master's degree program. The ARRA EHR resources totaling \$100 million are managed by the Divisions of Undergraduate Education and Graduate Education to expand the Robert Noyce Teacher Scholarship Program and the Math and Science Partnership (MSP) Program and to establish the Science Master's (SM) Program.

Public Benefits

The results of EHR's ARRA investments will contribute to the STEM instructional workforce through the Robert Noyce Teacher Scholarship Program and the Math and Science Partnership Program. The Noyce Program produces STEM K-12 teachers who commit to teaching in high need school districts. The MSP Program focuses on the development of STEM K-12 master teachers and school based instructional leaders in mathematics and science education. Both of these programs build capacity in the instructional workforce to improve K-12 math and science learning. For Noyce and MSP, NSF has many highly rated STEM education proposals for K-12 STEM workforce development in hand to consider for funding with ARRA funds. These projects would otherwise be declined for lack of funds. Therefore, the ARRA resources will increase even more the funding rates for effective teacher education proposals. The ARRA funds will also contribute to the 21st century science and engineering (S&E) STEM workforce through an investment in a Science Master's (SM) Program. The SM Program will further broaden graduate training and talent for industry, the national laboratories, and non-governmental agencies. This new ARRA program will hold a competition in 2009 and make awards early in FY 2010.

Measures

Robert Noyce Teacher Scholarship Program

Number of new awards to lead institutions of higher education. The target for FY 2009 is 67.

Number of new Noyce pre-service teachers and teacher participants. The target for FY 2009 is 1,530. All awards are expected to be made by the end of FY 2009. This number represents the total number of teachers and teacher participants supported over the 5-year duration of awards.

Number of new teachers teaching in high need districts. The target for FY 2009 is 1,440. All awards are expected to be made by the end of FY 2009. This number represents the total number of people moving into teaching in high need districts over the 5-year duration of awards.

Math and Science Partnership Program

Number of new awards to lead institutions. The target for FY 2009 is 9.

Number of MSP teacher leader/master teacher participants. The target for FY 2009 is 369. All awards are expected to be made by the end of FY 2009. This number represents the total number of people supported over the 5-year duration of awards.

Number of Post-baccalaureate credential or master's degree recipients. The target for FY 2009 is 331. All awards are expected to be made by the end of FY 2009. This number represents the total number of people receiving master's degrees or other credential over the 5-year duration of awards.

Science Master's (SM) Program

Number of students supported. This is a new program. The awards will be made in FY 2010. The target is 220, which represents the total number of people supported over the 5-year duration of awards.

Number of students earning science master's degrees. This is a new program. The awards will be made in FY 2010. The target is 200, which represents the total number of degree recipients over the 3-year duration of awards.

Schedule and Milestones

Robert Noyce Teacher Scholarship Program: Awards to lead institutions will be made by September 30, 2009, and scholarships will be given to pre-service teachers and teacher participants by September 30, 2010.

Math and Science Partnership (MSP) Program: Awards to lead institutions will be made by September 30, 2009. Institute Partnerships: Teacher Institutes for the 21st Century and Phase II: Professional Development and Research Activities will be implemented by September 30, 2010.

Science Master's (SM) Program: Awards will be made by September 30, 2010 and synthesis of the first year's annual project reports will be completed by September 30, 2011.

Projects and Activities

Robert Noyce Teacher Scholarship Program

The Noyce Program seeks to encourage talented STEM majors and professionals to become K-12 math and science teachers. The program provides funds to institutions of higher education to support scholarships, stipends, and academic programs for undergraduate STEM majors and post-baccalaureate students holding STEM degrees who commit to teaching in high-need K-12 school districts. The ARRA funds will support Phase I proposals from institutions that have not previously been funded or are requesting funding for a department or academic unit that has not participated in a previous Noyce award. These funds will also support Phase II proposals from institutions that have previously been funded and whose award expiration date occurs on or before December 31, 2009, enabling these institutions to support additional cohorts of prospective teachers while conducting longitudinal studies of previous cohorts. In addition, ARRA funds will support proposals submitted under the Noyce Program's NSF Teaching Fellowships and Master Teacher Fellowships track.

Math and Science Partnership (MSP) Program

The Math and Science Partnerships Program supports innovative partnerships to improve K-12 student achievement in math and science. MSP projects are expected to raise the achievement levels of all students and significantly reduce achievement gaps in the math and science performance of diverse student populations. The ARRA funds will support three categories of proposals: (1) Institute Partnerships – Teacher Institutes for the 21st Century, which focus on meeting national needs for teacher leaders/master teachers who have deep knowledge of disciplinary content for teaching and are fully prepared to be school- or district-based leaders in math or the sciences; (2) Phase II Partnerships for prior MSP Partnerships awardees who focus on specific innovative areas of their work where evidence of the potential for significant positive impact is clearly documented; and (3) MSP-Start Partnerships for awardees new to the MSP Program, especially from minority-serving institutions, community colleges, and primarily undergraduate institutions, to support the necessary data analysis, project design, evaluation, and team building activities needed to develop a full MSP Targeted or Institute Partnership.

Science Master's (SM) Program

The Science Master's program is currently under development, with a program solicitation expected to be released in summer 2009 and awards made in FY 2010. The program aims to provide a two-year course of graduate training to prepare individuals for employment.

Review Process

NSF places high priority on its stewardship responsibilities and is cognizant of the responsibilities imposed through its receipt of \$100 million in ARRA funding for the EHR program. The Foundation plans to fully use and, in places, enhance its comprehensive set of policies and procedures that currently guide program staff through business, financial, and award administration from pre-award through close-out. At the pre-award stage, NSF's world-standard merit review system selects the highest-quality scientific research and education proposals for funding. Its comprehensive set of fully documented policies and procedures guide NSF staff and awardees alike through the business, financial, and award requirements that govern pre-award through close-out. Warranted contract and grant specialists make awards to institutions with the business capacity requisite to manage federal resources and specifically exclude those institutions debarred from receipt of funds by Federal government agencies. The *Award and Administration Guide (AAG)* (Part II of the *NSF Proposal & Award Policies & Procedures Guide*) http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp sets forth NSF policies for the award and administration of grants and cooperative agreements that ensure compliance with federal regulations. The AAG governs the setting of award terms and conditions, grant administration, financial requirements, grantee standards, cost allowability, and grant administration and misconduct. NSF is including special terms and conditions for ARRA-funded awards as per OMB guidance. NSF's comprehensive Award Monitoring and Business Assistance Program (AMBAP) provides advanced post award oversight for the universe of NSF's high risk awards through a combination of desk reviews, site visits, and Federal Financial Report (FFR) transactional testing. Desk reviews and site visits provide oversight of critical policies and procedures that follow well-established protocols; they verify that financial information received provide reasonable assurance that awards are likely to be administered in accordance with NSF's agreement provisions and other relevant administrative regulations. Transactions for low- and medium-risk awards are subject to verification through statistical sampling to ensure that funding is not used for expressly unallowable costs. NSF will leverage its current, comprehensive programs to ensure rigorous monitoring for Recovery Act funds. ARRA awards will carry additional weight in the annual risk assessment, ensuring that their coverage will be significant. Through this combined set of activities, on-site visits, desk review, and/or transactional testing, NSF will ensure that the entire high risk award universe receives post award review. We believe that the extraordinary measures NSF has taken to conceive and implement AMBAP are having a positive impact on awardee institutions and are mitigating the risk of potential misuse of funds. In designing this program, we have been very careful to complement, rather than supplant, the auditing responsibilities of the Office of the Inspector General (OIG). Should we, in the course of

the Foundation's post-award oversight activities, find issues that rise to the level of audit or investigative scrutiny, we will refer them to NSF OIG.

The Noyce Program supports a program monitoring system, *the Noyce Annual Survey*, for annual standardized data collection across projects. An evaluation of the program was just completed and a set of requirements are under development for a new program evaluation. The MSP Program has a program monitoring system, *The MSP Management and Information System*, for annual standardized data collection across projects. MSP also has an on-going independent program evaluation. Plans are underway for building a monitoring and evaluation framework for the Science Master's Program. The program will have a cross-project monitoring system and a third-party program evaluation, as well as required project level evaluation.

Cost and Performance Plan

The National Science Foundation will report performance information to the public on its Recovery Act awards on its website (www.nsf.gov/recovery) and through the Research Spending and Results (RS&R) offering in Research.gov (<http://www.research.gov/rgov/anonymous.portal>). The NSF Recovery Act website is the Foundation's primary means of communicating results of Recovery Act investments. The RS&R mechanism in [Research.gov](http://www.research.gov) provides near real-time data that is updated based on recipient report submissions. Information available in RS&R includes awardee or award information (full text search); funds obligated to date; project director or principal investigator, including co-project director and co-principal investigator; award date; awardee location; primary location of performance; and performance Congressional district. All awards in the EHR Program will be made through the Education and Human Resources Directorate, which has developed plans to meet the priorities and targets described above. Through self-monitoring of its Recovery Act award portfolio, the Foundation will take advantage of opportunities to make course corrections and changes in procedures in order to fully meet its priorities under the legislation. The Foundation will report on its Recovery Act research, education, and infrastructure investments in a timely manner through its website and [Research.gov](http://www.research.gov).

Energy Efficiency Spending Plans: Not applicable.

Program Plan Award Types: Competitive Grant Program

Recipient Applicant Type

Other Public Institutions/Organizations
Other Private Institutions/Organizations

Beneficiary Type

Education (0-8)
Education (9-12)
Education (13+)