

E.9 SUPPLEMENTAL EDUCATION AWARDS FOR ROSES INVESTIGATORS

Amended December 16, 2008

A second opportunity to submit a proposal for a supplemental education award is announced. The due date for Notices of Intent (NOIs) to propose is March 11, 2009. The due date for proposals is April 8, 2009. The text in Appendix E.9 has also been revised and clarified in response to questions submitted by the community.

1. Background

NASA's founding legislation, the Space Act of 1958, directs the Agency to expand human knowledge of Earth and space phenomena and to preserve the role of the United States as a leader in aeronautics, space science, and technology. High achievement in science, technology, engineering, and mathematics (STEM) education and public scientific literacy is essential to the accomplishment of NASA's mission.

The NASA Science Mission Directorate's (SMD's) vision for Education and Public Outreach is:

To share the story, the science, and the adventure of NASA's scientific explorations of our home planet, the solar system, and the universe beyond, through stimulating and informative activities and experiences created by experts, delivered effectively and efficiently to learners of many backgrounds via proven conduits, thus providing a return on the public's investment in NASA's scientific research.

Hereafter the phrase "education and public outreach (E/PO)" will refer to activities addressing the teaching and learning of science, technology, engineering, and mathematics at the undergraduate, secondary and elementary levels (including hands-on experiences for students), informal education, as well as public understanding and engagement in science and technology using unique resources derived from NASA Earth and space sciences.

SMD has a portfolio of investments (E/PO project activities) in Higher Education, Elementary and Secondary Education, Informal Education, and Outreach. It is a major contributor to the overall NASA education and outreach effort through development and dissemination of new educational and outreach products that utilize SMD science discoveries and by providing opportunities for students and educators, citizen scientists, and the public to engage in authentic experiences working with our data and our research communities.

NASA is pursuing three major education goals:

- Strengthen the future workforce of NASA and the Nation.
- Attract and retain students in STEM disciplines.

- Engage Americans in NASA’s mission.

SMD Supplemental Education awards are provided to support the NASA education goals. By adding an Education component to their research investigation, SMD-funded researchers can design an education effort that capitalizes upon their own talents, interests, and scientific expertise.

NASA is particularly interested in encouraging individuals (as students, educators, parents, civil leaders, etc.) engaged in a NASA educational project activity to connect or move up to other NASA education and/or outreach activities. Details of the Education Strategic Framework are discussed in the *NASA Education Strategic Coordination Framework: A Portfolio Approach* available at http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Strategic_Coordination_Framework.html.

There are two pathways available to research scientists who wish to propose for the supplemental Education and Public Outreach (E/PO) awards: the Outreach pathway and the Education pathway. This program element in Appendix E.6 is for Education supplements. ROSES Element E.5 is for Outreach supplements. Principal Investigators of research proposals selected for funding through this NRA (hereafter called the “parent research award”) are eligible for a supplemental Outreach award to the parent research award. In addition, Principal Investigators of research proposals selected for funding through previous ROSES NRAs are eligible, if the research award has at least 15 months remaining in its period of performance at the time of the submission of the Education proposal.

This program element is expected to appear in every ROSES solicitation.

2. Scope of Program

This solicitation element is for project activities that utilize SMD content and contribute to achieving SMD Education objectives. The scope of supplemental Education awards includes all aspects of elementary/secondary and informal education, and limited aspects of higher education. A higher education project activity may address undergraduate programs to enhance the science literacy of nonscientists and future K-12 teachers; increase the participation of minorities and other underutilized groups (e.g., women) in science, technology, engineering, and mathematics; or offer expanded opportunities for engagement of undergraduates in group projects that model SMD mission experiences in the application of scientific, engineering, or technical expertise.

Efforts promoting participation of underrepresented groups in Earth and space science studies at all levels of education and strengthening such learning in minority serving institutions are encouraged.

A supplemental project activity may not include student research support at the undergraduate, graduate, and postdoctoral levels – such support is either already a part of the parent research award or is available through other competitive opportunities.

A project activity must be relevant to the NASA SMD Education portfolio. This relevance must be clearly demonstrated in the proposal. This program element is expected to appear in every ROSES solicitation.

NASA SMD Education Portfolio	
Portfolio Area	Project Activity Categories
Higher Education Portfolio	<ul style="list-style-type: none"> • Competency-building education and research based on NASA SMD activities that develops qualified undergraduate and graduate students who are prepared for employment in STEM disciplines at NASA, industry, and higher education. • Opportunities for groups of postsecondary students to engage in authentic NASA SMD related, mission-based research and development activities. • Developing NASA SMD related course resources for integration into STEM disciplines. • Improving the ability of targeted institutions to compete for NASA SMD research and development work.
Elementary and Secondary Education Portfolio	<ul style="list-style-type: none"> • Providing professional development and training opportunities to educators, equipping them with the skills and knowledge to attract and retain students in STEM disciplines and deeper content understanding and/or competence and confidence in teaching STEM disciplines. • Providing curricular support resources that use NASA SMD content to a) enhance student skills and proficiency in STEM disciplines; b) inform students about STEM career opportunities; and/or c) communicate information about NASA’s mission activities. • Providing K-12 students with authentic first-hand opportunities to participate in NASA SMD mission activities, thus inspiring interest in STEM disciplines and careers or provides opportunities for family involvement in K-12 student learning in STEM areas.

<p>Informal Education Portfolio</p>	<ul style="list-style-type: none"> • Informal education resources that use SMD content to 1) enhance participant skills and proficiency in STEM disciplines; 2) inform participants about STEM career opportunities; and 3) communicate information about NASA's mission activities. • Activities to improve the competency and qualifications of STEM informal educators, enabling informal educators to effectively and accurately communicate information about NASA SMD activities and access NASA SMD data for programs and exhibits. • Activities to develop and support qualified informal educators with experience in NASA SMD mission and related activities; or engaging informal educators using NASA SMD content to 1) enhance participant skills and proficiency in STEM disciplines; 2) inform participants about STEM career opportunities; and 3) communicate information about NASA's SMD mission activities.
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NASA has adopted requirements that differentiate Informal Education from Public Outreach.

The intent of Informal Education is to increase learning; to educate students, educators, and the general public on specific science, technology, engineering or mathematics (STEM) content areas; and to expand the nation's future STEM workforce.

In addition, to qualify as Informal Education, the effort has to meet at least two of the following criteria:

1. Supplemental Materials/Handouts: Standards based education materials are used to supplement and enrich the experience, visual, or activity.
2. Staffing: Staff/facilitators, trained or qualified in STEM/education fields, actively work with participants to further enhance their understanding and increase the educational value of the experience, visual, or activity.
3. Content: Educational standards and/or learning objectives play a key role in developing content and/or design and explore topics in-depth

If a project activity does not meet this test, the proposer should consider submitting it under Appendix E.5: Supplemental Outreach Awards for ROSES Investigators.

It should be noted that this program element is only one of several ways that SMD invests in Education and Public Outreach. Proposers are encouraged to take advantage of SMD

E/PO investments in products, dissemination mechanisms, and opportunities to work with ongoing mission and nonmission E/PO project activities. Proposed project activities should not duplicate existing efforts, but should complement existing E/PO project activities embedded in missions or other ongoing projects.

Efforts that may be proposed to other SMD E/PO opportunities will not be considered under this program element. Examples of opportunities that are not solicited include: competitive research support for faculty and early career scientists sponsored under ROSES, graduate research support sponsored under the NASA Earth and Space Science Fellowship Program, and education and outreach activities embedded in flight missions.

3. Programmatic Information

3.1 General Information

In order to propose an Education activity as a supplement to a research proposal submitted in response to this NRA, the proposer must follow these instructions:

- Proposals must be submitted through NSPIRES no later than the cutoff date to be included in the current evaluation cycle. The opportunity to propose is not linked to the award date for the parent research award or to the anniversary date of the parent research award. The NSPIRES proposal opportunity will be open approximately 90 days before each cutoff date.
- Research awards associated with previously selected supplement proposals may not be used as the basis for future Outreach or Education supplement proposals.
- The PI of the science award must also be the PI of the supplement proposal. A Co-I of the supplement proposal may be designated as the E/PO lead.
- A science award may be used as for the basis of submission for both an Education and an Outreach proposal for the same due date. NASA will make the determination of which one of the two proposals it would fund if both were selectable. Only one of the proposals would be funded.
- The evaluation of proposals will be managed by NASA Ames Research Center with oversight from the Science Mission Directorate at NASA Headquarters. The Selection Official is the SMD E/PO Lead.
- The page limit for Education proposals is 4 pages, excluding the required budget form and budget narrative. Shorter proposals are encouraged, as long as the proposed activity is described with sufficient detail to allow an assessment of its merit.
- The on-line NSPIRES budget table will not be used to communicate to NASA the requested budget for this opportunity. A budget table following the format provided in the SMD Education Supplements Guide1.0, Appendix J (available at

<http://nasascience.nasa.gov/researchers/education-public-outreach/explanatory-guide-to-smd-e-po-evaluation-factors/>) must be included within the body of your attached proposal document. Neither this required budget table nor the required accompanying budget justification language will count towards the 4 page limit of the proposal narrative.

- The proposal must be clearly identified as an Education pathway proposal.
- The annual cost cap for a proposal by an individual investigator is \$15K per year for an Education pathway proposal.
- A “Collaborative Education Proposal” option is available that allows several SMD-funded ROSES researchers to collectively carry out more ambitious, expansive outreach efforts. Each collaborator must be involved in the effort and have an eligible ROSES research award. The supplemental funds are added to a single research award of the consortium of proposing investigators. The group submits the proposal under the research award of their choice and all collaborating research awards must be identified by title and PI (and Grant Number, if available). The PI of the parent research award is responsible for the overall performance of the effort and is responsible for distribution of any funding to collaborating researchers.

A Collaborative proposal may request up to \$50K annually, depending on the number of ROSES research awards being combined. Each must have at least 15 months remaining on the science award. The amount of eligible funding for Collaborative proposals is determined by multiplying the number of ROSES research awards by the individual award annual cap (\$15K) for an Education project activity. For example, if there were six ROSES research awards in year 1, three in year 2, two in year 3, and two in year 4, the maximum funding per year for an Education project activity would be

Year 1	\$50K (6*15K=90K; limit of \$50K)
Year 2	\$45K (3*15K=45K)
Year 3	\$30K (2*15K= 30K)
Year 4	\$30K (2*15K= 30K)
Year 3	\$30K (2*15K=20K) [typo corrected 12/18/08]
Year 4	\$30K (2*15K=20K)

Note: Research awards associated with a selected Collaborative proposal may not be used as a basis for a future Outreach or Education supplemental proposal.

- To ease the burden of NASA’s administration of such small supplements, the total period of performance for any Education supplement is limited to that of its parent research award (for collaborative supplements, this limit applies to the research award to which the supplemental Education funding is added). The supplemental Education supplement will begin at the time it is awarded and continue through the end of its proposed period, or through the end of the parent research award, whichever comes first.

- The total funding available for new supplemental Education and Outreach supplements is approximately \$500K per year. Pending adequate proposals of merit, NASA expects to select approximately equal numbers of Outreach pathway (Appendix E.5) and Education pathway (Appendix E.6) proposals, i.e., approximately 20 new supplements per pathway per year. Collaborative proposals may be selected in lieu of a number of individual proposals.

3.2 Technical Reporting Requirements

Reporting on the results of the Education project activity will be included as a component of the Annual Progress Report and Final Report of the parent research effort. In cases where subaward arrangements exist, consolidated project activity reports are the responsibility of the PI.

In addition, the project activity must collect, analyze, and report output and outcome data to a common NASA database to determine project activity effectiveness and meet the requirements of stakeholders. Instructions on submitting this information will be provided with the selection notice. It is anticipated that this will be nominally a one person-day effort to format and submit the data.

3.3 Evaluation and Selection of Proposals

Proposers are reminded that the evaluation criteria for this solicitation are given in Section C.2 of the NASA Guidebook for Proposers (see below for reference). These criteria are intrinsic merit, relevance to NASA’s strategic goals and objectives, and cost realism and reasonableness. In addition, the evaluation of Education proposals will include the Program Balance Factors. The specific evaluation factors are described in the *Explanatory Guide to the NASA Science Mission Directorate Education & Public Outreach Evaluation Factors* at <http://nasascience.nasa.gov/researchers/education-public-outreach/explanatory-guide-to-smd-e-po-evaluation-factors>.

Proposers are strongly encouraged to review this *Explanatory Guide*. In particular, the *Explanatory Guide* provides discussion of requirements for SMD education project activities. Proposals to extend previously funded SMD E/PO efforts are also required to provide evaluation results of the prior effort.

4. Summary of Key Information

Expected annual program budget for new awards.	~ \$300K
Number of new awards pending adequate proposals of merit	~ 20 [Collaborative proposals may be selected in lieu of a number of individual proposals.]
Maximum duration of awards	Linked to parent research award

Due Date for Notice of Intent to Propose (NOI)	First Call: None requested Second Call: March 11, 2009
Due Date for proposals	First call: December 15, 2008 Second call: April 8, 2009
Page length for the central E/PO-Technical-Management section of proposal	4 pages
NASA strategic objective(s) which proposals must state and demonstrate relevance to	Every proposal must address one or more SMD Education Portfolio goals (see Section 2 of this appendix).
General information and overview of this solicitation	See the <i>ROSES Summary of Solicitation</i> .
Detailed instructions for the preparation and submission of proposals	See the <i>2008 NASA Guidebook for Proposers</i> at http://www.hq.nasa.gov/office/procurement/nraguidebook/ .
Submission medium	Electronic proposal submission is required; no hard copy is required or permitted. See also Section IV of the <i>ROSES Summary of Solicitation</i> and Chapter 3 of the <i>2008 NASA Guidebook for Proposers</i> .
Web site for submission of proposal via NSPIRES	http://nspires.nasaprs.com (help desk available at nspires-help@nasaprs.com or (202) 479-9376)
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