January 24, 2012

Request for Bids: SOFIA Airborne Astronomy Ambassadors Cycle 1 Program Evaluation

Bids Due: February 8, 2012; submit in electronic form

SOFIA Airborne Astronomy Ambassadors program Contact:
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NASA's airborne Stratospheric Observatory for Infrared Astronomy (SOFIA) has successfully completed its Early Science program and will be entering normal operations with its Cycle 1 science observations phase in fall, 2012. The Airborne Astronomy Ambassadors "Pilot" program for educator professional development successfully flew 6 U.S. teachers on the observatory during the summer of 2011. Evaluation confirmed the program's impact both on the teacher participants and on their students and communities. SOFIA's Education & Public Outreach program managers seek bids to implement a formative and summative evaluation program for the upcoming SOFIA Airborne Astronomy Ambassadors (AAA) Cycle 1 phase corresponding to the Cycle 1 science phase.

Mission Education and Public Outreach Information:

The SOFIA program is responsible to NASA for conducting an E/PO program that exploits the unique and inspirational attributes of airborne astronomy, contributes to national goals for the reform of STEM education, and helps elevate public scientific and technical literacy. SOFIA is the only major research observatory designed from the start to bring non-scientists into close contact with scientists in a research environment. SOFIA is thereby especially capable of giving science educators -- K-14 teachers and college faculty, museum personnel, amateur astronomers -- direct exposure to the scientific process.

SOFIA E/PO goals for AAA Cycle 1 program evaluation:

The highly successful "Pilot" program of SOFIA AAA also provided details and "lessons learned" for continuing into our next phase. Cycle 1 educators, who were required to apply as teams of two, have already been selected. Participants will fly on SOFIA with their teammate and work together to implement their Education and Public Outreach plans. In preparation for their flights, all participants are required to complete a 10-week on-line astronomy course, designed specifically for teachers, that begins the first week of February, 2012. Not only will this course provide necessary content, it also will provide an arena for the participants to meet others in their cohort. The course will

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contain a section specific to infrared astronomy and the SOFIA mission. In addition to the on-line course experience, Ambassadors will have access to a variety of media to be supplied by the SOFIA E/PO program that we anticipate will be useful in classroom and public presentations.

Specific investigations desired by SOFIA E/PO from Cycle 1 program evaluation:

- Effectiveness and sufficiency of support materials and preparations provided by the program to the Ambassadors for implementing their outreach plans.
- Effectiveness of the Astronomy for Teachers on-line course's content-centered preparation for participants.
- Formative assessment of SOFIA component of on-line course
- Formative assessment of the SOFIA AAA application requirements and instruction
- Formative assessment of the flight preparation and documents.
- Summative assessment of the teams' classroom/facility implementation and of the teams' outreach activities.
- Change in understanding of "science as a process" of participating educators and their students (using existing survey documents)

Logistical details:

- NASA SOFIA E/PO home office: SOFIA Science Center, NASA Ames Research Center, Mountain View, CA
- The SOFIA aircraft operates out of the Dryden Aircraft Operations Facility (DAOF) in Palmdale, CA
- Anticipated program evaluation contract dates: 03/01/2012 – 07/31/2014
- Number of AAA participants for Cycle 1: 13 teams of 2, located throughout the United States and representing a broad range of learner groups, with focus on underrepresented and underserved students.
- On-line course for participants will begin on February 6, 2012.
- Educator flights will occur between approximately October 2012 and September, 2013. These dates are tentative and specific flight details are not yet known.
- AAA Cycle 1 teams were chosen through an application process and selected by a panel; the teams were notified of their selection in mid-January, 2012.

Anticipated Evaluator actions/deliverables; the evaluator will:

- Work with SOFIA E/PO program administrators to finalize questions and research associated with SOFIA's AAA Cycle 1 program.
- Observe and evaluate the SOFIA-specific component of the participant-required on-line Astronomy for Teachers course to provide guidance for improving effectiveness as programs continues.

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- Communicate regularly with SOFIA E/PO program administrators, AAA educator participants, scientists and SOFIA program staff as determined by SOFIA Cycle 1 Evaluation plan contract.
- Compile, analyze, and report findings from the SOFIA Cycle 1 program at key, identified intervals throughout the contract.
- Work with SOFIA E/PO program administrators to incorporate program evaluation findings and information Cycle 2 AAA educator application and training processes

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Tentative Timeline:

Date	Item
02/08/2012	Evaluator bids due to SOFIA
2/15/2012	SOFIA decides on evaluator and informs involved parties
By 2/29/2012	Meeting with evaluator and key SOFIA Education Program team members to finalize questions and plan for AAA Cycle 1 evaluation
Through May, 2012	Initial contact with participants On-line course evaluation
July, 2012	Formative evaluation on SOFIA specific section of the on-line course and application process
November, 2013	Report on flight experience and "Science as Process" research data for educators
January, 2014	Interim report of implementation into classroom and outreach activities and impact; "Science as Process" research data for students
July, 2014	Final report due