



Spitzer Space Telescope

Cycle-1 General Observer Education and Public Outreach Call for Proposals

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Spitzer Science Center
California Institute of Technology
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<http://spitzer.caltech.edu/>



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The Spitzer Science Center (SSC) is operated by the California Institute of Technology for the Jet Propulsion Laboratory (JPL) and the National Aeronautics and Space Administration (NASA).

1 PURPOSE

In accordance with The National Aeronautics and Space Administration (NASA) Education and Public Outreach (E/PO) policies, a portion of the Spitzer Cycle 1 budget has been allocated for E/PO funding. The Spitzer Science Center (SSC) is announcing the opportunity for **accepted** Cycle 1 General Observers (GOs) and Archival Researchers (ARs) to submit proposals for an Education and Public Outreach (E/PO) supplement to the parent research program.

NASA has developed a comprehensive approach to providing E/PO to enhance the public's understanding of space science. NASA has incorporated these objectives as integral components of all missions and research programs. There are four documents that establish the basic E/PO policies and guidelines for NASA that proposers will find informative and useful in understanding NASA's proposal evaluation criteria:

- *NASA Strategic Plan 2003* [<http://www.hq.nasa.gov/office/codez/plans/pl2000.pdf>],
- *Space Science Enterprise 2003 Strategic Plan* [<http://www.hq.nasa.gov/office/codez/plans/SSE00plan.pdf>],
- *The Office of Space Science E/PO Strategy* [<http://spacescience.nasa.gov/education/resources/strategy/index.htm>], and
- *Explanatory Guide to the NASA Office of Space Science Education & Public Outreach Evaluation Criteria* [http://ssibroker.colorado.edu/Broker/Eval_criteria/Guide/Default.htm],

The spirit of the Spitzer Cycle 1 E/PO Program is to encourage collaborative efforts between professional astronomers/space scientists and professional educators that would broaden the knowledge and understanding of the latest discoveries of the Spitzer Space Telescope. The Spitzer Cycle 1 E/PO proposal must have clear intellectual linkage to the science and/or science theme of the parent research program(s). The duration of the funding is up to two years, beginning 3/1/2005.

There are two Spitzer Cycle 1 E/PO funding categories:

- Individual—A Spitzer Cycle 1 GO Principal Investigator or Co-Investigator may request up to \$20,000 for an E/PO program.
- Teamed--A maximum of three (3) science research programs can team together, for a maximum of \$60,000.

Up to \$150,000 will be awarded to support successful GO1 E/PO proposals. The duration of funding will be two years from the date of award notification, no exceptions.

2 ELIGIBILITY REQUIREMENTS

The following must be fulfilled in a Spitzer Cycle 1 E/PO proposal:

- an accepted Spitzer Cycle 1 proposal number(s)
- at least one (1) professional astronomer/space scientist from each parent research program active in the development and implementation of the program;
- at least one (1) professional educator active in the development and implementation of the program
- the proposed E/PO program focuses on education/public outreach in the U.S.

2.1 Principal Investigator, Co-Investigator & Team Members

The proposal must have a Principal Investigator, and a Co-Investigator, and may have as many other team members as desired.

Principal Investigator:

The following is required to be eligible as Principal Investigator (PI) on a Spitzer Cycle 1 E/PO proposal:

- The E/PO Principal Investigator must be an accepted Spitzer GO/AR Principal or Co-Investigator. Only one E/PO proposal will be accepted for each Spitzer Cycle 1 GO/AR Program Number
- The P.I. must have an active role in administering and guiding the E/PO program through to the final report. For a teamed proposal, only one astronomer can be designated as the E/PO Principal Investigator.
- The E/PO P.I. must be affiliated with a U.S. institution. A Spitzer GO/AR P.I. from a non-U.S. institution may not be the E/PO P.I., but the team may still submit an E/PO proposal with a U.S.-based Spitzer GO/AR Co-I as the E/PO P.I.

Co-Investigator:

The Co-Investigator of a Cycle 1 GO E/PO program may be:

1. an accepted Spitzer GO/AR Principal or Co-Investigator, or
2. a professional educator.

If the Co-I is a professional educator, the proposal must demonstrate an active collaborative effort between the astronomer P.I. and the professional educator. The following educators are eligible to serve as Co-Investigators:

- An educator actively working in K-14 education

- An educator associated with an informal science institution (i.e. planetarium, museum, science center, etc.).

Team Members

Proposals may include as many additional team members as necessary from various backgrounds to ensure the success of a proposed program. All team members must have clearly stated roles and responsibilities in the program description of the proposal. Additionally, if there are salary requests for any team member, there must be a clear description of the essential need for that team member included in the budget narrative. In the event that a professional educator is not the Co-I of the proposal, one must be included as a team member.

2.2 Teamed Funding

Spitzer Cycle 1 programs whose topic or the science foundations are similar may combine their efforts and submit a teamed E/PO proposal. A maximum of three (3) science research programs can team together for up to \$60,000. A teamed proposal must have:

- one E/PO Principal Investigator designated from a parent science research program who fulfills all the Principal Investigator eligibility requirements
- at least one U.S. member from each parent science research program active in the development and implementation of the proposed E/PO program

NASA policies prohibit offering funds for the sole purpose of generating a potentially marketable (retail/for profit) end-product such as a video, CD-ROM, slide set, poster or computer software. Funding can be awarded for an educational activity that might incorporate the use and assessment of a developed product. (Example: A proposed program may involve the development of an educational product, but this product would be part of a larger activity and would be distributed either for free or at cost.)

In addition, it is strongly encouraged that any person participating on a program with a salaried position in a for-profit company sign a non-disclosure agreement to avoid potential conflicts of interest directly related to intellectual property rights of other E/PO team members and/or partnering institutions. If an individual company is unwilling to comply with this request, it is usually not advisable to proceed with the proposed partnership.

3 ELEMENTS OF THE PROPOSAL

3.1 Cover Page

A Cover Page must be submitted for all E/PO proposals. The following information must be provided:

- E/PO Proposal Title
- Principal Investigator Information (*Name, title and affiliation*)
- Co-Investigator Information (*Name, title and affiliation*)
- Type of E/PO Proposal: Individual or Teamed
- E/PO Team Members (*Name, title and affiliation*)
- Spitzer Cycle 1 GO/AR Program Title
- Spitzer Cycle 1 GO/AR Program Number
- Requested Budget (*in dollars*)
- Institutions Authorizing Official (Sponsored Projects Office or equivalent) (*need signature*)
- E/PO Abstract (*limited to 250 words*)

A completed Cover Page must be signed by the Institution's Authorizing Official (Sponsored Projects Office or equivalent) and attached to an original of the E/PO proposal as well as all copies.

3.2 Key Elements

Proposals must include each of the following and are limited to five (5), single-sided, numbered pages with a font size no smaller than eleven (11) points:

- A clear description of the proposed program's goals, objectives, and implementation strategies
- Proposals using existing E/PO resource or product must describe how they will be built upon or taken advantage of to enhance the understanding of science, mathematics, and/or technology education
- Identification of the target audience, including how the team intends to reach the target audience
- A clear description of the roles and responsibilities of every team member
- A timeline/list of milestones for the proposed program

A Note about the Target Audience:

K-12 Education: Proposals targeting K-12 education, including informal science venues, must be aligned with and linked to nationally recognized and endorsed education standards. Proposals must include a citation of the specific national educational standard(s) aligned with the proposed program. Publications that fully define national education standard content areas are:

- National Science Education Standards
[<http://www.nap.edu/readingroom/books/nses/html/>];
- Principles and Standards for School Mathematics
[<http://www.nctm.org/standards/overview.htm>];
- American Association for the Advancement of Science (AAAS) Project 2061 Benchmarks [<http://www.project2061.org/tools/benchol/bolintro.htm>]; and
- National Educational Technology Standards (NETS) Project
[<http://cnets.iste.org/index.html>].

College/University Education: Programs targeting undergraduate astronomy/space science must demonstrate a clear need for the product/program. Preference will be shown to programs that encourage cross-department participation or can be applied at more than one institution. No programs aimed at graduate students will be considered.

General Public: Proposals targeting the general public must address the potential impact the proposed program would have. Additionally, proposals must demonstrate the potential for broader impact through replication. It is important to include potential attendance numbers and/or other related statistical information to demonstrate the potential impact.

Web Development: Proposals that involve developing a website must include the following information:

- Who will design and program the website
- Who will host the website
- How will the website be maintained
- The cost(s) incurred to develop and maintain a website in the budget spreadsheet/narrative

3.3 Evaluation Plan

Proposals must have a clear, detailed evaluation plan describing how the program will be assessed for effectiveness. The evaluation plan should be appropriate for the scope of the proposed program.

3.4 Dissemination Plan

Proposals must have a clear, detailed plan describing how the results of the program will be disseminated to a broad audience. The dissemination plan should be appropriate for the scope of the proposed program.

3.5 Cost Plan

The following must be included in the cost plan:

- An itemized list of each budget item for which funding is requested.
- A budget narrative describing each budget item.
- Any waiver or reduction of institutional overhead.
- Any matching funds, in-kind contributions, or other resources the proposal leverages.

Cost plans are limited to two years in duration, with the period of performance starting March 1, 2005.

3.6 Ancillary Documentation

The following should be included but are not counted towards the page limits:

- Cover Page
- Spitzer Cycle 1 GO/AR Program Abstract
- Curriculum Vitae (CV) of All Team Members (one-page limit per team member)
- Cost Plan
- Any documentation that would provide additional support to the proposed program, such as:
 - Letters of support demonstrating secure collaborations and commitment of all parties
 - A list of previous NASA Education Division, Education/Public Outreach, or NSF Education/Public Outreach grant awards the Principal Investigator has received during the past five (5) years

If you have any questions about proposal submissions or the Call for Proposals, please contact program staff at outreach@ipac.caltech.edu.

4 BUDGET GUIDELINES

The Spitzer Cycle 1 E/PO proposals have the same budget requirements as the Spitzer GO program. Detailed information budget guidelines from the Spitzer GO Cycle 1 Call for Proposals are reproduced here as Appendix A

Institutional Overhead: The budget for E/PO grant programs is limited, and it is requested, although not required, that institutional overhead be reduced or waived by the submitting organization.

5 INQUIRIES AND ASSISTANCE FOR THE PREPARATION OF E/PO PROPOSALS

Process Inquiries: Inquiries regarding the proposal process should be made directly to the SSC E/PO Group at outreach@ipac.caltech.edu.

Program Inquiries: NASA has established a nation-wide Space Science E/PO Support Network, whose purpose is to directly aid investigators in identifying and developing high-quality E/PO opportunities. Prospective proposers are strongly encouraged to make use of the Space Science E/PO Support Network to help identify suitable opportunities and to arrange appropriate alliances. This infrastructure provides coordination, background, and linkages that would foster partnerships between the space science and E/PO communities, as well as the services needed to establish and maintain a vital national, coordinated, long-term NASA E/PO program.

Within the Space Science E/PO Support Network infrastructure are the following:

- The NASA science theme-oriented Forums are available to help orchestrate and organize the education/outreach aspects of NASA missions and research programs in a comprehensive way.
- The regional Broker/Facilitators are responsible for identifying and establishing high-leverage opportunities, arranging alliances between educators and NASA-supported scientists, and helping scientists turn results from space science missions and programs into educationally appropriate activities that could be distributed regionally and nationally.

A more detailed description of the NASA E/PO Support Network and contact information for both the Forums and Broker/Facilitators can be found at

<http://spacescience.nasa.gov/education/index.htm>. Proposers should note that Forums and Broker/Facilitators have been established to provide help, but the proposer is fully responsible for the development of the E/PO program, as well as writing the proposal.

6 PROPOSAL REVIEW PROCESS

6.1 *Proposal Submission and Deadline*

The Spitzer Cycle 1 E/PO proposals must be submitted in paper. No electronic submissions will be accepted. The following must be received by the SSC Office of Public Outreach by Tuesday, November 30, 2004 at 5:00 p.m. (PDT):

- Cover Page with appropriate signatures
- one (1) unbound original proposal
- Six (6) copies of the proposal, including the cover page
- Institutionally endorsed cost plan and budget narrative
- Statement of reduction or waiver of institutional overhead

All materials must be mailed to:

**The Spitzer Science Center
Attn: Office of Education and Public Outreach
California Institute of Technology
Mail Code 314-6
1200 E. California Blvd
Pasadena, CA 91125
(626-395-8000)**

6.2 *Proposal Evaluation Criteria*

The principal elements considered in evaluating an E/PO proposal are its intrinsic merit, relevance to NASA's objectives, and its cost effectiveness and reasonableness. **To determine if a proposal meets the principal elements, it will be judged by the following list of criteria. The failure of a proposal to be rated highly in any one of these criteria is sufficient cause for the E/PO proposal to be declined.**

- **Quality, Scope and Realism, and Appropriateness:** Programs must have a clear intellectual linkage to the science and/or science theme of the parent research program(s), be clearly organized, consistent with the requested budget, have clear lines of management responsibilities, and demonstrate a high probability for successful implementation.
- **Customer Needs Focus:** Programs have been designed to respond to a need identified by the education community, a customer, or a customer group.
- **Partnership/Leverage/Sustainability:** Programs achieve high leverage and/or sustainability through intrinsic design or the involvement of appropriate local, regional, and/or national partners in their design, development, and dissemination.

- **Scientist Participation:** Active involvement of appropriate and qualified partners and members of the science team is required. Proposals must also clearly demonstrate a collaborative effort between the astronomer/space scientist(s) and educational professional(s), with all team members having an active role in the proposed program.
- **Evaluation:** The appropriateness of an evaluation plan to document outcomes and demonstrate progress toward achieving objectives of proposed education/outreach activities, commensurate with the scale of the E/PO program.
- **Content:** Programs make direct use of NASA content, people, or facilities to involve educators, students, and/or the public in NASA science, technology, engineering, and mathematics. Proposals that focus on formal education must demonstrate alignment with appropriate educational standards.
- **Pipeline:** Through the use of NASA space science, programs/products make a demonstrable contribution to attracting diverse populations to careers in science, technology, engineering, and mathematics.
- **Diversity:** Through the use of NASA space science, programs/products reach identified targeted groups and contribute to the involvement, broad understanding, and/or training of underserved, and/or underutilized groups in science and technology.
- **Resource Utilization:** The adequacy, appropriateness, and realism of the proposed budget including demonstration of effective use of funds.

6.3 Panel Review

The panel review is held approximately 4-6 weeks after the proposal submission deadline. A panel review team performs a formal evaluation of all complete proposals. The panel review team is composed of members of the education, scientific, and NASA communities, who are recruited based on professional expertise in their field as well as their knowledge of astronomy/space science and education/public outreach. The Spitzer E/PO team will take the results of the E/PO Review Panel and provide a consolidated list of recommendations to the SSC Director, who will then make the final selection of the Cycle -1 E/PO program.

6.4 Award Notification

Award notification letters will be sent to the Principal Investigator approximately 4-6 weeks after the panel review. In addition to an award notification letter, Principal Investigators will receive a Panel Review Comment Sheet, which will provide detailed feedback from the panel review team regarding the proposal.

7 FINAL REPORTS FOR FUNDED PROJECTS

At the completion of the first year of funding, Principal Investigators will have ninety (90) days to submit a final report for the program. The final report should not exceed five (5) single-sided pages and should summarize the accomplishments of the program. These reports will be incorporated in the SSC E/PO annual reports to NASA Headquarters. The Spitzer Science Center will assume responsibility for reporting the accomplishments of the GO E/PO programs to NASA Headquarters.

Appendix A: Allowable Costs

Proposals will be evaluated, in part, on the reasonableness of the proposed costs and the overall cost effectiveness of the investigation. The allowable costs which should be included in the cost plan are listed below. Details that cannot be accommodated within standard budget forms should be included in a supplementary budget narrative (not subject to the overall proposal page limit).

- **Salaries and Wages**

Direct labor costs for eligible project investigators should be included and itemized. Spitzer Space Telescope funds may not be used to pay more than a person's full-time salary or to pay more than an individual's hourly wage rate. An investigator may not normally be reimbursed for consulting or other work in addition to a regular full-time institutional salary covering the same period of employment. For faculty members in academic institutions, Spitzer funding will normally be limited to no more than two months of summer salary support. Exceptions for released time during the academic year (e.g., "buying back" teaching time) may be permitted, but such costs must be fully justified in the proposal and the compensation requested must be reasonable and consistent with each employee's regular full-time salary or rate of compensation. Released time for project investigators working in non-academic institutions may be proposed, provided the compensation requested is reasonable and consistent with each employee's regular full-time salary or rate of compensation.

It is assumed that most scientists will be affiliated with institutions that will make substantial support available for project activities (e.g., computer facilities, collaboration with other scientists, students, or research assistants).

- **Research Assistance**

Direct labor costs for graduate students, post-doctoral associates, data aides, and secretarial and technical support should be included and itemized. For post-doctoral associates and other professionals, each position should be listed with the number of months, percentage of time that will be spent on the project, and rate of pay (hourly, monthly, or annual). For graduate students and secretarial, clerical, and technical staff, only the total number of persons and the total amount of salaries per year in each category are required. All such salaries must be in accordance with the standard policies of the institution assuming responsibility for the project.

- **Fringe Benefits**

If an institution's usual accounting practices provide that its contributions to employee "benefits" (Social Security, retirement, etc.) be treated as direct costs, funds may be requested for all applicable fringe benefits. In this case, proposers must break out the associated costs and list them as a separate cost component within the direct labor element.

- **Publication Costs**
Reasonable costs for publication of research results obtained from a Spitzer research investigation should be included as a component of "Other Direct Costs."
- **Travel**
Itemized transportation and subsistence costs for project personnel to plan, obtain, analyze, and disseminate direct results of a Spitzer research investigation should be included. Proposers should include origin/destination, number of travelers, number of trips, and costs associated with each, and include this information as a component of "Other Direct Costs."
- **Institutional Overhead**
The budget for E/PO grant programs is limited, and it is requested that institutional overhead be reduced or waived by the submitting organization, since, in many cases, such activities will be of direct value to local educational and/or public science institutions.
- **Computer Services**
The itemized costs of computer time and software for the analysis of Spitzer data should be included. Details of the services and software that will be used must be fully described and justified in the proposal, and included as a component of "Other Direct Costs."
- **Equipment**
Itemized equipment costs, including computers or related hardware, should be included and accompanied by a detailed justification in the budget narrative. In general, the title to approved equipment purchased for \$5,000 or less will be vested with the Contractor. The title to equipment costing in excess of \$5,000 will be vested with the U.S. Government, unless JPL and/or NASA indicate otherwise in writing. In either case, if the proposer seeks title to the equipment, it must be noted in their cost narrative.
- **Materials and Supplies**
The itemized costs of materials and supplies directly related to the Spitzer research investigation may be included, provided such costs are not already reimbursed through indirect costs, or some other means. These costs should be included as a component of "Other Direct Costs."
- **Indirect Costs (IDCs)**
The budget for E/PO grant programs is limited, and it is required that institutional overhead be reduced or waived by the submitting organization.