

FY 2009 Guidelines for Strategic University Research Partnership Proposals

The deadline for proposal submission is Friday, December 12, 2008, by 4 PM PST.

NOTE: These Guidelines only apply to proposals submitted for FY 2009 consideration.

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Introduction

The JPL Strategic University Research Partnership (SURP) Program provides resources to initiate and cultivate collaborative efforts of mutual strategic value for NASA research and missions between JPL and the Strategic University Partners listed below. Proposed activities can range from basic and applied research to educational initiatives and career path development for students. We anticipate that the total amount of new funding available for this program in FY09 will be approximately \$1.5 - \$2M, which will support 10–20 education initiatives funded up to \$25K each and 15–30 research initiatives funded up to \$100K each. Funding for the SURP Program is available as an allocation from the Director's Research and Development Fund (DRDF).

To further strengthen the relationships between JPL and our Strategic University Partners, we encourage proposals describing research or educational effects that include activities to be performed jointly at JPL or at the partnering university via the exchange of personnel. Possible exchanges include students working at JPL under the technical supervision of the JPL Principal Investigator, JPL investigators working at the Strategic Partner University, and academic faculty working at JPL. We also invite proposals that describe research performed jointly by a JPL team and by the academic faculty investigator while on sabbatical leave at JPL. In such cases, we encourage that a portion of the award going to the SURP Partner to be used as a way of augmenting the existing sabbatical leave program at the university.

Strategic Universities

JPL has established Strategic Partnerships with the following academic institutions through joint Memoranda of Understanding:

Arizona State University
Carnegie Mellon University
Dartmouth College
Massachusetts Institute of Technology
Princeton University

Stanford University
University of Arizona
University of California, Los Angeles
University of Michigan
University of Southern California

Topical Areas

The SURP Program encourages proposals in ten strategic topical areas identified by the JPL Program Offices and championed by a technical JPL employee from the Engineering and Science Directorate. The topics and their champions are listed below. Additional details on each area may be downloaded from the SURP web site:

<http://surp.jpl.nasa.gov/call/index.cfm>

Preference will be given to proposals that are aligned with these topical areas, but selection of an exceptional proposal outside these areas is not precluded.

| Topical Areas for Research Initiatives, funded up to \$100 K for one year | | Champion |
|--|---|---|
| 1. | Advance Solar System Exploration in New Directions: To Understand Planetary Formation and Evolutionary Pathways, and to Seek, Discover, and Inventory the Organic Materials in the Solar System and Elucidate Their Origins | To be announced |
| 2. | Determining the Geometry and Structure of Our Universe | To be announced |
| 3. | Discovery and Characterization of Exoplanets | Stephen Unwin Stephen.C.Unwin@jpl.nasa.gov |
| 4. | An Integrated Earth System Science Information System for Research and Applications | Yi Chao Yi.Chao@jpl.nasa.gov |
| 5. | Achieving Breakthrough Increases in Interplanetary Communications (100–1000 Times Current Capabilities) | Chad Edwards Charles.D.Edwards@jpl.nasa.gov |
| 6. | Enabling Robotic Missions to Scientifically Interesting Extreme Environments | Elizabeth Kolawa Elizabeth.A.Kolawa@jpl.nasa.gov |
| 7. | Enabling Autonomous Human Missions to the Moon and Mars | Andrew Mishkin Andrew.H.Mishkin@jpl.nasa.gov |
| 8. | Fractionated, Distributed, Reconfigurable, Repairable, Reusable Missions | Adrian Stoica Adrian.Stoica@jpl.nasa.gov |
| 9. | Large, Precise Space Structures to Enable Future Observing Instruments | To be announced |
| Educational Initiatives, funded up to \$25 K for one year | | |
| 10. | Develop and Nurture the Next Generation of “Rocket Scientists” | Adrian Ponce (S&T research) Adrian.Ponce@jpl.nasa.gov To be announced (engineering) |

Proposal Constraints

1. The SURP Program requires participation by at least one of the Strategic University Partners listed above.
2. The Principal Investigator must be at JPL.
3. Funds cannot be sent to foreign nations.
4. SURP awards are for a period of performance of one (1) year. Proposed activities should be written as complete one-year seed funding efforts.

Required Forms and Proposal Submission Process

1. A proposal template is provided as Attachment 1. This is an unlocked template that allows you to respond to each required section. All figures, graphics, and tables should be placed at the end of the proposal. Please do not use "text wrapping" when incorporating graphics at the end of the report. Do not exceed 8 pages total for this submission, including the signature page. Detailed instructions for completing the template are provide below.
2. A budget sheet is included in Attachment 1. It must be completed and itemized for both JPL and the SURP Partner. Please contact your Section Administrator or Business Administration Manager for current FY09 rates and assistance in filling out the form.
3. Once your proposal template has been completed, you will need to submit your proposal electronically into the SURP website no later than 4 PM on the proposal due date.

To submit your proposal, please go to the SURP proposal submission website at <http://surp.jpl.nasa.gov/submissions/> to begin the submission process. Please note: the SURP submission website is only available through the internal JPL website.

Once in the SURP submission site, you will be prompted to input information regarding your proposal and to upload a PDF of your proposal. At the end of the submission process, the site will provide you with an assigned proposal number. Please keep this proposal number and record it on the upper right-hand copy of your original signed proposal.

If you need any assistance with your electronic submission, please call Shahin Dastur (3-1753).

4. In addition to submitting your proposal electronically, the original signed copy of your proposal and twelve (12) hard copies must be received by Alma Cardena, (office location 180-604, M/S 180-604, ext. 4-2328) by no later than 4 PM on the proposal due date. Please type or write your assigned proposal number in the upper right-hand corner of each hard copy.

How to Complete the Proposal Template Sections

1. **Title:** Type the full title of the proposal
2. **JPL Principal Investigator:** Enter the first and last name of the PI, the PI line organization number, and the PI's email. Only one JPL PI can be listed on the proposal.
3. **Co-Investigator(s):**
 - a. Include the first and last name(s) of all external Partner and JPL investigators, along with organization and email addresses.
 - b. If the proposal involves collaboration or synergy with SURP proposals from other SURP Partners who are also responding to this call, note the PI, SURP Partner university, and name of that proposal.
4. **Total Budget Request for FY09:** Enter the FY09 total cost from line#13 of the Budget Sheet.
5. **Student Participants:** Enter the student name(s), email addresses, and academic level while participating in this research effort. If names are not yet known, enter TBD and the planned academic levels for student participation.
6. **Topical Areas:** Identify one primary topic area for which the proposal has the most relevance. Identify one or more secondary topic areas if the proposal has relevance to other areas.
- 7a. **General Objectives:** State in a clear and concise manner the goals and objectives of your proposal. Answer the question "What are you proposing to do?" A justification of your work is not required. Instead provide a statement of the work you plan to do and the products you intend to deliver.
- 7b. **Quantitative Objectives:** Provide metrics for the capability that your proposal addresses and use these metrics to quantify the capability your proposal aims to achieve. Compare your objectives with the current state-of-the-art of this capability at JPL and/or at the SURP university and external to the partnership.
8. **Approach:** Describe you plan to achieve your stated objectives. List specific tasks, responsibilities, and time periods for the tasks. Indicate principle milestones for the year.
9. **Describe the Innovative Features of this Proposal:** What new ideas are being applied in this proposal? Innovation refers to any new evolutionary or revolutionary change in thinking, processes, products, and/or organization. Relate these innovative features to current approaches inside and outside of JPL.
10. **Contribution of Strategic University Partner:** Describe the specific tasks, responsibilities, and time period for tasks to be done by the partner university. Include any special resources or facilities from the university that will be used for this work.

Please note: Provide adequate detail so that this section can be used as the Statement of Work for the Co-I in a JPL subcontract. This will significantly expedite the transfer of funds upon selection for award.

11. **Exchange of Personnel:** Describe any plans to have work done at JPL by university students or faculty or work to be done at the university by JPL employees. The hosting organization must agree to the proposed exchange— please state whether such approval has been obtained. Please note that the expenses incurred for any exchange must be included in the budget request.
12. **Significance and Impact of Results:** Discuss the significance of this proposed effort and the impact this work may have on JPL missions and programs. How does the effort contribute to accomplishing the strategic challenge described in the topical area(s)? How does the effort help strengthen the relationship between JPL and the strategic university?
13. **Has the proposal been submitted elsewhere?:** If yes, please explain.
14. **Plans for follow-on funding:** Provide a realistic assessment of the potential for the task for follow-on funding and possible sources for such funding. Discuss how the proposal may enhance the probability of such funding. Discuss how the proposal could lead to a stronger institutional partnership with the strategic university partner.
15. **Budget:** Complete the budget sheet for both the JPL and strategic university efforts.
 - Salaries: You are not required to list each person's salary within the budget. You can simply list the individual's name or job classification and the number of hours for each person, and then provide one total salary dollar figure. Please note that although a PI will often make his/her salary quite nominal (~\$2K), it must be included and itemized.
 - Travel: Domestic programmatic travel needed for research purposes is allowed and encouraged. Include any travel required between JPL and the Partner. Domestic conference travel up to 5% of the total budget is also allowed. Itemize the travel with a brief explanation of what and when travel is required. Outside of this proposal, there is no other source of funding for such travel.
 - Allocated Direct Costs (ADC): ADC and labor fringe rates apply, however MPS does not. Please make sure to use the combined budget (JPL and External Institution) when calculating the Allocated Direct Costs. BE AWARE THAT ADC AND LABOR RATES (except MPS) ARE APPLICABLE to both the JPL and the university portions of the SURP Proposals. If the proposal is prepared late in the fiscal year use the burden rates for the following year. Please contact your Section Administrator or Business Administration Manager for appropriate FY rates and assistance in filling out the form. Calculate the RSA ADC on the External Institution portion only.
 - Overhead: Note that some universities waive or reduce overhead in educational circumstances. Please check with the appropriate budgetary authority for university overhead rates.

- **Combined Budget:** This budget must total to no more than the maximum funding amount noted in the SURP Call, and must comprehensively include all costs for the proposed research activity. Thus it includes all itemized costs at both JPL and the partner institution, as well as all overheads at both institutions including all JPL internal burdens. Note: The total funding budgeted to the External Institution is planned as an RSA-procurement. The ADC for the RSA is included as a JPL cost in line 10b.
16. **University Partner Contract Administrator Information:** Please provide the name and contact information for the university contract administrator to contact to process award subcontract from JPL.
 17. **JPL Principal Investigator Signature**
 18. **JPL PI Division Manager Approval Signature:** The Division Manager (or Manager III equivalent for Program Office submissions) of the Principal Investigator must sign and approve the proposal
 19. **External Co-Investigator Signature**
 20. **University representative with signature authority:** For university collaborators, it is customary to obtain the approval of university personnel with contractual or procurement authority. It is acceptable for the university to submit a letter stating willingness to participate in the proposed research in lieu of a signature in this box, so long as that letter is signed by university personnel with contractual or procurement authority.

Proposal Evaluation Process

1. An evaluation of the SURP proposals will be carried out by the SURP Program Office, which will arrange for technical and programmatic review through the topic area Champions. The technical review will be based on the following criteria:
 - Innovation
 - Merit of the technical approach
 - Strength of the investigation team
 - Alignment with strategic topic areas
 - Impact on JPL capabilities for future missions and programs
 - Cost and schedule realism
 - Possibility of follow-on funding
2. Based on the outcome of the technical review process, the SURP program office will forward a recommended list of awards to the JPL Chief Scientist and Chief Technologist. The SURP program office will also discuss potential selections with the Partner Liaisons. The OCS/OCT will review the results of these discussions and make their final recommendations to the JPL Director. Proposals selected for award will receive an award letter via email.

SURP Program Obligations

By accepting an award, the proposer is also accepting the following terms and conditions:

- a. The Principal Investigator is required to: 1) manage the task expenditures to ensure that they do not exceed the amount of the award (if necessary, check with a business manager or administrator on a regular basis) and 2) report regularly on the funds expended. The work on the tasks will need to commence immediately upon receipt of the funds. From the date that the accounts are opened a period of 12 months will be specified as the duration of the research task.
- b. The JPL PI is required to initiate all the paperwork necessary to execute an RSA-subcontract with the external collaborator. Once you receive a Project/Task number, stay in close contact with the SURP Acquisitions Manager, Margaret "Peggy" Easter at x4-5354 (email: margaret.b.easter@jpl.nasa.gov) or your Subcontracts Manager (SM) who will guide you through the subcontracts process. If you need assistance identifying the negotiator for a Partner university, contact the SURP Acquisitions Manager.
- c. If you are collaborating with foreign nationals who are not JPL employees (note that NASA funding cannot be sent to foreign countries) and you wish to have them visit the Laboratory, refer to the "Foreign National Access to JPL" policy statement identified in "JPL Rules!"
- d. The JPL PI and external collaborator(s) may arrange to give an oral presentation of the status of the joint work to appropriate Section or Division management. The budget for the travel of non-JPL collaborator(s) to JPL for this presentation must be included in the overall proposal budget submission.
- e. Reporting annually on the status of the task via an Interim or a Final report is required. Failure to submit a report could result in the Chief Scientist and Chief Technologist prohibiting you from being considered for any further funding opportunities, or may lead to closure of the task account.

The SURP principle objective is to provide funding to promote innovative seed efforts in promising fields of science and technology for which conventional program resources are not available and to cultivate collaborative work with our strategic university partners. As such, every award that is made in the program is expected to contribute to the strategic needs of the Lab. It is anticipated that the researchers working on these tasks will publish the results of their work in refereed journals. At the end of the fiscal year you will be asked where you have published your results or where you will be submitting your results for publication.

Any external publication or presentation (other than the Annual Report) of work performed under SURP must have the following acknowledgement:

"This research was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration and funded through the Director's Research and Development Fund Program."

Links to Proposal Template, Guidelines and Submission Site

The SURP proposal template may be found at <http://surp.jpl.nasa.gov/call/index.cfm>
SURP proposals may be submitted at <http://surp.jpl.nasa.gov/jpl/submissions/>

Questions

Please contact Paula Grunthner for any questions relating to the SURP proposal call and process. You may reach her via email (Paula.J.Grunthner@jpl.nasa.gov) or via phone (818-354-0360 office, 818-687-9239 mobile).

Please contact Shahin Dastur for any questions relating to the electronic submission process. You may reach her via email (Shahin.D.Dastur@jpl.nasa.gov) or via phone (818-393-1753 office).