

Guidelines for FY 2005 Proposals

Deadline for submissions: Friday, October 29, 2004 by 5 PM PDT

NOTE: These Guidelines only applies to proposals submitted for FY 2005 consideration.

You may wish to print this page for a complete hard copy of the DRDF FY 2005 Guidelines. The guidelines are also available in MS Word format or [Adobe PDF format](#). [Acrobat Reader](#), available free, is required to view and print the PDF file. DRDF Proposal Guidelines: [MS Word Document](#), [PDF file](#)

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A. Introduction

The Director's Research and Development Fund (DRDF) is used to support innovative science and technology research that will impact and enable future space science missions. Starting in FY 2004, the DRDF program was combined with the Caltech President's Fund program. Collaborations between JPL and an external institution are required. The fund is approximately \$2.5M - \$3.0M and each proposal can range up to \$200K. (In FY04, \$3.0M supported 17 proposals out of 117 proposals submitted.)

B. Proposal Constraints

1. Each proposal must have external collaborators funded by at least 50% of the proposal. Outside collaborators can come from U.S. universities, companies, other NASA Centers, or other government labs. Funds cannot be sent to foreign nations. Caltech Campus can be considered as an external collaborator for these proposals. Starting in FY 2004, external investigators can submit a proposal as a co-Principal Investigator with a JPL staff member. The same 50% split in funding applies.
2. A principal investigator cannot submit more than one proposal to this call.
3. Collaborations that are likely to lead to stronger institutional partnerships and have a likelihood of obtaining follow-on funding will receive higher evaluations.

C. Required Forms and Submission Process

1. A proposal template that contains the entire proposal submission with the exception of the Recommended Technical Reviewers Sheet (see item 3 below) is provided in Attachment 1. This is an unlocked

template that allows you to completely respond to each section. Figures, graphics, tables etc. should appear at the end of the proposal. Please do not use "text-wrapping" when incorporating graphics at the end of the report. **Do not exceed 6 pages total for this submission.**

2. A Budget Sheet is incorporated into Attachment 1 and must be completed and itemized for both JPL and the external collaborator (including Caltech Campus). BE AWARE THAT ALLOCATED DIRECT COSTS (ADC) AND LABOR RATES (except Multiple Program Support (MPS)) ARE APPLICABLE for the DRDF. Please contact your Section Administrator or Business Administration Manager for current FY05 rates and assistance in filling out the form.
3. A Recommended Technical Reviewers Sheet (see Attachment 2) should be completed with the names and phone extensions of possible JPL reviewers. If you must use external reviewers give the full name, mailing address, phone number, FAX number and e-mail address of the reviewer. Do not submit reviewers from foreign countries.
4. Once your Attachment 1 proposal template has been completed, you will first submit your Attachment 1 file electronically into the DRDF website. (Please do not submit your Attachment 2, Recommended Technical Reviewers Sheet electronically.) **This year you are required to create a password before logging into the submission site. Instructions for setting up your password and electronically submitting your proposal Attachment 1 file can be found at <http://drdf.jpl.nasa.gov/submissions/>.** We strongly recommend you submit the electronic copy early to allow for potential problems. **Upon successful submission of your electronic copy, the website will assign you a DRDF proposal #. This assigned DRDF proposal # will also be sent to you via a submissions confirmation e-mail. Write your assigned DRDF proposal # on the upper right-hand corner of the hard copy original of Attachment 1 and Attachment 2, before you make the required 23 copies of Attachment 1.**
5. Hard-copies of the following must be sent to Patricia Ziegler, 4800 Oak Grove Drive, M/S 241-242, Pasadena, CA 91109-8099 **by no later than 5 PM PDT on Friday, October 29, 2004.** Please submit the following:
 - i. The original signed copy of Attachment 1 and 23 additional copies of Attachment 1 **all with the assigned DRDF proposal # written in the upper right-hand corner.** The proposal # will automatically be assigned to you upon your successful submission of your Attachment 1 proposal file into the DRDF website.
 - ii. The original and three copies of the completed Recommended Technical Reviewers Sheet (Attachment 2) **with your assigned DRDF proposal # written on the upper right-hand corner.**

D. Proposal Template Sections

1. **Title:** Type the full title of the proposal
2. **Principal Investigator:** Type the first and last name of the PI and the PI line organization number. NOTE: Only one JPL PI can be listed on the proposal. External co-PIs need to list their affiliation and the JPL co-PI and organization working on the proposal.

3. **Co-Investigators:** Include the first and last names of all JPL and external investigators, and the JPL line organization number and the external affiliation.
4. **Budget:** Give the FY 2005 budget total cost that is listed in the Budget Sheet. JPL investigators be aware that allocated direct costs (ADC) and labor rates (except Multiple Program Support (MPS)) are applicable to the DRDF. If you will be seeking a second year of funding include your FY 2006 budget estimate. If this is a renewal proposal check the box for Renewal and indicate the amount of funding awarded in FY 2003 and FY 2004.
5. **Starting and anticipated Technology Readiness Levels (if applicable):** Type in a number from 1 to 9 following the definitions listed below:

Basic Technology Research:

Level 1: Basic principles observed and reported

Research to Prove Feasibility:

Level 2: Technology concept and/or application formulated

Level 3: Analytical and experimental critical function and/or characteristic proof of concept

Technology Development:

Level 4: Component and/or breadboard validation in laboratory environment

Technology Demonstration:

Level 5: Component and/or breadboard validation in relevant environment

Level 6: System/subsystem model or prototype demonstration in a relevant environment (ground or space)

System/Subsystem Development:

Level 7: System prototype demonstration in a space environment

System Test, Launch and Operations:

Level 8: Actual system completed and "flight qualified" through test and demonstration (ground or space)

Level 9: Actual system "flight proven" through successful mission operations

A more detailed description of these levels can be found in a White Paper found at <http://www.trecc.org/>.

6. **Field Work Testing:** Check the box if this proposal will require **off-lab** fieldwork/testing.
7. **Objective:**
 - a. **General Objectives:** State in a clear and concise text format the objectives or goals of your proposal. Answer the question "What are you proposing to do?" We are not looking for a justification of your work but rather a statement of the work you plan to do. In addition, identify the expected specific products that you intend to deliver.
 - b. **Quantitative Objectives:**
 - i. Provide measures of the capability that your proposal addresses and using these measures quantify the capability your DRDF proposal aims for.
 - ii. Compare the current state-of-the-art of this capability both at JPL and outside of JPL.

8. **Approach:** Describe how you plan to achieve your stated objectives. List specific tasks, responsibilities and time periods for the tasks and indicate the principal milestones during the fiscal year.
9. **For Renewal Proposals Only:** Discuss the specific accomplishments that were achieved in FY 2003 and/or FY 2004 and why further work is needed in FY 2005.
10. **Innovative Features:** Describe the innovative features in this proposal. Is this a natural evolution advancement that you are proposing or a major breakthrough? Relate these innovation features to current approaches both inside and outside JPL.
11. **Contribution of External Investigators:** Describe specifically the work that is being done by the external investigators and any special resources or facilities from their institute that will be used for this work. External co-PIs need to describe what they bring to the proposal for facilities and what will be used at JPL.
12. **Significance and Impact of Result:** Discuss the significance of this research and the impact this work may have on JPL missions and programs.
13. **Has the proposal been submitted elsewhere** (e.g. Research and Technology Development Fund, external sponsor?: If yes explain.
14. **Institutional Partnerships:** If the proposal is likely to lead to a stronger institutional partnership, describe how this would occur.
15. **Plans for follow-on funding:** Provide a realistic assessment of the potential of the task for follow-on funding and possible sources of such funding. The DRDF cannot provide a sustained source of support for an activity. Address how the proposal may enhance the probability of such funding.
16. **Budget Sheet:** Complete the budget sheet for both the JPL and external collaborators. 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 \$ figure. Domestic programmatic travel needed for research purposes is allowed. Domestic conference travel up to 5% of the total budget is also allowed. Itemize the travel with a brief explanation of what and when the travel is required. Allocated Direct Costs and labor fringe rates apply however Multiple Program Support does not. Please make sure to use the combined budget (JPL and External Institution) when calculating the Allocated Direct Costs. Please contact your Section Administrator or Business Administration Manager for current FY 2005 rates and assistance in filling out the form.
17. **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.
18. **External Affiliation Signature:** For university collaborators, it is customary to have the approval of the appropriate Dean or Department Chair. For other organization a cognizant official should sign. It is acceptable for the outside organization to submit a letter stating willingness to participate in the proposed research in lieu of signing the Attachment 1.
19. **JPL Principal Investigator Signature:** The JPL PI must sign the form.

20. **External co-Principal Investigator Signature:** If an external co-PI exists then he/she must sign the form.

E. Evaluation Process and Criteria

1. An evaluation of all proposals will be carried out by the Science and Technology Management Council chaired by the JPL Chief Scientist and Chief Technologist, with the final selections being approved by the Director.
2. PLEASE NOTE: The investigators or their representatives may not contact the Science and Technology Management Council members after submitting their proposals to solicit the members' support. In fairness to all and with numerous proposals submitted, time does not permit the Council members to be briefed.
3. The technical selection criteria are as follows (see Attachment 3):
 - Innovation
 - Merit of technical approach
 - Strength of investigation team
 - Likelihood of institutional partnership
 - Alignment with NASA and JPL strategic goals
 - Impact on JPL missions and programs
 - Cost effectiveness
 - Possibility of follow-on funding

F. Debriefing

If your proposal is not funded, the principal investigator will be given a written summary of the technical comments for the proposal. Programmatic and institutional reviews that affect the proposal decisions will not be made available to the investigator.

G. DRDF Program Obligations

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

1. The Principal Investigator is required to manage the task expenditures to ensure that they do not exceed the amount of the award and report regularly on funds expended. An eighteen (18) month limit is in effect to spend the awarded funds starting from the date the accounts are opened.
2. The JPL PI is required to initiate all the paperwork necessary to subcontract with the external collaborator.
3. If collaborating with foreign nationals, (NASA funding cannot be sent to foreign countries), non-JPL/Caltech employees, or long term visits is required and you wish to have them visit the Laboratory refer to the "Foreign National Access to JPL" policy statement via the JPL Rules! site.
4. The external collaborators will be required to travel to JPL to present a status report of the joint research approximately six months after the start of the task.
5. The JPL PI and external collaborator(s) must arrange to give an oral presentation of the status of the joint work performed at their Section or Division. This presentation should occur approximately six months after the start of the task. As a result, a budget for the non-JPL

- collaborator(s) travel to JPL for this presentation must be included in the overall proposal budget submission.
6. 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 from any further funding opportunities, or may lead to closure of the task account.**
 7. JPL Requirement Pertaining to "Off-Lab Field Testing/Experimentation"

It is extremely important to note that if your DRDF research requires any **off-Lab** field testing/experimentation, then you are required to contact Kirk Barrow in the Environmental, Health and Safety Program Office prior to any field test. Because certain items may require some time to clear, you should work with Kirk Barrow early on in order to insure that you are able to carry out the field-testing in a timely manner. This is a JPL-wide requirement and is not simply limited to the DRDF Program.

8. The Director's Research and Development Fund (DRDF) principal 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 ensure collaborative work with external organizations. 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.

The above-mentioned requirement applies to all DRDF funded tasks. In addition, both the JPL Chief Scientist and Chief Technologist also emphasize that any external publication or presentation (other than the DRDF Annual Report) of work performed under the DRDF 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."

H. Attachments

Attention to those using Adobe PDF: Please be sure to embed ALL fonts in the PDF file. This ensures that the original fonts are used to display and to print on computers that may not have these fonts installed. Note that some versions of MS Word using Acrobat Assistant do not allow control over embedding of fonts. In that case, please print the Word document to "FILE" as a PRN or PS file and process through Acrobat Distiller to create the PDF. Note that you must still specify Embed All Fonts in your Print Setup dialog. If you need technical assistance please contact: Lori Sears, lsears@sdsio.jpl.nasa.gov, 626-744-5414.

- Attachment 1:** [Proposal template - MS Word](#)
- Attachment 1:** [Proposal template - PDF file](#)
- Attachment 2:** [Recommended Technical Reviewers Format - MS Word](#)
- Attachment 2:** [Recommended Technical Reviewers Format - PDF file](#)
- Attachment 3:** [Technical Evaluation Report - MS Word](#)
- Attachment 3:** [Technical Evaluation Report - PDF file](#)