

February 3, 2009

TO: Division Directors and Associate Laboratory Directors
FROM: A. Paul Alivisatos, Interim Director
SUBJECT: Laboratory Directed Research and Development FY 2010 Call for Proposals

With this Call for Proposals, I am initiating the FY 2010 Laboratory Directed Research and Development (LDRD) Program. The LDRD program constitutes one of the principal means to seed innovative science and new research directions. For the FY 2010 cycle, we intend to develop a mutually exclusive two-track review process.

The first track, similar to prior years, will be proposals reviewed as Divisional and/or Laboratory-wide. The Laboratory-wide proposal review addresses those that are largely cross-divisional and larger scale, and intended to initiate and/or develop major new strategic directions. These will be reviewed by a broad representation of all senior managers. Multi-investigator and multi-divisional R&D projects are encouraged. As in the past, Divisional proposals will also support single-investigators and small-groups.

The second track will be for “Discovery” proposals. Up to ~\$1.0M of the FY 2010 budget will be reserved for funding a set of smaller proposals with higher scientific risk and potential payoff. These proposals will be limited to full time LBNL scientists and engineers as Principal Investigators and be no more than \$120K prior to G&A assessment. They will be reviewed and funding recommendations made by external scientific reviewers. Proposals intended for this review are to be identified as such at the time of proposal submission and will not be accepted for consideration under the first track FY 2010 LDRD competition. Further details and process will be developed and announced shortly after consultation with DOE.

The total funding level of the FY 2010 LDRD program should be about \$19.5M for operating and capital equipment expenses (with G&A). Capital equipment funding must support a project that receives operating funds. This Call for Proposals will be announced in *Today at Berkeley Lab*, and a copy of this memo will be emailed directly to Berkeley Lab scientists and engineers. The complete call, schedule, guidance, and forms will be available on the Web (www.lbl.gov/dir/LDRD).

Proposals should be submitted to division offices by March 20. If you have questions, or need assistance, please contact Todd Hansen in my office (x6105, tchansen@lbl.gov).

Attachments

C: Senior, Staff, and Faculty Scientists & Engineers via email (w/o Attachments)
Business Managers
Chief Financial Officer
B. Fox
T. Hansen

Call for Proposals

FY 2010 Laboratory Directed Research and Development Program

Purpose

It is the policy of the Department of Energy (DOE) and the Lawrence Berkeley National Laboratory to encourage innovation, creativity, originality, and quality to keep its research activities and staff at the forefront of science and technology. To further this objective, the Laboratory allocates a portion of its operating funds for Laboratory Directed Research and Development (LDRD), at a level approved by DOE. Under DOE guidelines, LDRD projects shall be in the forefront areas of science and technology. LDRD projects normally shall be relatively small and should also include one or more of the following characteristics:

1. Advanced study of hypotheses, concepts, or innovative approaches to scientific or technical problems.
2. Experiments and analyses directed toward “proof of principle” or early determination of the utility of new scientific ideas, technical concepts, or devices.
3. Conception and preliminary technical analysis of experimental facilities or devices.

Eligible Projects

As indicated above, LDRD funds may be used to support new research directions. Multi-divisional initiatives or single division projects, which open new programmatic opportunities, are encouraged. A major fraction of the available LDRD funds is targeted for proposals in support of projects that have significant potential for growth. Principal Investigators are encouraged to consider and submit proposals that can support laboratory initiatives through conceptual studies or proof-of-principle type experiments. Multi-investigator and multi-divisional R&D projects are encouraged. A proposal should demonstrate the following: a clearly stated problem addressing a national need; coherent objectives; and a well-considered plan for leadership, organization, and budget. As in the past, we will also fund some outstanding single-investigator research proposals.

Similar to prior years, for FY 2010 a subset of proposals will be reviewed by a broader representation of all senior managers in a “Laboratory-wide” proposal review. These proposals generally are more cross-divisional and larger scale, and intended to initiate and/or develop major new strategic directions. If Principal Investigators and their Division Director anticipate the proposal would be appropriate for this forum, the scientist(s) must also discuss the proposal with their area Associate Laboratory Director (ALD) prior to submission. Final selection of proposals for this review will be made by the Deputy Director in consultation with the ALDs.

The second track will be for “Discovery” proposals. Up to ~\$1.0M of the FY 2010 budget will be reserved for funding a set of smaller proposals with higher scientific risk and potential payoff. These proposals will be limited to full time LBNL scientists and engineers as Principal Investigators and be no more than \$120K prior to G&A assessment. They will be reviewed and funding recommendations made by external scientific reviewers. Proposals intended for this review are to be identified as such at the time of proposal submission and will not be ranked with the other FY 2010 LDRD proposals. Further details and process will be developed and announced shortly after consultation with DOE.

Consistent with DOE policy, it will not be possible to fund construction line-item or maintenance projects, or to increase the budget of projects funded by DOE or other sponsors. This last item is of particular concern; divisions should be careful to ensure that proposals make a clear distinction between the new work and any work discussed in FTP/As. All projects funded by LDRD must meet any applicable Berkeley Lab environment, health, and safety requirements. A decision to fund a proposal identified as multi-year does not create a commitment to provide funding in future years. Proposals for continuation LDRD funding must also be submitted and compete with new proposals. Funding can only be provided for three years maximum for any multi-year project, unless approval is given by the Director of the Office of Science in DOE.

Process

Except for the “Discovery” proposal review, the process for LDRD will be mostly similar to FY 2009. Oversight responsibility is delegated to the Deputy Director. Administrative questions on LDRD may be addressed to Todd Hansen (x6105, tchansen@lbl.gov).

1. Investigators submit proposals to their Division Directors, following the Call Schedule.
2. Division Directors will choose a review procedure to evaluate and rank proposals in their divisions. Division Directors may solicit expert scientific advice inside and outside of their division in their proposal review. Proposals for all continuing projects must be submitted and ranked along with proposals for new research. Where there is clearly a lead division, proposals should be ranked by the director of the lead division. Proposals have a distributed program with no lead division should still be ranked by directors of each of the participating divisions. In addition, Division Directors must analyze the budget for each proposal and recommend a revised budget if appropriate.

Occasionally a proposal will be submitted that is outside the main ongoing interests of the division. These proposals should be flagged to insure they receive attention from relevant laboratory scientists.

3. As steps to transition to an electronic LDRD proposal submission, review, and database system, for the FY 2010 cycle the Directorate will set up limited access folders in webspace for divisions to upload proposals in pdf format. These folders will be made available to senior managers, Division Directors, and other reviewers as appropriate.
4. A subset of the proposals should be proposed by Division Directors to the Deputy Director to be considered as major new directions for a broader “Laboratory-wide” review and selected proposals will receive a special review separate from the balance of the proposals.
5. Investigators that wish consideration via the second track or “Discovery” review process by external scientific reviewers shall so identify their proposals at submission. These proposals will be forwarded directly to the Deputy Director, and will be excluded from the first track of Divisional and/or Laboratory-wide reviews. Details of the review process and the reviewers will be developed and announced soon.
6. An ordinal ranking of all other proposals for the Divisional proposal reviews will be submitted by Division Directors as an outcome of their internal divisional review process.

7. Division Directors will give a presentation of the submitted proposals to a review committee composed of the Director, Deputy Director, and other Division Directors from the same program area. The presentations will be open to all Division Directors. If deemed necessary, the Laboratory Director or Deputy Director may also request the presence and/or advice of other scientific experts. Each Division Director must be prepared to answer questions about all aspects of each proposal.
8. The Laboratory Director and Deputy Director confer with Associate Laboratory Directors for final selection recommendations.
9. After committee reviews of the submitted proposals, the selected projects are subject to EH&S, NEPA/CEQA, and Human and Animal Use review, with review forms completed and necessary approvals done prior to funding and the opening of project accounts.

Schedule

The nominal schedule for the FY 2010 cycle follows. Final detailed scheduling of the review period and Division presentations will be arranged by the Director's Office.

Required Information

Proposals should be prepared carefully to meet the requirements below. An attachment, Suggested Guidance for Proposals, is included with this call. Proposals must meet the following requirements:

- Proposal length cannot exceed three pages. Figures and references may be included as a fourth page. Any other material exceeding the three-page limit will *not* be forwarded to the reviewers.
- The Cover Sheet and Budget Request forms must be filled out and submitted with all proposals. Because of external reporting and approval requirements for the LDRD program, it is especially important that all fields on the coversheet are completed. The Human Subjects/Animal Use form should also accompany those proposals that involve human subject/animal use. After initial project selections are made, those having submitted successful proposals will be required to return a completed NEPA/CEQA review form.
- Proposals must contain clear statements of goals, work to be performed, how work will be done, and who will conduct the research.
- Proposals should describe the significance and value of the work, if successful.
- Proposals for continuing projects must include a statement of progress to date and current fiscal year plans within the three-page limit.
- Budget Requests must include payroll burden and support burden if applicable. Scientific organization burden and procurement burdens must also be included. General laboratory overhead (e.g., general and administrative overhead and site support) estimate should be included as a separate line item.

FY 2010 Laboratory Directed R&D (LDRD) Proposal Schedule

<i>February 3, 2009</i>	Deputy Director issues call for proposals and guidance for FY 2010 LDRD to Division Directors and staff scientists
<i>March 20, 2009</i>	Principal investigators submit FY 2010 LDRD proposals to Division Directors
<i>April 3, 2009</i>	Division Directors recommend proposed FY 2010 LDRD “Laboratory-wide” proposals to the Deputy Director, and the proposals are uploaded to the division’s LDRD webspace folder.
<i>April 3, 2009</i>	Proposals identified by PI for “Discovery” track external scientific review also uploaded to division’s LDRD webspace folder.
<i>April 10, 2009</i>	Director's Office issues final specific guidelines for proposal reviews.
<i>April 15, 2009</i>	All other proposals to be uploaded to division’s LDRD webspace folder, and Division Directors submit their ordinal rankings.
<i>May 14 & 15, 2009</i>	Reviews for all FY 2010 Lab-wide and Divisional proposals.
<i>May, 2009</i>	”Discovery” track proposals, not in Lab-wide or Divisional process, reviewed by separate scientific reviewers (TBD).
<i>June, 2009</i>	Director or Deputy Director notifies Division Directors of preliminary FY 2010 awards. Awards will also be announced after the start of the fiscal year in <i>Today at Berkeley Lab</i> after DOE approval and authorization to proceed.

Laboratory Directed Research and Development

Detailed Proposal Guidance

Cover Sheet

Project titles should be complete, and indicate what is new and innovative. They should enable reviewers to differentiate between the project and other ongoing research. Generic titles should be avoided, such as “Ceramic Studies” or “Data Acquisition Electronics.” Titles should be technically informative and up to 12 words in length. An example is: “Experimental Testing of Novel Mismatch Repair Enzymes for Mapping Natural Genetic Polymorphisms.”

Typically, the location of the research should not be included in the title unless the scope of the project bears directly on the facility. Phrases such as “at Berkeley Lab,” “at RHIC at Brookhaven,” or “at the ALS” normally are not useful. If the project location does have such bearing, it is important to make clear in the proposal the difference between the project and the existing operating program, including the reason the project does not augment the facility’s budget. Because LDRD is for conducting actual research rather than establishing organizations, titles and proposals do not need to refer to the creation of centers or institutes, but rather address the technical context of the project itself.

The purpose and approach statements of the proposal cover sheet will be used for the approval submissions and reports sent to DOE. Thus, these paragraphs should be self-contained and complete, must fit in the space provided. The form is available electronically on the web through the Publications link of the Berkeley Lab homepage (www.lbl.gov/dir/LDRD/). Successful proposals will be requested to forward this information electronically after the announcement of the LDRD awards.

Projects that may extend beyond one year should describe what is achievable during each fiscal year. Multi-year projects must compete each year with all other new and continuation proposals, and resubmissions should indicate what is being accomplished during the current year and what is being proposed for the fiscal year under proposal review.

Budget

Narratives and budgets must be consistent. If staff effort and activities are described in the narrative, they must be covered in the budget. LDRD projects cannot be supported by other funds, either DOE or Work For Others. LDRD projects may utilize existing equipment or facilities of the laboratory, and they may acquire or fabricate additional equipment. However, if the scope of the project is to fabricate new innovative equipment, both the operational effort of personnel and purchase of items must be completely covered in the LDRD project budget. LDRD budgets must be able to achieve a self-contained scientific purpose and scope. Thus LDRD projects cannot be proposed solely for the purchase of equipment, since this equipment must be operated to achieve some purpose. However, the preliminary design or prototype fabrication of new equipment may be proposed to extend or develop some new technique, process, capability, etc.

For approved projects, divisions must retain notes or documentation of cost estimates provided in the proposed budgets, following budgetary guidance issued by the Chief Financial Officer. These notes should include the estimates of staffing levels and notes of vendor quotes or catalog references. Notes for funded projects should be held in division files for potential cost validations to be performed by the Department of Energy or other auditors. During proposal preparation, Principal Investigators should retain notes in anticipation of these cost validation requirements. Divisional organization burden is to be included, which is around 16-22%, as well as appropriate indirect costs. The Laboratory’s General and Administrative (G&A) and site

support burdens are included in LDRD costs, and are not to be redirected to other cost categories. Please consult with division staff or the Budget Office for specific details of your division's burden rate and indirect charges. LDRD projects have overhead accounts monitored by the Directorate and are not a part of other budget units of the Laboratory. Nevertheless, all staff administering the LDRD accounts must adhere to all financial and cost accounting principles as well as other programmatic requirements applicable to the Laboratory and their division. Monthly cost profiles will be required of all successful projects at the start of the fiscal year.

Proposal Narrative

The proposal narrative is to be a maximum of three pages, though a fourth page of figures and references may be included. It should be a brief, stand alone description of the scientific goal(s) or problem(s), the hypothesis for a solution, and the work to be performed to test the hypothesis. Descriptions should also include the significance and value of the work if successful. There should also be a short discussion of who will conduct the work, and continuing project must include a statement of progress to date and future plans within the three-page limit. The proposal will be photocopied in black-and-white and so be readable, and any figure(s) informative, in such a reproduction. There should be adequate 1" margins for readability and three-hole punch.

A new lab-wide Linux cluster computer named Lawrencium is available to the Lab scientific community for general use. Details about the cluster can be found at <http://lrc.lbl.gov>. If you require access to this cluster for your proposed project, you should include this information in the proposal and estimate the number of node-hours you will be requesting for the fiscal year.

Annual Report

Information for the Annual Report will be requested during the first two months of the following fiscal year. The purpose of the report is to give a brief overview of the project and its general scope of accomplishments to the Department of Energy and senior laboratory managers. The request will call for a Project Description, typically an update and revision to the "purpose and approach" paragraphs of the proposal coversheet, and an additional one to three paragraphs to describe the findings/outcomes for the year. Long, elaborate narratives of methodological details, extensive tabular data, or detailed scientific justification or results, will not be appropriate to this report. Other requirements are a list of published, submitted, or draft papers and reports that are the direct result of project funding, and answers to a questionnaire on program metrics such as people hired and/or invention disclosures. This report is not considered a "publication," rather it is a short synopsis for reporting to government entities on the use of taxpayers funds. Information should not be included in this report that is appropriately reserved for a scientific publication or patent disclosure. The final report is made available to the National Technical Information Service and posted on the World Wide Web.