

**PROGRAM ANNOUNCEMENT  
TO DOE NATIONAL LABORATORIES**



**U. S. Department of Energy  
Office of Science  
Basic Energy Sciences**

**Scientific Discovery through Ultrafast Materials and  
Chemical Sciences**

**DOE National Laboratory Announcement Number: LAB 14-1089  
Announcement Type: Initial**

|                                   |   |
|-----------------------------------|---|
| <b>Issue Date:</b>                | <b>02/21/2014</b>   |
| <b>Letter of Intent Due Date:</b> | <b>03/17/2014 at 5 PM Eastern Time<br/>A Letter of Intent is required</b> |
| <b>Pre-Application Due Date:</b>  | <b>Not Applicable</b>   |
| <b>Application Due Date:</b>      | <b>04/21/2014 at 5 PM Eastern Time</b>                                    |

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## **REGISTRATIONS**

### **A. DOE Office of Science Portfolio Analysis and Management System (PAMS)**

The DOE Office of Science performs many functions for DOE national laboratory proposals in the Portfolio Analysis and Management System (PAMS), which is available at <https://pamspublic.science.energy.gov>.

There are many activities that you can perform in PAMS, and more functionality will be added throughout the near future. DOE national laboratories will submit pre-proposals, letters of intent, and proposals directly into PAMS.

You must register in PAMS to submit a pre-proposal, letter of intent, or DOE national laboratory proposal.

To access PAMS, you may use the Internet Explorer, Firefox, Google Chrome, or Safari browsers.

Notifications sent from the PAMS system will come from the PAMS email address <[PAMS.Autoreply@science.doe.gov](mailto:PAMS.Autoreply@science.doe.gov)>. Please make sure your email server/software allows delivery of emails from the PAMS email address to yours.

Registering to PAMS is a two-step process; once you create an individual account, you must associate yourself with (“register to”) your institution. Detailed steps are listed below.

#### 1. CREATE PAMS ACCOUNT:

To register, click the “Create New PAMS Account” link on the website <https://pamspublic.science.energy.gov/>.

- Click the “No, I have never had an account” link and then the “Create Account” button.
- You will be prompted to enter your name and email address, create a username and password, and select a security question and answer. Once you have done this, click the “Save and Continue” button.
- On the next page, enter the required information (at least one phone number and your mailing address) and any optional information you wish to provide (e.g., FAX number, website, mailstop code, additional email addresses or phone numbers, Division/Department). Click the “Create Account” button.
- Read the user agreement and click the “Accept” button to indicate that you understand your responsibilities and agree to comply with the rules of behavior for PAMS.
- PAMS will take you the “Having Trouble Logging In?” page. (Note: If you reviewed for or were listed as PI on a prior submission to the Office of Science but have not previously created an account, you may already be linked to an institution in PAMS. If this is the case, PAMS will take you to the PAMS home page.)

## 2. REGISTER TO YOUR INSTITUTION:

- Click the link labeled “Option 2: I know my institution and I am here to register to the institution.” (Note: If you previously created a PAMS account but did not register to an institution at that time, you must click the Institutions tab and click the “Register to Institution” link.)
- PAMS will take you to the “Register to Institution” page.
- Type a word or phrase from your institution name in the field labeled, “Institution Name like,” choose the radio button next to the item that best describes your role in the system, and click the “Search” button. A “like” search in PAMS returns results that contain the word or phrase you enter; you need not enter the exact name of the institution, but you should enter a word or phrase contained within the institution name. (Hint: If your institution has an acronym, such as ANL for Argonne National Laboratory or UCLA for the Regents of the University of California, Los Angeles, you may search for the acronym under “Institution Name like.” Many institutions with acronyms are listed in PAMS with their acronyms in parentheses after their names.)
- Find your institution in the list that is returned by the search and click the “Actions” link in the Options column next to the institution name to obtain a dropdown list. Select “Add me to this institution” from the dropdown. PAMS will take you to the “Institutions – List” page.
- If you do not see your institution in the initial search results, you can search again by clicking the “Cancel” button, clicking the Option 2 link, and repeating the search.
- All DOE National Laboratories have established profiles in PAMS, so please keep searching until you find your laboratory.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this DOE National Laboratory Announcement should reference **LAB 14-1089**.

## **Section I – DOE NATIONAL LABORATORY OPPORTUNITY DESCRIPTION**

### **GENERAL INQUIRIES ABOUT THIS FOA SHOULD BE DIRECTED TO:**

#### **Technical/Scientific Program Contacts:**

Dr. Jeffrey Krause, Basic Energy Sciences, Chemical Sciences, Geosciences and Biosciences Division

PHONE: (301)-903-5827

[Jeff.Krause@science.doe.gov](mailto:Jeff.Krause@science.doe.gov)

Dr. Lane Wilson, Basic Energy Sciences, Materials Sciences and Engineering Division

PHONE: (301)-903-5877

[Lane.Wilson@science.doe.gov](mailto:Lane.Wilson@science.doe.gov)

#### **STATUTORY AUTHORITY**

Public Law 95-91, U.S. Department of Energy Organization Act

Public Law 109-58, Energy Policy Act of 2005

#### **APPLICABLE REGULATIONS**

U.S. Department of Energy Financial Assistance Rules, codified at 10 CFR 600

U.S. Department of Energy, Office of Science Financial Assistance Program Rule, codified at 10 CFR 605

#### **SUMMARY**

The Office of Basic Energy Sciences (BES), U.S. Department of Energy (DOE), announces its interest in receiving applications from small collaborative groups of investigators for support of combined experimental and theoretical efforts to advance ultrafast chemical and materials science.

#### **SUPPLEMENTARY INFORMATION**

BES supports fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security. Recent developments in experimental and theoretical methods, capabilities, and facilities have positioned ultrafast science to make significant contributions to advancing chemical and materials science in areas critical to this BES mission.

The purpose of this FOA is to stimulate application of the new ultrafast science capabilities utilizing x-rays, VUV, and other lower frequency sources. Proposals should describe hypothesis-driven research that uses the unique capabilities of ultrafast science. Collaboration teams

performing both experiment and theory research are mandatory. Also mandatory are clear descriptions of management plans and performance metrics for assessing progress. Applications should propose research that will extend ultrafast techniques to uniquely attack a significant research problem. For ultrafast experiments, including pump/probe experiments, required sources must be readily available within the period of the proposed project. Applications focused on new source development, demonstration efforts, and/or systematic, exploratory surveys of broad scientific areas will be considered non-responsive.

Some specific topics that will be considered responsive to this FOA are:

**Science utilizing ultrafast optical probes** – Ultrafast optical probes offer unprecedented insights into the structure and dynamics of chemical and materials systems. High harmonic generation spectroscopy and recollision physics have the potential to resolve electronic structure with Angstrom scale spatial resolution and attosecond temporal resolution. Advances in x-ray source development offer the potential to perform multidimensional, multiphoton, and pump-probe studies. Attosecond science is a field in its infancy, yet impressive results have already been achieved. As the field enters its second decade, researchers are increasingly focusing on the interpretation of attosecond measurements. Further developments in attosecond sources will enable attosecond-attosecond pump-probe measurements, and extend the utility of transient absorption methods. For ultrafast optical probes, research will be supported that involves direct characterization and control of important chemical processes at the level of the electrons and manipulation of highly correlated electron systems in condensed matter.

**Science utilizing free electron laser (FEL) facilities** - The Linac Coherent Light Source (LCLS) at SLAC National Accelerator Laboratory is the world's first hard x-ray free-electron laser. Early experiments on simple atoms and molecules have evolved to much more complex systems. Initial results have demonstrated technical capability and progress in technique development that has brought research efforts to the cusp of a systematic pursuit of high impact science challenges. Experimental and theoretical methods have progressed to the point that calculations related to key physical parameters and pump pulses can be tailored to specific excitations. Full utilization of these new developments is now ripe for advancing the goal of understanding, predicting and controlling chemical processes and materials properties important to the BES mission. Research will be supported that utilizes high flux pump sources to pursue time-resolved phenomena in the energy range of correlated electron excitations and complex chemical systems. The concomitant theory and data analysis techniques required to understand new measurements will also be supported.

### **Management Plan and Performance Metrics**

The applicants must identify a management structure that enables an effective collaboration among the participants. The structure and management must be sufficiently flexible to adapt quickly to changing technical challenges and scientific needs. To that end, the application must identify a Lead Principal Investigator from among the principal investigators. Furthermore, the application should specify the requested level of support for each task.

Typical duties, responsibilities and authorities for the Lead Principal Investigator are:

- The Lead Principal Investigator must be employed by the lead institution, will serve as the scientific leader of the overall project, and will serve as the primary contact responsible for communications with the DOE program managers on behalf of all of the principal investigators.

The applicants must identify appropriate performance metrics and a timeline that will allow progress and contributions to be measured over the course of the research. For example, these could take the form of milestones for progress in the various components of the research.

### **Collaboration**

Proposals submitted under this FOA must include synergistic contributions of theory and experiment. Research by teams within institutions and with other institutions, such as universities, industry, non-profit organizations, and Federally Funded Research and Development Centers (FFRDCs), including both the DOE National Laboratories and non-DOE/NNSA contractor laboratories are encouraged under this FOA. **Team efforts involving different institutions must be submitted as a single application from the institution of the Lead PI.** Such applications must describe the work and the associated budget for each participating institution. Applications must describe the synergistic relationships among the various components of the project.

### **References**

As background, BES studies and workshops held in recent years have outlined a number of priority research directions that could form a basis for an ultrafast science project. These include

- *Computational Materials Sciences and Chemistry: Accelerating Discovery and Innovation through Simulation-Based Engineering and Science*, Edited by G. Crabtree, S. Glotzer, B. McCurdy and J. Roberto (2011)  
[http://science.energy.gov/~media/bes/pdf/reports/files/cmssc\\_rpt.pdf](http://science.energy.gov/~media/bes/pdf/reports/files/cmssc_rpt.pdf)
- *Directing Matter and Energy: Five Challenges for Science, and the Imagination*, Edited by G. Fleming and Mark Ratner (2007)  
[http://science.energy.gov/~media/bes/pdf/reports/files/gc\\_rpt.pdf](http://science.energy.gov/~media/bes/pdf/reports/files/gc_rpt.pdf)
- *Council on Chemical and Biochemical Sciences Workshop* “Unraveling the Interpretations of Attosecond Measurements”. Final report published in S.R. Leone, et al., “What will it take to observe processes in ‘real time’?”, *Nature Photonics* **8**, 162 (2014)
- BES *Basic Research Needs* workshop reports <http://science.energy.gov/bes/news-and-resources/reports/>

## **Section II – AWARD INFORMATION**

### **A. TYPE OF AWARD INSTRUMENT**

DOE anticipates awarding laboratory work authorizations under this DOE National Laboratory Program Announcement. Only one application to each BES research division (CSGB/MSE) will be accepted from each National Laboratory.

Participation by non-DOE/NNSA Federal agencies and their Federally Funded Research and Development Center (FFRDC) contractors will be funded under an interagency agreement (but see Section III. A. ELIGIBLE APPLICANTS).

### **B. ESTIMATED FUNDING**

It is anticipated that up to \$4,000,000 per year will be available under this DOE National Laboratory Program Announcement, contingent on satisfactory peer review and the availability of appropriated funds. Applicants should request project support for three years. Following the first year award, out-year support will be contingent on the availability of appropriated funds, progress of the research, and programmatic needs. Awards are expected to begin in Fiscal Year 2014, which ends on September 30, 2014.

DOE is under no obligation to pay for any costs associated with preparation or submission of proposals. DOE reserves the right to fund, in whole or in part, any, all, or none of the proposals submitted in response to this DOE National Laboratory Program Announcement.

### **C. MAXIMUM AND MINIMUM AWARD SIZE**

(See B. Estimated Funding section above.)

The award size will depend on the number of meritorious applications and the availability of appropriated funds.

#### **Ceiling**

\$1,000,000 per year

#### **Floor**

\$400,000 per year

### **D. EXPECTED NUMBER OF AWARDS**

(See B. Estimated Funding Section above.)

The exact number of awards will depend on the number of meritorious applications and the availability of appropriated funds.

### **E. ANTICIPATED AWARD SIZE**

(See B. Estimated Funding Section above.)

Award sizes will range from \$400,000 per year to \$1,000,000 per year. The award size will depend on the number of meritorious applications and the availability of appropriated funds.

#### **F. PERIOD OF PERFORMANCE**

(See B. Estimated Funding section above.)

Awards are expected to be made for a period of three years. Out-year funding will depend upon suitable progress and the availability of appropriated funds.

Continuation funding (funding for the second and subsequent budget periods) is contingent on: (1) availability of funds appropriated by Congress and future year budget authority; (2) progress towards meeting the objectives of the approved application; (3) submission of required reports; and (4) compliance with the terms and conditions of the award.

#### **G. TYPE OF PROPOSAL**

DOE will accept new DOE National Laboratory Proposals under this DOE National Laboratory Program Announcement. Please only submit a PAMS lab technical proposal in response to this Announcement; do not submit a DOE Field Work Proposal (FWP) at this time. The Office of Science will request FWPs later from those selected for funding consideration under this Announcement.

## **Section III – ELIGIBILITY INFORMATION**

### **A. ELIGIBLE APPLICANTS AND TOPICS**

This funding opportunity is for applications led by DOE laboratories, including DOE/NNSA Federally Funded Research and Development Center (FFRDC) Contractors.

#### **1. Individuals**

U.S. citizens and lawful permanent residents are not eligible to apply for funding as a prime recipient (lead organization). Applications will only be accepted from organizations.

#### **2. Domestic Organizations**

A parallel companion announcement (DE-FOA-0001089) is available for applications led by for-profit entities, educational institutions, and nonprofits (except those described in section 501 (c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995) that are incorporated (or otherwise formed) under the laws of a particular State or territory of the United States are eligible to apply for funding as a prime recipient (lead organization) or subawardee (team member).

##### GOVERNMENTAL ORGANIZATIONS

State, local, and tribal government entities are not eligible to apply for funding as a prime recipient (lead organization) or subawardee (team member).

##### OTHER FEDERAL AGENCY FFRDCs

Non-DOE/NNSA FFRDCs and non-DOE GOGOs are eligible to apply for funding as a subawardee (team member), but are not eligible to apply as a prime recipient (lead organization).

##### OTHER FEDERAL AGENCIES

Federal agencies and instrumentalities (other than DOE) are eligible to apply for funding as a subawardee (team member), but are not eligible to apply as a prime recipient (lead organization).

#### **3. Foreign Organizations**

Foreign entities, whether for-profit or otherwise, are not eligible to apply for funding under this Announcement.

For official postings see the Office of Science Grants and Contracts web site, <http://www.science.energy.gov/grants>.

### **B. COST SHARING**

Cost sharing is not required.

### **C. ELIGIBLE INDIVIDUALS**

Eligible individuals with the skills, knowledge, and resources necessary to carry out the proposed research as a Lead Principal Investigator/Principal Investigator are invited to work with their organizations to develop a proposal. Individuals from underrepresented groups as well as individuals with disabilities are always encouraged to apply.

### **D. OTHER ELIGIBILITY REQUIREMENTS**

#### ***Performance of Work in the United States***

DOE requires all work performed by the prime recipient under funding agreements resulting from this Announcement to be performed in the United States – i.e., a prime recipient must expend 100% of its total project costs in the United States.

This requirement does not apply to travel or to equipment, materials and supply purchases. Like all proposed costs, proposed travel, equipment, and material and supply costs will be evaluated to determine whether they are necessary and appropriate for the conduct of the effort. Furthermore, it is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under awards resulting from this Announcement should be American-made.

Work funded as a subaward from the prime recipient may be performed outside of the United States. Applicants may request a waiver of this requirement. To do so, applicants must include a written waiver request in the full proposal. DOE has discretion to waive this requirement if it determines that it will further the purposes of this Announcement and is otherwise in the interests of DOE. See Section IV.C.7 of the FOA for waiver request information.

## **Section IV – PROPOSAL AND SUBMISSION INFORMATION**

### **A. ADDRESS TO REQUEST PROPOSAL PACKAGE**

Proposal submission instructions are available in this Announcement on the DOE Office of Science Portfolio Analysis and Management System (PAMS). Screenshots showing the steps in DOE National Laboratory proposal submission are available in the PAMS External User Guide, accessible by navigating to <https://pamspublic.science.energy.gov> and clicking on the “PAMS External User Guide” link.

Proposals submitted outside of PAMS will not be accepted.

### **B. LETTER OF INTENT AND PRE-APPLICATION**

#### **1. Letter of Intent**

LETTER OF INTENT DUE DATE

March 17, 2014

A Letter of Intent is required and must be submitted by 03/17/2014 at 5 PM Eastern Time.

The LOI is to help in planning the review and the selection of potential reviewers for the application. For this purpose, the LOI must include the following:

- A cover sheet containing the name and mailing address of the sponsoring institution; the planned title of the research application; the name, e-mail address, and telephone number of the Lead Principal Investigator and additional principal investigators (PIs) (and their institutions) expected to be involved in the planned application.
- A brief abstract
- Estimated budget request (annual)
- A statement signed by the Laboratory Director, or cognizant Laboratory Official responsible for the both the BES MSE and CSGB programs (if appropriate), to validate that the application has been selected by the laboratory for submission for consideration by the BES MSE or CSGB division

The LOI must be submitted electronically through the DOE Office of Science Portfolio Analysis and Management System (PAMS) website <https://pamspublic.science.energy.gov/>. It is important that the LOI be a single file with extension .pdf, .docx, or .doc. The Lead Principal Investigator and anyone submitting on behalf of the Lead PI must register for an account in PAMS before it will be possible to submit a letter of intent. **All Lead PIs and those submitting LOIs on behalf of PIs are encouraged to establish PAMS accounts as soon as possible to avoid submission delays.**

You may use the Internet Explorer, Firefox, Google Chrome, or Safari browsers to access PAMS.

Registering to PAMS is a two-step process; once you create an individual account, you must

associate yourself with (“register to”) your institution. Detailed steps are listed below.

### **Create PAMS Account:**

To register, click the “Create New PAMS Account” link on the website

<https://pamspublic.science.energy.gov/>.

- Click the “No, I have never had an account” link and then the “Create Account” button.
- You will be prompted to enter your name and email address, create a username and password, and select a security question and answer. Once you have done this, click the “Save and Continue” button.
- On the next page, enter the required information (at least one phone number and your mailing address) and any optional information you wish to provide (e.g., FAX number, website, mailstop code, additional email addresses or phone numbers, Division/Department). Click the “Create Account” button.
- Read the user agreement and click the “Accept” button to indicate that you understand your responsibilities and agree to comply with the rules of behavior for PAMS.

PAMS will take you the “Having Trouble Logging In?” page. (If you have been an Office of Science merit reviewer or if you have previously submitted an application, you may already be linked to an institution in PAMS. If this happens, you will be taken to the PAMS home page.

### **Register to Your Institution:**

- Click the link labeled “Option 2: I know my institution and I am here to register to the institution.” (Note: If you previously created a PAMS account but did not register to an institution at that time, you must click the Institutions tab and click the “Register to Institution” link.)
- PAMS will take you to the “Register to Institution” page.
- Type a word or phrase from your institution name in the field labeled, “Institution Name like,” choose the radio button next to the item that best describes your role in the system, and click the “Search” button. A “like” search in PAMS returns results that contain the word or phrase you enter; you do not need to enter the exact name of the institution, but you should enter a word or phrase contained within the institution name. (If your institution has a frequently used acronym, such as ANL for Argonne National Laboratory or UCLA for the Regents of the University of California, Los Angeles, you may find it easiest to search for the acronym under “Institution Name like.” Many institutions with acronyms are listed in PAMS with their acronyms in parentheses after their names.)
- Find your institution in the list that is returned by the search and click the “Actions” link in the Options column next to the institution name to obtain a dropdown list. Select “Add me to this institution” from the dropdown. PAMS will take you to the “Institutions – List” page.
- If you do not see your institution in the initial search results, you can search again by clicking the “Cancel” button, clicking the Option 2 link, and repeating the search.
- If, after searching, you think your institution is not currently in the database, click the “Cannot Find My Institution” button and enter the requested institution information into PAMS. Click the “Create Institution” button. PAMS will add the institution to the system, associate your profile with the new institution, and return you to the “Institutions – List” page when you are finished.

### Submit Your Letter of Intent:

- Create your letter of intent outside the system and save it as a file with extension .docx, .doc, or .pdf. Make a note of the location of the file on your computer so you can browse for it later from within PAMS.
- Log into PAMS and click the Proposals tab. Click the “View / Respond to Funding Opportunity Announcements” link and find the current announcement in the list. Click the “Actions/Views” link in the Options column next to this announcement to obtain a dropdown menu. Select “Submit Letter of Intent” from the dropdown.
- On the Submit Letter of Intent page, select the institution from which you are submitting this LOI from the Institution dropdown. If you are associated with only one institution in the system, there will only be one institution in the dropdown.
- Note that you must select one and only one Principal Investigator (PI) per LOI; to do so, click the “Select PI” button on the far right side of the screen. Find the appropriate PI from the list of all registered users from your institution returned by PAMS. (Hint: You may have to sort, filter, or search through the list if it has multiple pages.) Click the “Actions” link in the Options column next to the appropriate PI to obtain a dropdown menu. From the dropdown, choose “Select PI.”
- If the PI for whom you are submitting does not appear on the list, it means he or she has not yet registered in PAMS. For your convenience, you may have PAMS send an email invitation to the PI to register in PAMS. To do so, click the “Invite PI” link at the top left of the “Select PI” screen. You can enter an optional personal message to the PI in the “Comments” box, and it will be included in the email sent by PAMS to the PI. You must wait until the PI registers before you can submit the LOI. Save the LOI for later work by clicking the “Save” button at the bottom of the screen. It will be stored in “My Letters of Intent” for later editing.
- Enter a title for your letter of intent.
- Select the appropriate technical contact from the Program Manager dropdown.
- To upload the LOI file into PAMS, click the “Attach File” button at the far right side of the screen. Click the “Browse” (or “Choose File” depending on your browser) button to search for your file. You may enter an optional description of the file you are attaching. Click the “Upload” button to upload the file.
- At the bottom of the screen, click the “Submit to DOE” button to save and submit the LOI to DOE.
- Upon submission, the PI will receive an email from the PAMS system <[PAMS.Autoreply@science.doe.gov](mailto:PAMS.Autoreply@science.doe.gov)> acknowledging receipt of the LOI.

You are encouraged to register for an account in PAMS at least a week in advance of the LOI submission deadline so that there will be no delays with your submission.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this Funding Opportunity Announcement should reference **LAB 14-1089**.

## 2. Pre-application

Pre-applications are not required.

## C. CONTENT AND PROPOSAL FORMS

PROPOSAL DUE DATE

**April 21, 2014 at 5:00 PM Eastern Time**

LETTERS

Letters of support are not required.

### 1. Summary of Proposal Contents and Information about PAMS

Each DOE National Laboratory proposal will contain the following sections:

- Budget, entered into PAMS as structured data using the PAMS budget form
- Abstract (one page), entered into PAMS as a separate pdf
- Budget justification, entered into PAMS as a separate pdf
- Proposal, combined into a single pdf containing the following information:
  - Proposal Cover Page
  - Table of Contents
  - Project Narrative (main technical portion of the proposal, including background/introduction, proposed research and methods, timetable of activities, and responsibilities of key project personnel)
  - Appendix 1: Biographical Sketch(es)
  - Appendix 2: Current and Pending Support
  - Appendix 3: Bibliography and References Cited
  - Appendix 4: Facilities and Other Resources
  - Appendix 5: Equipment
  - Appendix 6: Other Attachments (optional)

### SUBMISSION INSTRUCTIONS

Full proposals must be submitted into the DOE Office of Science Portfolio Analysis and Management System (PAMS). For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9:00 AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free number) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submissions and inquiries about this Program Announcement should reference **LAB 14-1089**. Full proposals submitted in response to this Program Announcement must be submitted to PAMS no later than April 8, 2014 at 5:00 PM Eastern Time.

All PIs and those submitting on behalf of PIs are encouraged to establish PAMS accounts as soon as possible to ensure timely submissions. To register, click “Create New PAMS Account”

on the website <https://pamspublic.science.energy.gov/> and follow the instructions for creating an account.

The following information is provided to help with proposal submission. Detailed instructions and screen shots can be found in the user guide. To find the user guide, click the “External User Guide” link on the PAMS home page. Onscreen instructions are available within PAMS.

- Log into PAMS. From the proposals tab, click the “View DOE National Laboratory Announcements” link and find the current announcement in the list. Click the “Actions/Views” link in the Options column next to this Announcement to obtain a dropdown menu. Select “Submit Proposal” from the dropdown.
- Note that you must select one and only one Principal Investigator (PI) per proposal; to do so, click the “Select PI” button on the far right side of the screen. Find the appropriate PI from the list of all registered users from your institution returned by PAMS. (Hint: You may have to sort, filter, or search through the list if it has multiple pages.) Click the “Actions” link in the Options column next to the appropriate PI to obtain a dropdown menu. From the dropdown, choose “Select PI.”
- If the PI for whom you are submitting does not appear on the list, it means he or she has not yet registered in PAMS. For your convenience, you may have PAMS send an email invitation to the PI to register in PAMS. To do so, click the “Invite PI” link at the top left of the “Select PI” screen. You can enter an optional personal message to the PI in the “Comments” box, and it will be included in the email sent by PAMS to the PI. You must wait until the PI registers before you can submit the proposal. Save the proposal for later work by selecting “Save” from the dropdown at the bottom of the screen and then clicking the “Go” button. It will be stored in “My Proposals” for later editing. As a minimum, you must complete all the required fields on the PAMS cover page before you can save the proposal for the first time.
- The cover page, budget, and attachments sections of the lab proposal are required by PAMS before it can be submitted to DOE.
- Complete the sections in PAMS one at a time, starting with the cover page and following the instructions for each section.
- Click the “+View More” link at the top of each section to expand the onscreen instructions. On the budget section, click the “Budget Tab Instructions” link to obtain detailed guidance on completing the budget form.
- Save each section by selecting either “Save” (to stay in the same section) or “Save... and Continue to the Next Section” (to move to the next section) from the dropdown menu at the bottom of the screen, followed by clicking the “Go” button.
- If you save the proposal and navigate away from it, you may return later to edit the proposal by clicking the “View My Existing Proposals” or “My Proposals” links within PAMS.
- You must enter a budget for each annual budget period.
- You must also enter a budget for each proposed sub-award. The sub-award section can be completed using the same steps used for the budget section.
- In the attachments section of the lab proposal, the abstract, the budget justification, and the proposal narrative are required and must be submitted as separate files.

- You must bundle everything other than the budget, abstract, and budget justification into one single PDF file to be attached under “Proposal Attachment.”
- Do not attach anything under “Other Attachments.”
- To upload a file into PAMS, click the “Attach File” button at the far right side of the screen. Click the “Browse” (or "Choose File" depending on your browser) button to search for your file. You may enter an optional description of the file you are attaching. Click the “Upload” button to upload the file.
- Once you have saved all of the sections, the “Submit to DOE” option will appear in the dropdown menu at the bottom of the screen.
- To submit the proposal, select “Submit to DOE” from the dropdown menu and then click the “Go” button.
- Upon submission, the PI will receive an email from the PAMS system <[PAMS.Autoreply@science.doe.gov](mailto:PAMS.Autoreply@science.doe.gov)> acknowledging receipt of the proposal.
- The proposal will also appear under My Proposals with a Proposal Status of “Submitted to DOE.”

Please only submit a PAMS lab technical proposal in response to this Announcement; do not submit a DOE Field Work Proposal (FWP) at this time. The Office of Science will request FWPs later from those selected for funding consideration under this Announcement.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9:00 AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free number) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submissions and inquiries about this Program Announcement should reference **LAB 14-1082**.

## 2. Detailed Contents of the Proposal

### BUDGET AND BUDGET EXPLANATION

The budget must be submitted into PAMS using the PAMS budget form. Research proposed under this Announcement may only have one annual budget period.

PAMS will calculate the cumulative budget totals for you.

A written justification of each budget item is to follow the budget pages. The budget justification should be placed in a separate, single pdf document and attached on the appropriate screen in PAMS. Further instructions regarding the budget and justification are given below and in the PAMS software.

### PROJECT SUMMARY/ABSTRACT (NO MORE THAN ONE PAGE)

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the Principal Investigator (PI), the project title, the objectives of the project, a

description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes). This document must not include any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. The one-page project summary/abstract should be placed in a separate, single pdf document and attached on the appropriate screen in PAMS.

The abstract may be used to prepare publicly accessible reports about DOE-supported research.

DOE COVER PAGE  
(PART OF PROJECT NARRATIVE)

The following proposal cover page information may be placed on a plain page. No form is required. This cover page will not count in the project narrative page limitation.

- The project title:
- Applicant/Institution:
- Street Address/City/State/Zip:
- Postal Address:
- Administrative Point of Contact name, telephone number, email:
- Lead PI name, telephone number, email:
- DOE National Laboratory Announcement Number: **LAB 14-1089**
- DOE/Office of Science Program Office: **Basic Energy Sciences**
- DOE/Office of Science Program Office Technical Contact: **Dr. Jeffrey Krause**
- BES Division and Core Research Area(s) as identified in Section I of this Announcement:
- PAMS Letter of Intent Tracking Number:

PROJECT NARRATIVE (NO MORE THAN 20 PAGES LONG)

The project narrative **must not exceed 20 pages** of technical information, including charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right). The font must not be smaller than 11 point. Merit reviewers will only consider the number of pages specified in the first sentence of this paragraph.

The Project Narrative comprises the research plan for the project. It should contain enough background material in the Introduction, including review of the relevant literature, to demonstrate sufficient knowledge of the state of the science. The narrative should provide a clear, concise statement of the specific objectives/aims of the proposed project. The major part of the narrative should be devoted to a description and justification of the proposed project, including details of the methods to be used. It should also include a timeline for the major activities of the proposed project.

**Background/Introduction:** Explanation of the importance and relevance of the proposed work

as well as a review of the relevant literature.

**Project Objectives:** This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

**Proposed Research and Methods:** Identify the hypotheses to be tested and details of the methods to be used including the integration of experiments with theoretical and computational research efforts.

**Management Plan and Timeline of Activities:** This section should describe the management structure, how effective collaborations among the participants will be fostered, how integration of experimental and theoretical efforts will be attained, and the timeline for all major activities including performance metrics and deliverables. Include the following summary level budget tables:

|                | Name | Institution | Year 1 Budget | Year 2 Budget | Year 3 Budget | Total Budget |
|----------------|------|-------------|---------------|---------------|---------------|--------------|
| <b>Lead PI</b> |      |             |               |               |               |              |
| <b>PI</b>      |      |             |               |               |               |              |
| <b>PI</b>      |      |             |               |               |               |              |
| <b>PI</b>      |      |             |               |               |               |              |
| <b>Total</b>   |      |             |               |               |               |              |

| Task           | PI(s) | Role(s) | Year 1 Budget | Year 2 Budget | Year 3 Budget | Total Budget |
|----------------|-------|---------|---------------|---------------|---------------|--------------|
| <b>Task 1</b>  |       |         |               |               |               |              |
| <b>Task 2</b>  |       |         |               |               |               |              |
| <b>Task.3.</b> |       |         |               |               |               |              |
|                |       |         |               |               |               |              |
| <b>Total</b>   |       |         |               |               |               |              |

Do not include any Internet addresses (URLs) that provide supplementary or additional information that constitutes a part of the proposal. Using Internet sites in an attempt to avoid page limits will fail: The content of those sites will not be reviewed. See Part VIII.D for instructions on how to mark proprietary proposal information.

#### APPENDIX 1: BIOGRAPHICAL SKETCH

Provide a biographical sketch for the Principal Investigator (PI) as an appendix to your technical narrative. As part of the sketch, provide information that can be used by reviewers to evaluate the PI's potential for leadership within the scientific community. Examples of information of interest are invited and/or public lectures, awards received, scientific program committees, conference or workshop organization, professional society activities, special international or industrial partnerships, reviewing or editorship activities, or other scientific leadership experiences. The

biographical information (curriculum vitae) must not exceed 3 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include the following:

**Education and Training:** Undergraduate, graduate and postdoctoral training; provide institution, major/area, degree and year.

**Research and Professional Experience:** Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

**Publications:** Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically. Patents, copyrights and software systems developed may be provided in addition to or substituted for publications. An abbreviated style such as the Physical Review Letters (PRL) convention for citations (list only the first author) may be used for publications with more than 10 authors.

**Synergistic Activities:** List no more than 5 professional and scholarly activities related to the effort proposed.

**Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers:** Provide the following information in this section:

- **Collaborators and Co-editors:** List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. For publications or collaborations with more than 10 authors or participants, only list those individuals in the core group with whom the Principal Investigator interacted on a regular basis while the research was being done. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state “None.”
- **Graduate and Postdoctoral Advisors and Advisees:** List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s). Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates.

**Personally Identifiable Information:** Do not include sensitive personally identifiable information such as a Social Security Number, date of birth, or city of birth. Do not include information that a merit reviewer should not consider.

This appendix will not count in the project narrative page limitation.

APPENDIX 2: CURRENT AND PENDING SUPPORT

Provide a list of all current and pending support (both Federal and non-Federal) for the lead principal investigator and each principal investigator, including subawardees, for ongoing projects and pending applications. For each organization providing support, show the total award amount for the entire award period (including indirect costs) and the number of person-months per year to be devoted to the project by the PI. Include the award number, title of the funded research project, and the name of the PI for the project. Briefly describe the research being performed and explicitly identify any overlaps with the proposed research.

Provide the Current and Pending Support as an appendix to your project narrative. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 3: BIBLIOGRAPHY & REFERENCES CITED

Provide a bibliography of any references cited in the Project Narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. For research areas where there are routinely more than ten coauthors of archival publications, you may use an abbreviated style such as the Physical Review Letters (PRL) convention for citations (listing only the first author). For example, your paper may be listed as, “A Really Important New Result,” A. Aardvark et. al. (MONGO Collaboration), PRL 999. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. Provide the Bibliography and References Cited information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 4: FACILITIES & OTHER RESOURCES

This information is used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. For ultrafast experiments, including pump/probe experiments, required sources must be readily available within the period of the proposed project. Identify the facilities to be used (Laboratory, Computer, User Facilities, and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. For proposed investigations requiring access to experimental user facilities maintained by institutions other than the applicant, please provide a document from the facility manager confirming that the researchers will have access to the facility. For access to BES-supported user facilities or other DOE Office of Science (SC) supported user facilities, please describe past access and experience with these facilities. A letter of support is not required for BES/SC user facilities.

Please provide the Facility and Other Resource information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 5: EQUIPMENT

List major items of equipment already available for this project and, if appropriate identify location and pertinent capabilities. Provide the Equipment information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 6: WAIVER REQUEST FOR FOREIGN ENTITIES OR PERFORMANCE OF WORK IN THE UNITED STATES (IF APPLICABLE)

As set forth in Section III, all prime recipients (lead organizations) receiving funding under this Announcement must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. If a foreign entity applies for funding as a prime recipient, it must designate in the full application a subsidiary or affiliate incorporated (or otherwise formed) under the laws of a State or territory of the United States to be the prime recipient. Section III further requires that all work by the prime recipient (lead organization) under funding agreements be performed in the United States – i.e., a prime recipient must expend 100% of its total project cost in the United States, except as noted in Section III. D., “*Performance of Work in the United States*”.

To seek a waiver of either requirement, the applicant must submit a waiver request in the full application, which includes the following information: entity name, country (or state) of incorporation, description of the work to be performed by that entity, the reason that the work should be performed by that entity, and the location where the work will be performed. If the applicant is seeking a waiver to have a foreign entity serve as the prime recipient, the applicant must explain why it is necessary to have a foreign entity serve as the prime recipient. If the applicant is seeking a waiver of the “Performance of Work in the United States” requirement, the applicant must explain why it is necessary to have the work performed outside of the United States. All waiver requests should explain how the waiver would further the purposes of this Announcement and otherwise serve the interests of DOE. DOE may require additional information before considering the waiver request. Requests for waivers must be submitted as appendices to the project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 7: OTHER ATTACHMENT

If you need to elaborate on your responses to questions 1-6 on the “Other Project Information” document, please provide the Other Attachment information as an appendix to your project narrative. Information not easily accessible to a reviewer may be included in this appendix, but do not use this appendix to circumvent the page limitations of the application. Reviewers are not

required to consider information in this appendix.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

### **3. Detailed Instructions for the Budget**

Budgets are required for the entire project period. A budget form should be completed for each budget period of the award, and a cumulative budget form for the entire project period will be populated by PAMS. A detailed budget justification narrative should be included after the budget pages. The justification should cover labor, domestic travel, equipment, materials and supplies, and anything else that will be covered with project funds.

To edit a section on the budget, click the edit icon (  ) for each section on the page. Remember to save all budget periods before moving on to the next section. You can save the budget periods by selecting “Save All Budget Periods” from the dropdown on the lower right corner of the PAMS budget entry screen and then clicking the “Go” button. You can also save any data entry page in PAMS using the blue diskette icon (  ) in the floating toolbar on the bottom of the screen.

#### **Section A. Senior/Key Person (Required)**

For each Senior/Key Person, enter the appropriate information. List personnel, salary funds, and the number of months that person will be allocated to the project. Also include a written narrative in the budget justification that fully justifies the need for requested personnel.

#### **Section B. Other Personnel**

List personnel, salary funds, and the number of months that person will be allocated to the project. Also include a written narrative in the budget justification that fully justifies the need for requested personnel.

#### **Section C. Equipment Description**

For the purpose of this budget, equipment is designated as an item of property that has an acquisition cost of \$5,000 or more and an expected service life of more than one year. (Note that this designation applies for proposal budgeting only and differs from the DOE definition of capital equipment.) List each item of equipment separately and justify each in the budget justification section. Allowable items ordinarily will be limited to research equipment and apparatus not already available for the conduct of the work. General-purpose office equipment, such as a personal computer, is not eligible for support unless primarily or exclusively used in the actual conduct of scientific research.

#### **Section D. Travel**

In the budget justification, list each trip’s destination, dates, estimated costs including transportation and subsistence, number of staff traveling, the purpose of the travel, and how it relates to the project. Indicate whether travel cost estimates are based upon quotes from travel agencies; upon past experience of similar number of trips to similar travel destinations; or something else (describe). To qualify for support, attendance at meetings or conferences must enhance the investigator's capability to perform the research, plan extensions of it, or disseminate its results.

### **Section E. Participant/Trainee Support Costs:**

If applicable, submit training support costs. Educational projects that intend to support trainees (precollege, college, graduate and post graduate) must list each trainee cost that includes stipend levels and amounts, cost of tuition for each trainee, cost of any travel (provide the same information as needed under the regular travel category), and costs for any related training expenses. Participant costs are those costs associated with conferences, workshops, symposia or institutes and breakout items should indicate the number of participants, cost for each participant, purpose of the conference, dates and places of meetings and any related administrative expenses. In the budget justification, indicate whether trainee cost estimates are based upon past experience of support of similar number of trainees on similar projects; past experience of support of similar number of participants attending similar conferences/workshops/symposia; or something else (describe).

### **Section F. Other Direct Costs:**

Enter Other Direct Costs information for each item listed.

- **Materials and Supplies:** Enter total funds requested for materials and supplies in the appropriate fields. In the budget justification, indicate general categories such as glassware, and chemicals, including an amount for each category (items not identified under “Equipment”). Categories less than \$1,000 are not required to be itemized. In the budget justification, indicate whether cost estimates are based upon past experience of purchase of similar or like items; quotes/catalog prices of similar or like items; or something else (describe).
- **Publication Costs:** Enter the total publication funds requested. The proposal budget may request funds for the costs of documenting, preparing, publishing or otherwise making available to others the findings and products of the work conducted under the award. In the budget justification, include supporting information. In the budget justification, indicate whether cost estimates are based upon past experience of purchase of similar or like items; vendor quotes of similar publication services; or something else (describe).
- **Consultant Services:** Enter total funds requested for all consultant services. In the budget justification, identify each consultant, the services he/she will perform, total number of days, travel costs, and total estimated costs. In the budget justification, indicate whether consultant cost estimate is based upon previous experience/quotes for similar or like services; or something else (describe).
- **ADP/Computer Services:** Enter total funds requested for ADP/Computer Services. The cost of computer services, including computer-based retrieval of scientific, technical and education information may be requested. In the budget justification, include the established computer service rates at the proposing organization if applicable. In the budget justification, indicate whether cost estimates are based upon quotes/past experience of purchase of similar computer services; established computer service rates at the proposing institution; or something else (describe).
- **Subawards/Consortium/Contractual Costs:** Enter total costs for all subawards/consortium organizations and other contractual costs proposed for the project. In the budget justification, justify the details.
- **Equipment or Facility Rental/User Fees:** Enter total funds requested for Equipment or Facility Rental/User Fees. In the budget justification, identify each rental/user fee and

justify. In the budget justification, indicate whether cost estimates are based upon past experience with similar or like items; vendor quotes of similar items; or something else (describe).

- **Alterations and Renovations:** Enter total funds requested for Alterations and Renovations.
- **In the budget justification,** itemize by category and justify the costs of alterations and renovations, including repairs, painting, removal or installation of partitions, shielding, or air conditioning. Where applicable, provide the square footage and costs.
- **Other:** Add text to describe any other Direct Costs not requested above. Enter costs associated with “Other” item(s). Use the budget justification to further itemize and justify.

### **Section G. Direct Costs**

This represents Total Direct Costs (Sections A thru F) and will be calculated by PAMS.

### **Section H. Other Indirect Costs**

Enter the Indirect Cost information for each field. Only four general categories of indirect costs are allowed/requested on this form, so please consolidate if needed.

### **Section I. Total Direct and Indirect Costs**

This amount will be calculated by PAMS (Sections G + H)

## **D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS**

If selected for award, DOE reserves the right to request additional or clarifying information.

## **E. SUBMISSION DATES AND TIMES**

### **1. Letter of Intent Due Date**

March 17, 2014 at 5 PM Eastern Time

You are encouraged to submit your Letter of Intent well before the deadline.

### **2. Pre-application Due Date**

None

### **3. Application Due Date**

April 21, 2014 at 5 PM Eastern Time

You are encouraged to transmit your application well before the deadline.

### **4. Late Submissions**

Delays in submitting letters of intent and applications may be unavoidable. DOE has accepted late submissions when applicants have been unable to make timely submissions because of

widespread technological disruptions or significant natural disasters. Other circumstances do not justify late submissions. Unacceptable justifications include the following:

- Failure to begin submission process early enough.
- Failure to provide sufficient time to complete the process.
- Failure to understand the submission process.
- Failure to understand the deadlines for submissions.
- Failure to satisfy prerequisite registrations.
- Unavailability of administrative personnel.

Applicants must contact the Program Office/Manager listed in this Funding Opportunity Announcement to discuss the option of a late submission.

DOE notes that not all requests for late submission will be approved.

## **F. FUNDING RESTRICTIONS**

Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress and the availability of future-year budget authority.

## **G. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS**

### **1. Where to Submit**

Proposals must be submitted through PAMS to be considered for award.

Please only submit a PAMS lab technical proposal in response to this Announcement; do not submit a DOE Field Work Proposal (FWP) at this time. The Office of Science will request FWPs via the Searchable FWP system later from those selected for funding consideration under this Announcement.

### **2. Registration Process**

#### **ONE-TIME REGISTRATION PROCESS**

You must complete the one-time registration process (all steps) before you can submit your first proposal through PAMS. Registration instructions appear in the front matter of this Announcement.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this DOE National Laboratory Program Announcement should reference **LAB 14-1089**.

### **3. Proposal Receipt Notices**

Upon submission, the PI will receive an email from the PAMS system <[PAMS.Autoreply@science.doe.gov](mailto:PAMS.Autoreply@science.doe.gov)> acknowledging receipt of the proposal.

#### **4. Viewing Submitted Proposals**

Upon submission, the proposal will appear under My Proposals for the PI and the Submitter with a Proposal Status of “Submitted to DOE.”

## **Section V - APPLICATION REVIEW INFORMATION**

### **A. CRITERIA**

#### **1. Initial Review Criteria**

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for the award; (2) the information required by the FOA, including the required Letter of Intent (see Section IV B), has been submitted; (3) all mandatory requirements are satisfied; (4) the proposed project is responsive to the objectives of the DOE National Laboratory Announcement, and (5) the proposed project is not duplicative of programmatic work.

Only one application from a national laboratory can be submitted to each BES division (CSGB and MSE) in response to the Announcement.

In particular, to be responsive to the objectives of this Announcement, the research proposed in the application **must**:

- (1) Address research relevant to the BES mission
- (2) Include both experimental and theoretical/computational components
- (3) Have a management plan and timeline including performance metrics
- (4) NOT focus on new source development, demonstration efforts, or systematic exploratory surveys of broad scientific areas

Applications that fail to pass the initial review will not be forwarded for merit review and will be eliminated from further consideration.

#### **2. Merit Review Criteria**

Applications will be subjected to scientific merit review (peer review) and will be evaluated against the following criteria, listed in descending order of importance.

- Scientific and/or Technical Merit of the Project;
- Appropriateness of the Proposed Method or Approach;
- Competency of Applicant's Personnel and Adequacy of Proposed Resources; and
- Reasonableness and Appropriateness of the Proposed Budget;
- Management and Synergy among the PIs, including Cohesion and Integration of the Research Activities

The evaluation process will include program policy factors such as the relevance of the proposed research to the terms of the DOE National Laboratory Announcement and the agency's programmatic needs. Note that external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Both Federal and non-Federal reviewers may be used, and submission of a proposal constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

The questions below are provided to the merit reviewers to elaborate the criteria established by regulation:

#### SCIENTIFIC AND/OR TECHNICAL MERIT OF THE PROPOSED RESEARCH

- Does the research exploit the most recent advances in capabilities for ultrafast materials and chemical sciences?
- What is the scientific innovation of proposed effort?
- Is the research on the frontier of ultrafast science?
- How does the proposed work compare with other efforts in its field, both in terms of scientific and/or technical merit and originality?
- How might the results of the proposed work impact the direction, progress, and thinking in relevant scientific fields of research?
- What is the likelihood of achieving influential results?

#### APPROPRIATENESS OF THE PROPOSED METHOD OR APPROACH

- Does the proposed effort employ innovative concepts or methods?
- How logical and feasible are the approaches?
- Are the conceptual framework, methods, and analyses well justified, adequately developed, and likely to lead to scientifically valid conclusions?
- Does the applicant recognize significant potential problems and consider alternative strategies?

#### COMPETENCY OF APPLICANT'S PERSONNEL AND ADEQUACY OF PROPOSED RESOURCES

- Does the proposed work take advantage of unique facilities and capabilities?
- Does the application describe a path to access the required facilities and equipment?
- What is the past performance of the team?
- How well qualified is the team to carry out the proposed work?
- Are the environment and facilities adequate for performing the proposed effort?

#### REASONABLENESS AND APPROPRIATENESS OF THE PROPOSED BUDGET

- Are the proposed budget and staffing levels adequate to carry out the proposed work?
- Is the budget reasonable and appropriate for the scope?

#### MANAGEMENT AND SYNERGY AMONG THE PIs, INCLUDING COHESION AND INTEGRATION OF THE RESEARCH ACTIVITIES

- Does the application have a strong, coherent management plan?
- Does the Lead Principal Investigator have the qualifications to lead and manage the proposed research and team?
- Does the application describe a well-integrated, team-based approach to addressing the scientific goals?

- Is the proposed team of researchers likely to work together in a cohesive and integrated manner? Have they demonstrated their ability to do so in the past?
- Have the applicants defined scientific problems that are likely to be addressed only through close collaboration among the researchers on the application?
- Are the elements of the proposed research appropriately integrated, coordinated, and synergistic?
- Does the application include clear performance metrics and a timeline to assess progress of the research?

## **B. REVIEW AND SELECTION PROCESS**

### **1. Merit Review**

Proposals that pass the initial review will be subjected to a formal merit review and will be evaluated based on the criteria above.

### **2. Selection**

The Selection Officials will consider the following items, listed in no order of significance:

- Scientific and technical merit of the proposed activity as determined by merit review
- Availability of funds
- Relevance of the proposed activity to Office of Science priorities
- Ensuring an appropriate balance of activities within Office of Science programs
- Previous performance

### **3. Discussions and Award**

The Government may enter into discussions with a selected applicant for any reason deemed necessary. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

## **C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES**

It is anticipated that the award selection will be completed by June 15, 2014. It is expected that awards will be made in Fiscal Year 2014.

DOE is interested in seeing projects supported under this Announcement begin work by October 1, 2014.

## **Section VI - AWARD ADMINISTRATION INFORMATION**

### **A. AWARD NOTICES**

#### **1. Notice of Selection**

**Selected Applicants Notification:** DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance.

**Non-selected Notification:** Organizations whose proposals have not been selected will be advised as promptly as possible. This notice will explain why the proposal was not selected.

#### **2. Notice of Award**

A work authorization/contract modification issued by the contracting officer is the authorizing award document.

### **B. REPORTING**

Annual progress reports from the award investigator will be required and will be due 90 days before the end of each budget year.

## Section VII - QUESTIONS/AGENCY CONTACTS

### A. QUESTIONS

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this DOE National Laboratory Program Announcement should reference **LAB 14-1089**.

Please contact the PAMS help desk for technological issues with the PAMS system.

Questions regarding the specific program areas and technical requirements may be directed to the technical contacts listed for each program within the DOE National Laboratory Program Announcement or below.

Please contact the program staff with all questions not directly related to the PAMS system.

### B. AGENCY CONTACTS

|                                       |  |
|---------------------------------------|--|
| PAMS<br>Customer Support              | 855-818-1846 (toll-free)<br>301-903-9610<br><a href="mailto:sc.pams-helpdesk@science.doe.gov">sc.pams-helpdesk@science.doe.gov</a>   |
| Program Manager<br>Scientific Contact | <b>Technical/Scientific Program Contact:</b><br><br>Office of Basic Energy Sciences<br>Chemical Sciences, Geosciences, and Biosciences Division<br>Dr. Jeffrey Krause<br>PHONE: (301)-903-5827<br><a href="mailto:Jeff.Krause@science.doe.gov">Jeff.Krause@science.doe.gov</a><br><br>Office of Basic Energy Sciences<br>Materials Sciences and Engineering Division<br>Dr. Lane Wilson<br>PHONE: (301)-903-5877<br><a href="mailto:Lane.Wilson@science.doe.gov">Lane.Wilson@science.doe.gov</a> |

## **Section VIII - OTHER INFORMATION**

### **A. MODIFICATIONS**

Notices of any modifications to this DOE National Laboratory Announcement will be posted on the Grants and Contracts website (<http://science.energy.gov/grants/>).

### **B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE**

DOE reserves the right, without qualification, to reject any or all proposals received in response to this DOE National Laboratory Announcement and to select any proposal, in whole or in part, as a basis for negotiation and/or award.

### **C. COMMITMENT OF PUBLIC FUNDS**

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

### **D. PROPRIETARY PROPOSAL INFORMATION**

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in a proposal only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the proposal which are to be restricted:

“The data contained in pages \_\_\_\_\_ of this proposal have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

### **E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL**

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its proposal, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing a proposal. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

## **F. AVAILABILITY OF FUNDS**

Funds are not presently available for this award. The Government's obligation under this award is contingent upon the availability of appropriated funds from which payment for award purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this award and until the awardee receives notice of such availability, to be confirmed in writing by the Contracting Officer.