

**Office of Science**  
**Notice DE-FG02-06ER06-13**

*Mid-Scale Instrumentation*

**A change was made to this Notice on April 19, 2006. A new requirement was added, see the red text in the second Formal Application section.**

**U.S. Department of Energy**

**Office of Science Financial Assistance Program Notice  
DE-FG02-06ER06-13: Mid-Scale Instrumentation**

**AGENCY:** U.S. Department of Energy  
Office of Science

**ACTION:** Notice inviting grant applications.

**SUMMARY:**The Office of Basic Energy Sciences (BES) of the Office of Science (SC), U.S. Department of Energy (DOE), in keeping with its mission to assist in strengthening the Nation's scientific research enterprise through the support of fundamental science and the experimental tools to perform basic research, announces its interest in receiving applications for mid-scale instrumentation projects which includes instrument upgrades, instrument replacements, and new instrumentation. Scientific progress is predicated on observations of new phenomena, which often involve the development and implementation of improved instrumentation and tools. Many instruments have a lifetime of 7-10 years after which the instruments may undergo major upgrades or be retired. Thus, 10-15% of a program's capital investment in instruments must be upgraded or replaced every year. There is a significant national need for mid-scale instruments that serve multiple users who are engaged in performing basic research in support of the nation's energy mission. Two broad categories of instrumentation will be considered for funding; 1) x-ray and neutron scattering instrumentation including the development of new instrument concepts, and 2) other mid-scale instrumentation including, but not limited to, electron microcharacterization and scanning probe microscopy, laser-based systems for ultrafast science, table-top x-ray sources, and diagnostic applications, high field NMR's, ESR's, specialized mass spectrometers, high field magnets, crystal growth facilities, and computer clusters or midrange servers in the 1-2 Teraflop range capable of supporting local production computing for a group effort.

The ability to conduct innovative fundamental research which enables science relevant to BES' Core Research Activities should be emphasized in each application. More detailed descriptions of these core research areas can be found at <http://www.science.doe.gov/bes/brochures/CRA.html>. **This Notice is restricted to principal investigators currently supported by BES, and the instrumentation requested must be utilized in conjunction with BES-funded projects which benefit a large research group. X-**

ray and neutron scattering instrumentation requests are for construction and implementation at DOE-supported synchrotron light sources and neutron sources only.

**DATES:** Potential applicants are **REQUIRED** to submit a brief preapplication. Preapplications referencing Program Notice

DE-FG02-06ER06-13, must be received by DOE by 4:30 p.m., Eastern Time, May 17, 2006.

Preapplications will be reviewed for conformance with the guidelines presented in this Notice and suitability in the technical areas specified in this Notice. A response to the preapplications encouraging or discouraging formal applications will be communicated to the applicants by June 30, 2006.

Only those preapplicants that receive notification from DOE encouraging a formal application may submit a formal applications. **No other formal applications will be considered.** Formal applications submitted in response to this notice must be received by 8:00 p.m., Eastern Time August 30, 2006. Please see the Supplementary Information below, under Preapplication, for complete details on the content of the preapplication.

**ADDRESSES:** Preapplications referencing Program Notice

DE-FG02-06ER06-13 should be sent as PDF file attachments via e-mail to:

midscaleinstrumentation@science.doe.gov with "DE-FG02-06ER06-13" as the subject. No FAX or mail submission of preapplications will be accepted. Do not submit preapplications to grants.gov.

## **Formal Applications**

**This section pertains only to those applications that have been encouraged to submit a full proposal.** Applications submitted to the Office of Science must be submitted electronically through Grants.Gov to be considered for award. The Funding Opportunity Number is: DE-FG02-06ER06-13 and the CFDA Number for the Office of Science is: 81.049. Instructions and forms are available on the [Grants.gov](http://www.grants.gov) website. Please see the information below and also refer to the "Funding Opportunity Announcement", Part IV - Application and Submission Information; H. Other Submission and Registration Requirements for more specific guidance on "Where to Submit" and "Registration Requirements." If you experience problems when submitting your application to Grants.gov, please visit their customer support website:

<http://www.grants.gov/CustomerSupport>; email: support@grants.gov; or call 1-800-518-4726.

**Registration Requirements:** There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider and register with Grants.Gov). See

<http://www.grants.gov/GetStarted>. Use the Grants.gov Organization Registration Checklist to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 14 days to complete these requirements. It is suggested that the process be started as soon as possible.

**VERY IMPORTANT** - Download PureEdge Viewer: In order to download the application package, you will need to install PureEdge Viewer. This small, free program will allow you to access, complete, and submit applications electronically and securely. For a free version of the software, visit the following Web site: <http://www.grants.gov/DownloadViewer>.

**FOR FURTHER INFORMATION CONTACT:** Helen M. Kerch., Office of Basic Energy Sciences, Materials Sciences and Engineering Division, SC-22.2, telephone: (301) 903-2346, E-mail: [helen.kerch@science.doe.gov](mailto:helen.kerch@science.doe.gov) or Eric A. Rohlfing, Office of Basic Energy Sciences, Chemical Sciences, Geosciences and Energy Biosciences Division, SC-22.1, telephone: (301)903-8165, E-mail: [eric.rohlfing@science.doe.gov](mailto:eric.rohlfing@science.doe.gov). The full text of Program Notice DE-FG02-06ER06-13 is available via the Internet using the following web site address: <http://www.science.doe.gov/grants/grants.html>.

## **SUPPLEMENTARY INFORMATION:**

### **Program Funding**

It is anticipated that up to \$20 million annually will be available in FY07 for this Notice. Approximately \$10 million annually will be available for awards to support instrument upgrades, instrument replacements, and new instrumentation at the x-ray and neutron scattering facilities, and approximately \$10 million will be available for other mid-scale instrumentation, contingent upon the availability of appropriated funds. These funds will be competed among both academic and laboratory institutions, and the resulting instruments and beamlines will be made available to the entire U.S. scientific research community. Applications will be considered that are relevant to the complete range of BES-supported research, including such areas as materials sciences, surface science, condensed matter physics, atomic and molecular science, chemical physics, polymers and soft materials, nanostructured materials, x-ray microscopy, tomography, ultrafast phenomena, interfacial studies, and imaging. Two types of awards will be considered: one-time acquisitions of equipment and multiyear beamline construction and instrument development projects. Requested personnel support should be limited to activities related to instrument development and construction. The number of awards and the range of funding will depend on the number of applications received and selected for award.

### **Preapplication**

The preapplication should consist of a description of the instrumentation proposed for acquisition or development and a clear explanation of its relevance and impact on BES-supported research. The preapplication must include a cover sheet that identifies the institution, Principal Investigator name(s), address(es), telephone and fax number(s) and E-mail address(es), the title of the project, the identity of all project collaborators, and the yearly breakdown of the total budget request. A brief, one-page, vitae should be provided for each Principal Investigator. The preapplication should consist of a maximum of 3 pages of narrative (including text and figures) describing the research objectives, approaches to be taken, the institutional setting, and a description of any research partnership if appropriate.

### **Formal Application**

The Department of Energy will accept Formal Applications by invitation only, based upon the evaluation of the preapplications. After receiving notification from DOE concerning successful preapplications, applicants may prepare formal applications. The Project Description must not exceed 20 pages, including tables and figures, but exclusive of attachments. **The application must contain one paragraph addressing how the proposed research will address one or more of the four BES long-term program measures used by the Office of Management and Budget to rate the BES program annually. These measures may be found at [http://www.sc.doe.gov/bes/BES\\_PART\\_Performance\\_Measures.pdf](http://www.sc.doe.gov/bes/BES_PART_Performance_Measures.pdf).**

The application must contain an abstract or project summary, short vitae, and letters of intent from collaborators if appropriate. DOE is under no obligation to pay for any costs associated with the preparation or submission of applications.

### **Merit Review**

Applications will be subjected to scientific merit review (peer review) and will be evaluated against the following evaluation criteria listed below as codified at 10 CFR Part 605.10 (d):

1. Scientific and/or Technical Merit of the Project,
2. Appropriateness of the Proposed Method of Approach,
3. Competency of Applicant's Personnel and Adequacy or Proposed Resources,
4. Reasonableness and Appropriateness of the Proposed Budget, and
5. The Utility of the Proposed Instrumentation in Addressing Fundamental Science Issues Pertinent to the BES Research Portfolio.

The external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Non-federal reviewers may be used, and submission of an application constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

### **Submission Information**

Other information about the development and submission of applications, eligibility, limitations, evaluation, selection process, and other policies and procedures including detailed procedures for submitting applications from multi-institution partnerships may be found in 10 CFR Part 605, and in the Application Guide for the Office of Science Financial Assistance Program. Electronic access to the Guide and required forms is made available at: <http://www.science.doe.gov/grants/grants.html>.

The Catalog of Federal Domestic Assistance (CFDA) number for this program is 81.049, and the solicitation control number is ERFAP 10 CFR Part 605.

Martin Rubinstein  
Director  
Grants and Contracts Division  
Office of Science

Posted on the Office of Science Grants and Contracts Web Site  
March 7, 2006.