

**Office of Science
Financial Assistance
Funding Opportunity Announcement**

DE-FOA-0000431

High Energy Density Laboratory Plasmas

**Office of Fusion Energy Sciences
Jointly with
The National Nuclear Security Administration, Defense Programs**

SUMMARY:

The Office of Fusion Energy Sciences (FES) of the Office of Science (SC) and the Defense Program (DP) of the National Nuclear Security Administration (NNSA), both of the U.S. Department of Energy (DOE), jointly announce their interests in receiving grant applications for new awards and grant renewals for research in the SC-NNSA Joint Program in High Energy Density Laboratory Plasmas (HEDLP). Applications for renewals of all grants funded by FES in HEDLP that expire in FY 2011 should be made to this solicitation.

This FOA is directed at researchers who are not affiliated with DOE national laboratories and government laboratories.

A companion Program Announcement for DOE Laboratories (LAB 11-431) will be posted on the Office of Science Grants and Contracts website at:
http://www.science.doe.gov/grants/pdf/LAB_11-431.pdf

LETTER OF INTENT AND PREAPPLICATION

1. Letter of Intent (LOI).

LOI DUE DATE: December 30, 2010

A LOI is STRONGLY ENCOURAGED and should be submitted by December 30, 2010. It is important that the submission be in a single PDF file. The LOI should clearly indicate the research area or areas identified in Part I to which the application is responding. The LOI should be submitted electronically by E-mail to John.Sauter@science.doe.gov, with a copy to Sam.Barish@science.doe.gov and Kirk.Levedahl@nnsa.doe.gov. Please include **“Letter of Intent for DE-FOA-0000431”** in the subject line.

The purpose of the LOI is to help FES and NNSA in planning the review and the selection of potential reviewers for the application. For this purpose, the LOI must include a one-page abstract of the proposed research, and list the names and institutional affiliations of Principal Investigators, any Co-Principal Investigators, key investigators, collaborators, or consultants, so as to reveal any potential conflict of interest in the selection of reviewers for the application. For proposed investigations requiring access to experimental user facilities, confirmation of communication with the facility's point-of-contact should be indicated in the LOI.

2. Preapplication.

Preapplications are not required.

APPLICATION DUE DATE: January 31, 2011, 11:59 PM Eastern Time

Formal applications submitted in response to this FOA must be received by **January 31, 2011, 11:59 PM Eastern Time. You are encouraged to transmit your application well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

IMPORTANT SUBMISSION INFORMATION:

The full text of the Funding Opportunity Announcement (FOA) is located on FedConnect. Instructions for completing the Grant Application Package are contained in the full text of the FOA which can be obtained at: <https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000431&agency=DOE>. To search for the FOA in FedConnect click on "Search Public Opportunities". Under "Search Criteria", select "Advanced Options", enter a portion of the title "High Energy Density Laboratory Plasmas", then click on "Search". Once the screen comes up, locate the appropriate Announcement.

In order to be considered for award, Applicants must follow the instructions contained in the Funding Opportunity Announcement.

Where to Submit: Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

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 at <http://www.grants.gov/assets/OrganizationRegCheck.pdf> 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 21 days to complete these requirements. It is suggested that the process be started as soon as possible.

IMPORTANT NOTICE TO POTENTIAL APPLICANTS: When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

Questions: Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VII of this announcement explains how to submit other questions to the Department of Energy (DOE).

Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of four E-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to two (2) business days from application submission to receipt of email Number 2. The titles of the four E-mails are:

Number 1 - Grants.gov Submission Receipt Number

Number 2 - Grants.gov Submission Validation Receipt for Application Number

Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number

Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Modifications: Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at <http://www.fedconnect.net>.

All applications should be in a single PDF file.

GENERAL INQUIRIES ABOUT THIS FOA SHOULD BE DIRECTED TO:

Technical/Scientific Program Contact:

Program Manager: Dr. Samuel J. Barish, Office of Fusion Energy Sciences

Phone: (301) 903- 2917

Fax: (301) 903-1225

E-mail: Sam.Barish@Science.Doe.Gov

Program Manager: Dr. Kirk Levedahl, National Nuclear Security Administration

Phone: (202) 586-1276

E-mail: Kirk.Levedahl@NNSA.Doe.Gov

SUPPLEMENTARY INFORMATION:

Descriptions of the Research Programs and the Applications Solicited under this FOA.

Grant applications are sought by this FOA that address the recommendations of the 2003 report *Frontiers in High Energy Density Physics The X Games of Contemporary Science*, the intentions of the 2007 *Report of the Interagency Task Force on high-energy-density physics*, and the research needs identified by the 2009 Research Needs Workshop. Proposed research efforts can include experimental, theoretical, and/or computational science. Applications integrating experiments, theory, and simulation are encouraged. Specifically, grant applications are sought in the following subfields and cross-cutting areas of HEDLP, as described in the Report of the ReNeW in HEDLP, with additional scope indicated specifically below:

- (i) High Energy Density Hydrodynamics**
- (ii) Magnetized High Energy Density Plasma**
- (iii) Nonlinear Optics of Plasmas**
- (iv) Radiation-Dominated Dynamics and Material Properties**
- (v) Relativistic HED Plasmas and Intense Beam Physics**
- (vii) Warm Dense Matter**
- (viii) High-Z Multiply Ionized HED Atomic Physics**
- (ix) Diagnostics for HEDLP**

Applications for renewals of all projects funded by FES in HEDLP that expire in FY 2011 should be made to this FOA. Also in this funding cycle, SC wishes to expand discovery-driven fundamental HEDLP physics research and HEDLP community-development activities, especially in the areas associated with facilities made possible by the ARRA-funded LCLSMECI and NDCX-II projects at Stanford University and Lawrence Berkeley National Laboratory, respectively. Examples of community-development activities may include partial support for a community-coordinated series of workshops, a community-accessible platform for

data sharing and compilation, and user-oriented support. LCLS MECI is the LINAC Coherent Light Source Materials under Extreme Conditions Instrument experimental end station at the Stanford Linear Accelerator Center. NDCX-II is the Neutralized Drift Compression Experiment upgrade at the Lawrence Berkeley National Laboratory.

In this funding cycle, NNSA wishes solely to fund the development of advanced diagnostic instruments, methods and experimental techniques, as discussed in the ReNew report, to be developed at the home institution or on intermediate scale HED facilities but that would, if the research is fruitful, have proposals to the National Ignition Facility (NIF). The intent here is to fund research and concept development and demonstration, only, and engineering development for fielding on NIF should not be part of the proposed work.

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.

Posted on the Office of Science Grants and Contracts Web Site: November 30, 2010