Office of Science
Notice DE-FG01-05ER05-21

Plasma Physics
Junior Faculty Development Program

Department of Energy

Office of Science Financial Assistance Program Notice
DE-FG01-05ER05-21; Plasma Physics Junior Faculty Development Program

AGENCY: U.S. Department of Energy

ACTION: Notice inviting grant applications.

SUMMARY: The Office of Fusion Energy Sciences (OFES) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving grant applications for support under its Plasma Physics Junior Faculty Development Program. Applications should be from tenure-track faculty investigators who are currently involved in experimental or theoretical plasma physics research and should be submitted through a U.S. academic institution. The purpose of this program is to support the development of the individual research programs of exceptionally talented scientists and engineers early in their careers.

DATES: A Letter-of-Intent (LOI), including information on collaborators and a one-page summary of the proposed research, are encouraged (but not required) and should be submitted by September 19, 2005, directly to OFES electronically at the address listed below.

Formal applications submitted in response to this notice must be received by 8:00 p.m., Eastern Time, October 18, 2005, in order to be accepted for merit review and to permit timely consideration for award in Fiscal
Year 2006.

ADDRESSES: Letters-of-Intent referencing Program Notice
DE-FG01-05ER05-21, should be sent to Mr. John Sauter by e-mail:
john.sauter@science.doe.gov, with a copy to Dr. Darlene Markevich at:
darlene.markevich@science.doe.gov. Please include the phrase "Junior Faculty Letter of Intent" in the subject line of the e-mail.

Formal Applications

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-FG01-05ER05-21 and the CFDA Number for the Office of Science is: 81.049. Instructions and forms are available on the 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: Dr. Darlene Markevich, Office of Fusion Energy Sciences, SC-24.2/Germantown Building, U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC 20585-1290, telephone: 301-903- 4920, e-mail: darlene.markevich@science.doe.gov.

SUPPLEMENTARY INFORMATION: The Plasma Physics Junior Faculty Development Program was started in Fiscal Year 1997. A principal goal of this program is to identify exceptionally talented plasma faculty members early in their careers and to assist and facilitate the development of their research programs. Eligibility for awards under this notice is, therefore, restricted to tenure-track regular academic faculty investigators who are conducting experimental or theoretical plasma physics research. Those Junior Faculty members presently holding career development awards will not be considered under this announcement.

Applications from Junior Faculty involved in any area of plasma physics research, not only magnetic fusion, are welcomed and encouraged. Emphasis is to be placed on the fundamental plasma physics elements of the research as opposed to applications of plasma physics. In determining awards among closely ranked applications, preference will be given to those applications whose proposed research is the most relevant to the current research interests of OFES. (Please refer to the Fusion Energy Sciences section of the current Office of Science, "Continuing Solicitation for all Office of Science Programs Notice DE-FG01-05ER05-01," for information on the fusion program research interests at: http://www.science.doe.gov/grants/. On or about October 1, 2005, a new solicitation for Fiscal Year 2006 will be posted - DE-FG01-06ER06-01). For applications to be considered for funding, certification of the status of the applicant as a tenure-track regular academic faculty member by the head of the applicant's

academic department or other university/college certifying official will be required before the grant is awarded. Awards made under this program will help to maintain the vitality of university plasma physics research and ensure continued excellence in the teaching of plasma physics and related disciplines.

Program Funding

It is anticipated that a total of up to $450,000 will be available in Fiscal Year 2006 for funding the program. Annual funding levels up to $150,000 per award may be made available for grants under this notice with a project period starting late in Fiscal Year 2006, contingent upon the availability of appropriated funds. Funding above this level (typically for equipment) will be considered on a case-by-case basis. The number of awards during Fiscal Year 2006 will depend on the number of meritorious applications and the availability of appropriated funds. Multiple-year funding of grant awards is expected, with funding provided on an annual basis subject to availability of funds, progress of the research, and continuing program need. The usual duration of these grants is three years and they will not be renewed under the Plasma Physics Junior Faculty Development Program after the project period is completed. It is anticipated that at the end of the grant period, grantees will submit new grant applications to continue their research to the Department of Energy or other Federal funding agencies. DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted.

Letter-of-Intent

The primary purpose of the Letter-of-Intent (LOI) is to assist the OFES 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.

Application

(Please Note Special Instructions Below on Page Limits and Content)

Because we expect that some reviewers will be asked to review several applications, all applications should be limited to a maximum of twenty (20) pages or less (including text and figures) of technical information. The PDF file may also include a few selected publications in an Appendix as background information. In addition, please limit biographical and publication information for the principal investigator and key personnel to no more than two pages each. The page count of 20 does not include the Face Page and Budget Pages, the Title Page, the biographical material and publication information, or any Appendices. However, it is important that the 20 page technical information section provide a complete description of the proposed work, since reviewers are not obliged to read the Appendices.

Applicants are asked to use the following ordered format:

- **Project Abstract Page**; single page only, should contain:
  - Title
  - Principal investigator name, postal address, e-mail address, and telephone number
  - Abstract text should concisely describe the overall project goal in one sentence and limit background/significance of project to one sentence. Short descriptions of each individual aim should focus on what will actually be done.
- **Background and Recent Accomplishments**
- **Budget pages** for each year and a summary budget page for the entire project period
- **Budget Explanation**
- **Project Description, 20 pages or less,** exclusive of attachments. The project description should be a clear statement of the work to be undertaken. The statement should outline the general plan of work, including project schedule, goals, and deliverables, and an adequate description of methods and procedures.
- **Literature Cited**
- **Biographical Sketches** (please limit to 2 pages per individual)
- **Facilities and Resources** description
- **Current and Pending Support**
- **Letters** from collaborators (if applicable)

General information about development and submission of applications, eligibility, limitations, evaluations and selection processes, and other policies and procedures may be found in the Application Guide for the Office of Science Financial Assistance Program and 10 CFR Part 605. Electronic access to SC's Financial Assistance Guide is possible via the Internet using the following Web site address: http://www.science.doe.gov/grants/. Any specific instructions included in this notice supersede those in the general information referred to above. DOE is under no obligation to pay for any costs associated with the preparation or submission of an application. The information required by 10 CFR Part 605 should be conveyed by the application using the above format wherever possible.

Merit and Relevance Review

Applications will be subjected to formal merit review and will be evaluated against the following criteria, which are listed in descending order of importance as set forth in 10 CFR Part 605 at: (http://www.science.doe.gov/grants/605index.html). Included with each criterion are typical, detailed questions that are usually asked of the reviewers.

1. Scientific and/or technical merit of the proposed research

- Does this application address an important problem in basic plasma physics?
- How does the proposed research compare with other research in its field, both in terms of scientific and technical merit and originality?
- What is the likelihood that it will lead to new or fundamental advances in its field?

2. Appropriateness of the proposed method or approach

- Are the conceptual framework, methods, and analyses adequately developed and likely to lead to scientifically valid conclusions?
- Does the proposed research employ innovative concepts or methods?
- Does the applicant recognize significant potential problems and consider alternative strategies?

3. Competency of the applicant's personnel and adequacy of the proposed resources

- How well qualified are the applicant's personnel to carry out the proposed research? (If appropriate, please comment on the scientific reputation and quality of recent research by the principal investigator and other key personnel.)
- Please comment on the applicant's research environment and resources.
- Does the proposed work take advantage of unique facilities and capabilities and/or make good use of collaborative arrangements?

4. Reasonableness and appropriateness of the proposed budget

- Are the proposed budget and staffing levels adequate to carry out the proposed research?
- Are there hidden costs that have not been identified and included in the requested budget?

5. Other Appropriate Factors

- Could the proposed research make a significant contribution to another field?
- Is there potential for spin-offs?
- Please comment on the educational benefits of the proposed activity, including the involvement of graduate and undergraduate students.

6. Additional constructive comments for the principal investigator

- What are the overall strengths and weaknesses of the application?

7. Is the grant application responsive to the announcement under which it was submitted (DE-FG01-05ER05-21)?

- One of the goals of the Plasma Physics Junior Faculty Development Program is to maintain the vitality of university plasma physics research and ensure continued excellence in the teaching of plasma physics and related disciplines. To what extent will funding this application support this goal?

The evaluation will also include program policy factors such as the relevance of the proposed research to the Department's programmatic needs. The selected projects will be required to acknowledge support by DOE in all public communication of the research results.

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

Martin Rubinstein
Science Programs Support Division
Office of Science

Posted on the Office of Science Grants and Contracts Web Site
August 2, 2005.