Office of Science
Notice 01-04

Division of Materials Sciences and Engineering, Robotics and Intelligent Machines (RIM) Program

Department of Energy
Office of Science

Office of Science Financial Assistance Program Notice 01-04; Division of Materials Sciences and Engineering, Robotics and Intelligent Machines (RIM) Program

AGENCY: U.S. Department of Energy

ACTION: Notice inviting academic research grant applications.

SUMMARY: The Office of Basic Energy Sciences (BES) of the Office of Science (SC), U.S. Department of Energy (DOE), supports fundamental research in the natural sciences and engineering leading to new and improved energy technologies and to understanding and mitigating the environmental impacts of energy technologies. In keeping with its mission, the DOE hereby announces its interest in receiving grant applications for support under its Robotics and Intelligent Machines (RIM) Program. RIM is critical to the DOE in facing issues related to budget pressures, energy efficiency, safety, and security. Applications should be from investigators who are currently involved in basic research in this area, and should be submitted through an U.S. academic institution. The purpose of this program is to support fundamental research in Robotics and Intelligent Machines for the present and future needs of the Department of Energy.

Restricted Eligibility: Eligibility is restricted to academic research institutions. This is required by the Fiscal Year 2001, Congressional Budget for the DOE Office of Science, where it is stated "a new, university-based research effort in Robotics and Intelligent Machines will focus on sensors and sensor integration, remote operation and data acquisition, and controls."

DATES: Potential applicants are strongly encouraged to submit a brief pre-application. DOE should receive all pre-applications, referencing Program Notice 01-04, by 4:30 P.M., E.S.T., January 2, 2001. A response to the pre-applications encouraging or discouraging a formal application will be communicated to the applicant within approximately thirty days of receipt. The deadline for receipt of

formal applications is 4:30 P.M., E.S.T., March 20, 2001, in order to be accepted for programmatic and merit review and to permit timely consideration for award in Fiscal Year 2001.

ADDRESSES: All pre-applications, referencing Program Notice 01-04, should be sent to Dr. Robert Price, Division of Materials Sciences and Engineering, SC-131, Office of Science, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874-1290.

After receiving notification from DOE encouraging submission of a formal application, applicants should send formal applications to: U.S. Department of Energy, Office of Science, Grants and Contracts Division, SC-64, 19901 Germantown Road, Germantown, MD 20874-1290, ATTN: Program Notice 01-04. This above address must also be used when submitting applications by U.S. Postal Service Express, any commercial mail delivery service, or when hand carried by the applicant. An original and seven copies of the application must be submitted. Due to the anticipated number of reviewers, it would be helpful for each applicant to submit an additional four copies of the application.

FOR FURTHER INFORMATION CONTACT: Dr. Robert Price, Program Manager, Engineering Sciences Program, Division of Materials Sciences and Engineering, SC-131, Office of Science, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874-1290, Telephone: (301) 903-3565, Facsimile: (301) 903-9513 or Internet E-mail address: bob.price@science.doe.gov . The full text of Program Notice 01-04 is available via the World Wide Web at the following address: http://www.sc.doe.gov/production/grants/grants.html.

SUPPLEMENTARY INFORMATION: The emphasis of this program is on the engineering science developments that are needed for deployment of mobile intelligent machines with robust behavior and reduced complexity. Such systems are critically needed in a wide spectrum of settings in the Department of Energy, such as the extension of human capabilities to sense, perceive, and interact with phenomena at a distance or in hazardous or inaccessible locations along with improved information handling. Engineering science developments for the needs of improving the design and deployment of a team of mobile intelligent machines will be considered for funding under this program. Research topics include but are not limited to, scientifically ground breaking forefront investigations involving:

- Inherently distributed missions in dynamic, uncertain environments.
- Sensor integration for distributed RIM systems.
- Revolutionary collaborative research using remote and virtual systems.

- Intelligent machine concepts and controls methodologies for manipulative tasks.
- Improved operation and remote usage of SC strategic facilities to meet programmatic needs.

Additional information on RIM may be found by opening the following site on the World Wide Web: http://www.rim.doe.gov/ or by doing a search on rim.doe.gov. If you are unable to get this information, contact Dr. Robert Price at 301-903-3565 or at his previously listed address and the information will be provided.

Program Funding

This is a new program and it is anticipated that approximately $2,000,000 will be available in FY 2001 for research in Robotics and Intelligent Machines. Multiple-year funding of grant awards is expected subject to satisfactory progress of the research, and the availability of funds. Awards are expected to range up to a maximum of $500,000 annually with terms from one to three years. The number of awards and range of funding will depend on the number and quality of applications received and selected for award. Award funds will be provided to the recipient organization for the purpose of supporting the research efforts and may include travel and lodging, faculty or student stipends, materials, services and equipment.

Applications

To minimize undue effort on the part of applicants and reviewers, interested parties are invited to submit pre-applications. The pre-applications will be reviewed relative to the scope and research needs of the Department of Energy. The brief pre-application must consist of a three to five page project description describing the research objectives and methods of accomplishment, along with an estimated budget and biographical information limited to two pages per Principal Investigator and co-Principal Investigator. The pre-applications will be reviewed by the programmatic research area program manager, to determine the relevance of the research to the DOE, appropriateness for support in Engineering research and the priority of research. Based on this review, DOE/RIM management will recommend formal submission of some of the applications to the Department. A telephone number, facsimile number, and e-mail address are required parts of the pre-application. Further instructions regarding the contents of pre-application and other pre-application guidelines can be found on the SC Grants and Contracts web site at: http://www.sc.doe.gov/production/grants/preapp.html.

Formal applications, when received, will be subjected to scientific merit review (peer review) and will be evaluated against the following evaluation criteria, listed in descending order of importance as codified at 10 CFR Part 605.10(d).

1. Scientific and/or technical merit of the project;
2. Appropriateness of the proposed method or approach;
3. Competency of applicant's personnel and adequacy of proposed resources;
4. Reasonableness and appropriateness of the proposed budget.

The evaluation will include program policy factors such as the relevance of the proposed research to the terms of the announcement and an agency's programmatic needs and priority. Note, external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Non-federal reviewers will often be used, and submission of an application constitutes agreement that this is acceptable to the investigator(s) and the submitting institution. Other applications received by SC under its current competitive application mechanisms that meet the criteria outlined in this Notice may also be deemed appropriate for consideration under this announcement and may be funded under this program. General information about the development and submission of pre-applications, applications, eligibility, limitations, evaluation, and selection processes, and other policies and procedures are contained in the Application Guide for the Office of Science Financial Assistance Program and 10 CFR Part 605. Electronic access to the latest version of SC's Financial Assistance Guide is possible via the Internet at the following web site address: http://www.sc.doe.gov/production/grants/grants.html .

Additional information regarding format, preparation and specific requirements may be found at web site address:
http://www.sc.doe.gov/production/bes/EPSCoR/APPLI1.HTM .

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

John Rodney Clark
Associate Director of Science
for Resource Management

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