

high-speed networks for data transfers over long distances.

- Optimization techniques for complex networks—advanced stochastic optimization techniques that can be used to characterize complex traffic processes in large-scale networks. This may include, but is not limited to, computational intelligence, chaos theory, large-scale simulations, and multi-scale theory.

Grant applications addressing the above problems must go beyond the development of tools and emphasize mathematical analysis, formal specification, and rigorous techniques for validating the performance of their proposed solutions.

Background: Early Career Principal Investigator Program

This is the third year of the Early Career Principal Investigator Program. A principal goal of this program is to identify exceptionally talented applied mathematicians, collaborative researchers, computer scientists, and high-performance networks researchers early in their careers and assist and facilitate the development of their research programs. Eligibility for awards under this notice is restricted to applicants who meet all of the following criteria:

(1) Be employed in a tenure-track position (or tenure-track-equivalent position) as an assistant professor (or equivalent title).

(2) Are conducting research in applied mathematics, collaborative, computer science, or high-performance networks.

Applications should be submitted through a U.S. academic institution. Applicants should request support under this notice for normal research project costs as required to conduct their proposed research activities, such as part of the PI's salary, graduate and/or undergraduate students, post-doctoral researchers, equipment and facilities, and travel. However, no salary support will be provided for other faculty members or senior personnel.

Applicants who have submitted or will be submitting similar grant applications to other programs are eligible for this notice, as long as the details of the other submission are contained in the grant application to DOE. Applicants who have an NSF CAREER award, or are applying for such an award, are eligible for this notice. Applicants do not have to be U.S. citizens, and may be non-permanent resident aliens or have an H1b visa.

Program Funding

It is anticipated that up to \$2 million will be available for up to twenty (20) awards for exceptional applications in Fiscal Year 2004, to meet the needs of the program, contingent upon the availability of appropriated funds. The maximum support that can be requested under this notice is \$100,000 per year for three years.

Multiple-year funding of grant awards is expected, with funding provided on an annual basis subject to the availability of funds, progress of the research, and programmatic needs. The typical duration of these grants is three years, and they will not normally be renewed after the project period has been completed. It is anticipated that at the end of the grant period, grantees will submit new grant applications to continue their research to DOE or other Federal funding agencies. We expect that the awards will be announced and the projects will begin in early summer 2004.

Merit Review

Applications will be subjected to scientific merit review (peer review) and will be evaluated against the following evaluation criteria, which are listed in descending order of importance as codified at 10 CFR 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 of applications under item 1, Scientific and Technical Merit, will pay attention to the responsiveness of the proposed research to the challenges of the MICS base research programs in Applied Mathematics, Collaboratory Research, Computer Science, and Network Research.

It is expected that the application will include involvement of graduate and/or undergraduate students in the proposed work.

Applicants are encouraged to collaborate with DOE National Laboratory researchers. The collaborations may include one, or more, extended visits to the laboratory by the applicant each year. Such an arrangement, if proposed, must be clearly explained in the grant application. Furthermore, a letter of support from the DOE National Laboratory collaborator(s) should be included with the application. A list of

the DOE National Laboratories can be found at: http://www.sc.doe.gov/sub/lab_map/index.htm.

Grantees under the Early Career Principal Investigator Program may apply for access to high-performance computing and network resources at several National Laboratories. Such resources include, but are not limited to, the National Energy Research Scientific Computing (NERSC) Center: <http://www.sc.doe.gov/ascr/mics/nersc/index.html>; the Advanced Computing Research Testbeds <http://www.sc.doe.gov/ascr/mics/acrt/index.html>; the Energy Sciences Network <http://www.sc.doe.gov/ascr/mics/esnet/index.html>; and the High-Performance Networking Research effort at the Oak Ridge National Laboratory; <http://www.csm.ornl.gov/net>.

The evaluation under item 2, Appropriateness of the Proposed Method or Approach, will consider the quality of the proposed plan, if any, for interacting with a DOE National Laboratory.

Please note that external peer reviewers are selected with regard to both their scientific expertise in the subject area of the grant application 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 and the submitting institution.

Submission Information

Each grant application submitted should clearly indicate on which of the four following components of the MICS research portfolio the application is focused: Applied Mathematical Sciences Research, Collaboratory Research, Computer Science Research, or High-Performance Networks Research.

The Project Description should be 20 pages or less, exclusive of the bibliography and other attachments. It must contain an abstract or project summary on a separate page with the name of the applicant, mailing address, phone, Fax and E-mail listed, and a short curriculum vita for the applicant.

To provide a consistent format for the submission, review, and solicitation of grant applications under this notice, the preparation and submission of grant applications must follow the guidelines given in the Application Guide for the Office of Science Financial Assistance Program, 10 CFR part 605. Access to SC's Financial Assistance Application Guide is possible via the World Wide Web at: <http://www.science.doe.gov/production/grants/grants.html>. DOE is under no obligation to pay for any costs