



**National Science Foundation**

4201 Wilson Boulevard  
Arlington, Virginia 22230

## **DCL 2010 EFRI Topic Solicitation**

### **SUBJECT: TOPIC SOLICITATION FOR FY 2010 EMERGING FRONTIERS IN RESEARCH AND INNOVATION**

**Dear Colleagues,**

The purpose of this letter is to invite the research community to submit suggestions for topics to be considered for the 2010 Program Solicitation of the Office of Emerging Frontiers in Research and Innovation (EFRI). You may do so by accessing the following website - <http://www.nsf.gov/eng/efri/efri2010/> - and submitting your topic idea along with a one-page description. Please follow the instructions provided.

**BACKGROUND** - EFRI was established on October 1, 2006, as a result of strategic planning and reorganization of NSF Directorate for Engineering (ENG). Motivated by the vision of ENG to be the global leader in advancing the frontiers of fundamental engineering research, EFRI serves a critical role in focusing the engineering community on important emerging areas in a timely manner. Each year, EFRI evaluates, recommends, and funds interdisciplinary initiatives at the emerging frontiers of engineering research and education. These frontier ideas cannot be pursued by one researcher or within one field of expertise. They are "frontier" because they not only push the limits of knowledge of one field, but actually overlap multiple fields. The EFRI funding process is designed to both inspire and enable several different experts to work together on one frontier idea.

The role of EFRI is to support research opportunities that would be difficult to fund through the current funding mechanisms of Small Grants for Exploratory Research (SGER), typical core program awards, or large research center awards. EFRI invests in higher risk opportunities with high potential payoff. These transformative opportunities may lead to: new research directions; new industries or capabilities that result in a leadership position for the country; and/or significant progress on a recognized national need or grand challenge.

The EFRI Office continuously gathers information for use in deciding what research areas to support. EFRI manages a process of selecting, announcing, and funding new frontier areas. This process functions throughout the year, ensuring continual input and feedback from the engineering community on promising future research opportunities. This input comes from such diverse sources as workshops, advisory committees, technical meetings, professional societies, proposals and awards, and NSF Committees of Visitors. From this comprehensive input, ENG identifies, evaluates, and prioritizes those frontier topics that best match the EFRI criteria.

**TOPICS AND AWARDS TO DATE** - In FY 2007 and FY 2008, EFRI funded a total 24 interdisciplinary proposals in four topic areas. Each proposal was funded at approximately a total of \$2M over four years. You can review these EFRI topics and awards by accessing the EFRI website ([www.nsf.gov/eng/efri](http://www.nsf.gov/eng/efri)).

In order to provide a wider and more direct opportunity for the research community to provide input on selection of topic ideas for FY 2010, NSF ENG is inviting the community to submit their best emerging frontier idea suggestion for consideration by NSF.

**YOUR OPPORTUNITY TO CONTRIBUTE: THINK ENGINEERING** - The topic ideas you submit should not provide a summary or justification for your own ongoing research activities. Instead, they should provide forward-looking views and identify opportunities in emerging frontiers of research and innovation across the fields of engineering. Note that topics or areas of opportunity should be those that cannot be supported through other programs at NSF. All the information you submit will remain confidential and will not be communicated in any form outside NSF. There will be no feedback or evaluation to submitters on their ideas. The information will be reviewed and considered by NSF staff in their process of identifying and selecting frontier topic areas for FY 2010 EFRI solicitation.

**INFORMATION WEBCAST**- The EFRI Office plans to hold two information workshops, one on September 10, 2008, at 3 p.m. (Eastern Time) and a second one on September 29, 2008, at 1 p.m. (Eastern Time) to answer any questions. Details of EFRI webcast are posted on the EFRI website ([www.nsf.gov/eng/efri](http://www.nsf.gov/eng/efri)).

We thank you in advance for taking the time to submit your emerging frontier ideas to NSF Directorate for Engineering.

Sincerely,

Sohi Rastegar  
Director, Office of Emerging Frontiers  
in Research and Innovation  
NSF Engineering Directorate