

Weekly NSF Funding Opportunities and News Items

March 28, 2008

- **Webinar: Preparing Evaluation Plans for CCLI Proposals**

Apr 1 2008 11:00AM EDT

April 2, 2008, 2:00 p.m. EDT

April 3, 2008, 4:00 p.m. EDT

URL will be e-mailed to registrants

With the assistance of SRI International, a non-profit institute specializing in evaluation, NSF is sponsoring an informative online forum for understanding how to prepare sound evaluation plans for Phase I project proposals to NSF's Course, Curriculum, and Laboratory Improvement (CCLI) program.

Full announcement:

http://www.nsf.gov/events/event_summ.jsp?cntn_id=111244&govDel=USNSF_13

- **Bridges to the Future Webcast Conference**

Apr 10 2008 12:30PM to Apr 10 2008 5:30PM

NSF Webcast

This webcast discussion will explore the best ideas for improving American infrastructure and building a better, safer future. The panels are:

***The Smart Grid* 12:30 p.m. ET**

Second-by-second information sharing among households, utilities and even individual appliances may revolutionize the grids that distribute electricity throughout the country. Panelists will explore how to make the grid more resilient and nimble, saving energy and forestalling blackouts.

***Water in 2025* 2:30 p.m. ET**

Over the next generation, water supplies in the United States will face increasing pressure. Panelists will lay out the challenges, which range from leaky municipal water systems to growing populations, and explore technology to ensure that fresh water remains safe and plentiful.

***Standing Strong* 4:30 p.m. ET**

It's been half a year since the I-35W bridge in Minneapolis collapsed. In that time, there has been fresh debate over how to fix America's bridges and roads. Panelists will discuss state-of-the-art building technology and how such ideas should be applied to dams, buildings, roads and more.

More at

http://www.nsf.gov/events/event_summ.jsp?cntn_id=111327&govDel=USNSF_13

- **Advanced Learning Technologies (ALT) (NSF 06-535)**

Through the Advanced Learning Technologies (ALT) program, the CISE and EHR Directorates of NSF support research that (1) enables radical improvements in learning through innovative computer and information technologies, and (2) advances research in computer science, information technology, learning, and cognitive science through the unique challenges posed by learning environments and learning technology platforms. Integrative research approaches that build across disciplines and establish tight linkages among theory, experiment, and design are strongly encouraged. Technology goals may include systems for tutoring or assessment, modeling and sensing of cognitive or emotional states, context awareness, natural language interfaces, collaboration, knowledge management, and non-traditional goals that redefine the roles of technology in learning. Educational foci for ALT projects must include an area of science,

technology, engineering, or mathematics (STEM), or general cross-cutting skills directly relevant to STEM.

Full announcement: <http://www.nsf.gov/pubs/2006/nsf06535/nsf06535.htm>

- **Integrative Graduate Education and Research Traineeship Program (IGERT) (NSF 08-540)**

The Integrative Graduate Education and Research Traineeship (IGERT) program has been developed to meet the challenges of educating U.S. Ph.D. scientists and engineers who will pursue careers in research and education, with the interdisciplinary backgrounds, deep knowledge in chosen disciplines, and technical, professional, and personal skills to become, in their own careers, leaders and creative agents for change. The program is intended to catalyze a cultural change in graduate education, for students, faculty, and institutions, by establishing innovative new models for graduate education and training in a fertile environment for collaborative research that transcends traditional disciplinary boundaries. It is also intended to facilitate diversity in student participation and preparation, and to contribute to a world-class, broadly inclusive, and globally engaged science and engineering workforce.

Full announcement: <http://www.nsf.gov/pubs/2008/nsf08540/nsf08540.htm>

- **Advanced Technological Education (ATE) (NSF 07-530)**

With an emphasis on two-year colleges, the Advanced Technological Education (ATE) program focuses on the education of technicians for the high-technology fields that drive our nation's economy. The program involves partnerships between academic institutions and employers to promote improvement in the education of science and engineering technicians at the undergraduate and secondary school levels. The ATE program supports curriculum development; professional development of college faculty and secondary school teachers; career pathways to two-year colleges from secondary schools and from two-year colleges to four-year institutions; and other activities. A secondary goal is articulation between two-year and four-year programs for K-12 prospective teachers that focus on technological education. The program also invites proposals focusing on applied research relating to technician education.

Full announcement: <http://www.nsf.gov/pubs/2007/nsf07530/nsf07530.htm>

- **National Science, Technology, Engineering, and Mathematics Education Digital Library (NSDL) (NSF 08-554)**

This program aims to establish a national network of learning environments and resources for science, technology, engineering, and mathematics (STEM) education at all levels. The program has four tracks: Pathways projects are expected to provide stewardship for the content and services needed by major communities of learners. Services projects are expected to develop services that support users and resource collection providers that enhance the impact, efficiency, and value of the NSDL network. Targeted Research projects are expected to explore specific topics that have immediate applicability to collections, services, and other aspects of the development of the NSDL network. The NSDL Resource Center will provide collaboration assistance across all projects; undertake strategic partnership development on behalf of projects particularly with respect to non-academic entities; coordinate and, in some cases, perform thematic research and evaluation studies related to the program; synthesize findings across the portfolio; and disseminate findings of the accomplishments of the NSDL program. In FY2008, within the first three tracks the program will accept proposals for large grants in 1) the Pathways track, 2) a new sub-track: Pathways - Stage II, and 3) specific sub-tracks of Services - including a single Technical network services project to provide technical infrastructure support across the NSDL network. In all tracks, except for the NSDL Resource Center, the program will also accept proposals for small grants that extend or enhance results from existing services, collections, or targeted research activity so as to enlarge the user audience for the NSDL network or improve capabilities for the user.

Full announcement:

http://www.nsf.gov/pubs/2008/nsf08554/nsf08554.htm?govDel=USNSF_25

- **Science, Technology, and Society (STS) (NSF 08-553)**

STS considers proposals that examine historical, philosophical, and sociological questions that arise in connection with science, engineering, and technology, and their respective interactions with society. STS has four components:

1. Ethics and Values in Science, Engineering and Technology (EVS),
2. History and Philosophy of Science, Engineering and Technology (HPS),
3. Social Studies of Science, Engineering and Technology (SSS),
4. Studies of Policy, Science, Engineering and Technology (SPS).

The components overlap, but are distinguished by the different scientific and scholarly orientations they take to the subject matter, as well as by different focuses within the subject area. STS encourages the submission of hybrid proposals that strive to integrate research involving two or more of these core areas.

STS provides the following modes of support:

1. Scholars Awards,
2. Standard Research Grants and Grants for Collaborative Research,
3. Postdoctoral Fellowships,
4. Professional Development Fellowships,
5. Doctoral Dissertation Research Improvement Grants,
6. Small Grants for Training and Research,
7. Conference and Workshop Awards,
8. Other Funding Opportunities.

Full announcement:

http://www.nsf.gov/pubs/2008/nsf08553/nsf08553.htm?govDel=USNSF_25

News and Articles of Interest

- **Secrets of Plant Genomes Revealed!**

Plant genome research is already revolutionizing the field of biology. Currently, scientists are unlocking the secrets of some of the most important plants in our lives, including corn, cotton and potatoes.

http://www.nsf.gov/news/mmg/mmg_disp.cfm?med_id=61504

- **Countering an Approaching Water Crisis**

As growing demand for clean water stretches even the resources of the world's largest industrialized nations, scientists and engineers are turning to new technology and novel ideas to find solutions.

http://www.nsf.gov/news/news_summ.jsp?cntn_id=111305&govDel=USNSF_51

- **Contact Lenses With Circuits**

Contact lenses with metal connectors for electronic circuits were safely worn by rabbits in laboratory tests at the University of Washington (UW).

A virtual display like this could be used by drivers or pilots to see a vehicle's speed projected onto the windshield; by video-game companies who could use the contact lenses to completely immerse players in a virtual world without restricting their range of motion; or, in the field of communications, by people on the go who could surf the Internet on a midair virtual display screen that only they would be able to see.

http://www.nsf.gov/news/mmg/mmg_disp.cfm?med_id=62145

- **Stainless Steel Microneedles**

Researchers at Georgia Institute of Technology and Emory University are studying the use of microneedle arrays as an alternative to traditional hypodermic needles for delivering flu vaccine. The tiny needles are too small to significantly stimulate nerve endings in the skin, so they can be applied without causing pain. Researchers envision

that microneedle patches, coated with a powdered form of the vaccine, could be mailed to persons who need the immunization, thus eliminating the need to visit a medical facility. The microneedle arrays can also be used to deliver other drugs and vaccines.

http://www.nsf.gov/news/mmg/mmg_disp.cfm?med_id=62132

- **Rich Terrorist, Poor Terrorist**

New research suggests political freedom and geographic factors contribute significantly to causes of terrorism, challenging the common view that terrorism is rooted in poverty.

http://www.nsf.gov/news/news_summ.jsp?cntn_id=111328&govDel=USNSF_51

- **Flying Into a Hurricane: A First-Hand Account**

A NOAA research meteorologist shares what it's like to fly into the eye of a Category 5 hurricane

http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=111167&govDel=USNSF_1