Weekly NSF Funding Opportunities and News Items

March 7, 2008

- **Division Plan for Chemical, Bioengineering, Environmental and Transport Systems (NSF 08008)**
  http://www.nsf.gov/pubs/2008/nsf08008/nsf08008.pdf?govDel=USNSF_25

- **Collaborative Research in Chemistry (CRC) (NSF 07-581)**
  The CRC Program is designed to promote collaborative research in a coherent, defined project at the forefront of the chemical sciences. CRC proposals will involve three or more investigators with complementary expertise. Co-investigators may include researchers with backgrounds in diverse areas of chemistry and other science and engineering disciplines appropriate to the proposed research. The use of cyber-infrastructure to enable and enhance collaborations is encouraged.
  http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5115&govDel=USNSF_39

- **Petascale Computing Resource Allocations (PRAC) (NSF 08-529)**
  In 2011, a new NSF-funded petascale computing system, Blue Waters, will go online at the University of Illinois. The goal of this facility is to open up new possibilities in science and engineering by providing computational capability that makes it possible for investigators to tackle much larger and more complex research challenges across a wide spectrum of domains. The purpose of this solicitation is to invite research groups that have a compelling science or engineering challenge that will require petascale computing resources to submit requests for allocations of resources on the Blue Waters system. Proposers must be prepared to demonstrate that they have a science or engineering research problem that requires and can effectively exploit the petascale computing capabilities offered by Blue Waters. Proposals from or including junior researchers are encouraged as one of the goals of this solicitation is to build a community capable of using petascale computing.
  http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503224&govDel=USNSF_39

- **Center for Research at the Interface of the Mathematical and Biological Sciences (CIMBS) (NSF 07-597)**
  This solicitation requests proposals to establish a Center to stimulate research and education at the interface of the mathematical and biological sciences. The Center will serve the biological and mathematical communities by providing mechanisms to foster synthetic, collaborative, cross-disciplinary studies. It will play a pivotal role by improving understanding and modeling of biological problems that can be gained only by using approaches of mathematical, statistical and computational biology. The Center also will play a critical role in addressing national needs, including the area of plant and animal infectious disease modeling, and provide knowledge that will be useful to policy makers, government agencies, and society.
  http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=502099&govDel=USNSF_39

- **Expeditions in Computing (NSF 07-592)**
  The far-reaching impact and rate of innovation in the computing and information disciplines has been remarkable, generating economic prosperity and enhancing the quality of life for people throughout the world. But the best is yet to come!
  The Directorate for Computer and Information Science and Engineering (CISE) has created the Expeditions in Computing (Expeditions) program to provide the CISE

research and education community with the opportunity to pursue ambitious, fundamental research agendas that promise to define the future of computing and information. In planning Expeditions, investigators are encouraged to come together within or across departments or institutions to combine their creative talents in the identification of compelling, transformative research agendas that promise disruptive innovations in computing and information for many years to come.
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503169&govDel=USNSF_39

- **March Newsletters/Journals**
  http://www.nsf.gov/news/newsletter/mar_08/index.jsp?govDel=USNSF_94

- **Ethics Education in Science and Engineering (EESE) (NSF 08-530)**
  The Ethics Education in Science and Engineering (EESE) program accepts proposals for research and educational projects to improve ethics education in all of the fields of science and engineering that NSF supports, especially in interdisciplinary or inter-institutional contexts. Proposals must focus on improving ethics education for graduate students in those fields, although the proposed programs may benefit advanced undergraduates in addition to graduate students.
  http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13338&govDel=USNSF_39

- **Communicating Hurricane Information (CHI) (NSF 08-551)**
  This solicitation aims to advance basic research in the social, behavioral and economic sciences related to the communication of hurricane outlooks, forecasts, watches, and warnings both to decision makers (i.e., emergency managers, elected officials) and to the general public.
  Although all proposals addressing this topic will be considered, investigators are urged to consider specific communication concerns:
- How are messages received and understood?
- How do risk perceptions vary by demographic and cultural groupings?
- Do messages effectively reach the most vulnerable populations?
- What are the sources of information (the non-linear warning system) for different groupings?
- What are the influences of groups and social networks upon the risk communication process?
- Are key concepts (e.g., hurricane watches and warnings) understood by decision makers as well as the general public?
- Would new concepts (e.g., a “parallel” measure to the Saffir-Simpson scale) be useful to improve communications?
- Would the use of new technologies improve communications?
- How can the use of probabilistic information be improved?
- What is the linkage between communications and behavior?
- How do multiple sources of information influence how decision makers (i.e., emergency managers, elected officials) and the public respond?
- How do responses vary by demographic and cultural groups, and among the most vulnerable?
- What are the obstacles to and opportunities for the effective use of hurricane forecasts, watches, and warnings?
  http://www.nsf.gov/pubs/2008/nsf08551/nsf08551.htm?govDel=USNSF_25

- **Memory on Trial**
  Research suggests that children's memory may be more reliable than adults' in court cases

The U.S. legal system has long assumed that all testimony is not equally credible, that some witnesses are more reliable than others. In tough cases with child witnesses, it assumes adult witnesses to be more reliable. But what if the legal system had it wrong?
http://www.nsf.gov/news/news_summ.jsp?cntn_id=111230&govDel=USNSF_51

- **Using Abstract Mathematics to Solve Real-World Problems**
  Researcher's mathematical theory used in new technologies to destroy cancerous tumors
  Dr. Roman Polyak is a fortunate man. In mathematics, his area of research, few get to see their discoveries translated into actual applications during their lifetime. Yet more than two decades after he first developed his theory and published it, Polyak watched a conference presentation that showed how his mathematics had translated into a device to help treat cancer.
  http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=111193&govDel=USNSF_10