



NSF Deputy Director Addresses Gulf Coast Alliance Forum

Two of the over-arching conclusions reached by the National Research Council of the National Academies in its recent report, "Network Science," were: "1) Networks are pervasive in all aspects of life: biological, physical, and social. They are indispensable to the workings of the global economy and to the defense of the U.S. against both conventional military threats and the threat of terrorism; and 2) Fundamental knowledge about the prediction of the properties of complex networks is primitive."

The Gulf States Alliance Steering Committee, comprised of representatives from **Alabama, Louisiana and Mississippi**, decided on **network science** as a research agenda that could propel the Gulf Region to competitiveness in the global community. The decision was based on the fresh approach of network science in addressing complex science and engineering issues, its propensity to stimulate discussions across the disciplines, and its potential to form strong research partnerships from the Gulf States Alliance: Network Science and Recovery Forum, held August 19-21, in Biloxi, MS. The following is the first in a series on the 2007 Gulf Coast Forum.

The EPSCoR program is one of the priorities of the National Science Foundation's 2008 fiscal year budget. It has also been moved under the Office of the NSF Director, in the Office of Integrated Activities. NSF Deputy Director Kathie Olsen made the announcements at the Forum's opening session.

The nine other NSF budget priorities are Cyber-enabled Discovery and Innovation; the National Nanotechnology Initiative; Ocean Research Priorities, which includes the Gulf of Mexico; Cyber Security Research and Development; International Science and Engineering; Preparing the Workforce for the 21st Century; Advanced LIGO (Laser Interferometer Gravitational-Wave Observatory), International Polar Year Leadership; and Stewardship.

Dr. Olsen also reported on NSF's post-Katrina activities, grant programs and opportunities.



Keynote speaker, Dr. Kathie Olsen, NSF Deputy Director, addressing the Forum's opening session.

NSF Post-Katrina Activities

"At NSF, we set up a telephone hotline, found email addresses for all NSF awardees in affected areas, offered automatic extensions of awards about to expire, and arranged the transfer of student and faculty awards. Working with EPSCoR offices, we asked those in Louisiana, Mississippi and

Alabama to function as a team and awarded each \$200,000 so they could serve as post-storm clearinghouses," said Dr. Olsen.

"An NSF working group was formed to coordinate our response, which included sending a team, unmanned robotic helicopters, and planes to evaluate the storm. Our senior management immediately reached out to our institutions, met with officials and visited affected regions.

"Supplemental and Small Grants for Exploratory Research (SGER) were awarded and 25 rapid response teams were supported in the area of Social, Behavioral, and Economic Sciences."

Dr. Olsen added that the SGER is evolving into a new program that will award two year grants of up to \$200,000 (but usually smaller) for preliminary work on untested and novel ideas. "These could include

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Gulf States Alliance - All for One & One for All



Dr. Les Guice, Forum Chair, giving a presentation at the Monday evening session.

How can the Gulf Coast region gain ground to compete in the global economy even as others in the nation invest heavily

in building already robust research and development programs?

Simply combining the assets of Alabama, Louisiana and Mississippi isn't the answer, cautioned Dr. Les Guice, Chair of both the Forum and the Louisiana EPSCoR Committee, at the Forum's Monday evening session.

"To make up ground, accelerate growth, and truly be the best in the nation, we will need to develop and implement strategies that build upon our resources and the key strengths of our universities, national labs, and industry partners. We need a compelling vision of where this region could be in the next decade and a strategy that ensures that the sum gain will be greater than its parts,"

challenged Dr. Guice, Louisiana Tech University Vice President for Research and Development.

"Furthermore, we must be committed to working together to pursue that vision and fulfill its objectives. This has to occur through the leadership of our research community, who must communicate its urgency to our universities, citizens, state delegations, and national decision-makers."

Noting that the Forum's goal and theme were inspired by two recent National Academy reports *Rising Above the Gathering Storm*, which speaks to issues of global competitiveness, the global innovation economy and the critical role

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Travel Grants Available To Visit Program Officers, Give Invited Talks

If you are a tenure-track researcher who plans to heed Deputy Director Kathy Olsen's advice on the importance of maintaining communications with your program director, Louisiana EPSCoR has just the program for you.

Travel Grants for Emerging Faculty (TGEF) provides eligible faculty with the opportunity to visit federal or private agency program officers and learn how to better structure a research proposal and to be more competitive in the peer review process. Additional funding is available if the applicant is accompanied by a faculty mentor.

TGEF also provides eligible faculty researchers with the opportunity to give plenary or major invited talks at regional, national or international meetings.

Faculty members who hold a regular tenure-track but untenured position at any Louisiana public institution of higher education or a private institution that belongs to the Louisiana Association of Independent Colleges and Universities are eligible for a TGEF award.

For detailed information on TGEF, go to <http://www.laregents.org> and click on Programs.

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ventures into emerging and potentially transformative research ideas; the application of new expertise or new approaches to 'established' research topics," she explained.

"They could also include those with a severe urgency with regard to the availability of, or access to, data, facilities or equipment, including quick-response research on natural or human-caused disasters and similar unanticipated events, as well as similar efforts that are likely to catalyze rapid and innovative advances."

NSF Grant Programs/Opportunities

- A new Science and Technology Centers competition is coming up.
- The Cyberinfrastructure program is being expanded; new grants dealing with petascale computing will soon be released.
- The Engineering Directorate has two new transformation grants that will be on the web in November/December.

- University-Industry Opportunities include Small Business Innovative Research/Small Business Technology Transfer, Partnerships for Innovation, and Advanced Technology Education.

- Opportunities for Graduate Students include Integrative Graduate Education and Research Traineeships, Graduate Research Fellowships, and Graduate Teaching Fellows for K-12 Education. NSF is also going global with an East Asia and Pacific Summer Institutes program that includes Australia.

Dr. Olsen, who responded to questions following her presentation, also offered some words of advice:

"When applying for NSF funding, you should talk to your program director prior to and during the application process. It's a significant factor for success that holds true for any federal agency."

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that science and engineering research play in the innovation process, and *Network Science*, which addresses issues related to the increasing complexity of society, Dr. Guice said:

"Our world is more connected than ever with large, complex, integrated and layered networks that are becoming even more so every day. Things that happen in one network layer will often impact things in other layers. Companies such as UPS, Amazon and Wal Mart, are capitalizing upon linkages between logistics, communications, information, and transportation networks to optimize supply chains, improve company performance, and reduce costs for customers.

"After the Gulf Coast experienced the worst natural disaster in U.S. history, we found that a major perturbation in our physical networks, such as levees, energy, transportation, and communications, had unanticipated impacts on our social networks, with families separated and lost; on faculty, with loss of data and research continuity, and career threatening impacts; on biological networks, with infections and disease transmission; on integrated information and health networks, poor medical care, and non-recoverable or missing medical records; and on ecological networks, with long-term environmental impacts.

"A network of Gulf Coast Region universities could conceivably lead to the innovative, cutting edge research that report after report indicates is the key for 21st Century competitiveness," concluded Dr. Guice.

To view the PowerPoint presentation, "Did You Know?" aka "Shift Happens," that concluded Dr. Guice's presentation, visit <http://thefischbowl.blogspot.com>.



Louisiana EPSCoR
P.O. Box 3677
Baton Rouge, LA 70821-3677
#4475