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Gulf States Alliance: Network Science and Recovery Forum

Elevating the scientific research competitiveness of the Gulf Coast region is the goal of the *Gulf States Alliance: Network Science and Recovery* Forum which will be held August 19-21, 2007 at the Beau Rivage Hotel in Biloxi, MS.

"The Forum's primary goal is to bring together major research leaders from Alabama, Louisiana and Mississippi to build collaborations connecting our significant physical resources and intellectual capital to propel our region into national research leadership," says Dr. Les Guice, Forum chair and vice president for research and development at Louisiana Tech University.

"If we can find ways to effectively leverage the region's tremendous resources through collaborative research, our region can truly excel at the national level.

"The forum's general theme of 'network science' as defined in the recent National Research Council report, *Network Science*, was selected as a basis for stimulating discussions about new ways of addressing complex problems that span multiple disciplines," says Dr. Guice.

"Our steering committee, which includes research leaders from all three states, has done an excellent job in planning a program that includes speakers at the national and regional level," adds Dr. Guice. "We are also providing focused opportunities, such as poster and breakout sessions in which regional researchers can interact and learn more about the research strengths and resources throughout the Gulf States. (See Forum Agenda, page 2)

National Science Foundation and other federal program managers will be in attendance.

Save the Dates

August 19-21, 2007

Beau Rivage Hotel
875 Beach Blvd
Biloxi, Mississippi 39530

**Gulf States Alliance:
Network Science and Recovery**

Hotel registration deadline: July 25, 2007

Gulf Coast Post-Katrina Forum

Sponsored by the National Science Foundation EPSCoR programs in Alabama, Louisiana and Mississippi.

Forum registration is free, but required; pre-registration and hotel registration deadlines are both Wednesday, July 25.

For more information and to register, go to http://forum2007.laepscor.org.

Why Network Science?

What is it about network science that made it the focus of the Gulf States Alliance Forum?

"The higher education community is striving to help the Gulf States do more than recover from the devastating impact of the recent hurricanes," says Dr. Michael Khonsari, Louisiana EPSCoR Project Director. "Our goal is to determine which opportunities offer the most potential to leverage investments that will enable vast transformation and could catapult the region to a position of leadership in the scientific arena.

"Network science is an emerging field of investigation positioned at the beginning of its growth curve and of compelling national interest. It is also broad in scope, encompassing physical, biological and social networks."

He notes that the National Research Council of the National Academies, in its recent report, *Network Science*, for the U.S. Army, adopted the following working definition*: The study of network representations of physical, biological, and social phenomena leading to predictive models of the phenomena.*

"That is a fundamental shift in scientific thinking, away from a focus on individual components to one on the networks comprised of components," says Dr. Khonsari.

Two overreaching conclusions of the Council were that 1) networks, which are pervasive in all aspects of life, are indispensable to the workings of a global economy and the defense of the U.S. and 2) the fundamental knowledge about the prediction of the properties of complex networks is primitive. Many physical networks are advanced technologically, but their behavior under stress still cannot be predicted reliably.

The report says that the linkage of information networks has led to a global information grid to which the majority of the world's population is likely to be connected within the next decade, an unparalleled situation in history that will lead to social institutions and human behaviors never before seen or anticipated. The ability to design networks whose behaviors are predictable in their intended domains of applications is thus of particular importance.

The Council concluded that the high value attached to the efficient and failure-free operation of global engineered networks makes their design, scaling and operation a national priority. The ultimate value derived from these networks depends on the effectiveness with which humans use them. Because uses can be beneficial or detrimental, e.g. exploited, research into the interaction of social and engineering networks is also a national priority.

Dr. Khonsari emphasizes yet another reason for Gulf State universities to take the lead in network science:

"For those of us living in the Gulf Region, Hurricanes Katrina and Rita drove home the importance of being able to predict the outcome of large complex networks before you begin building them."

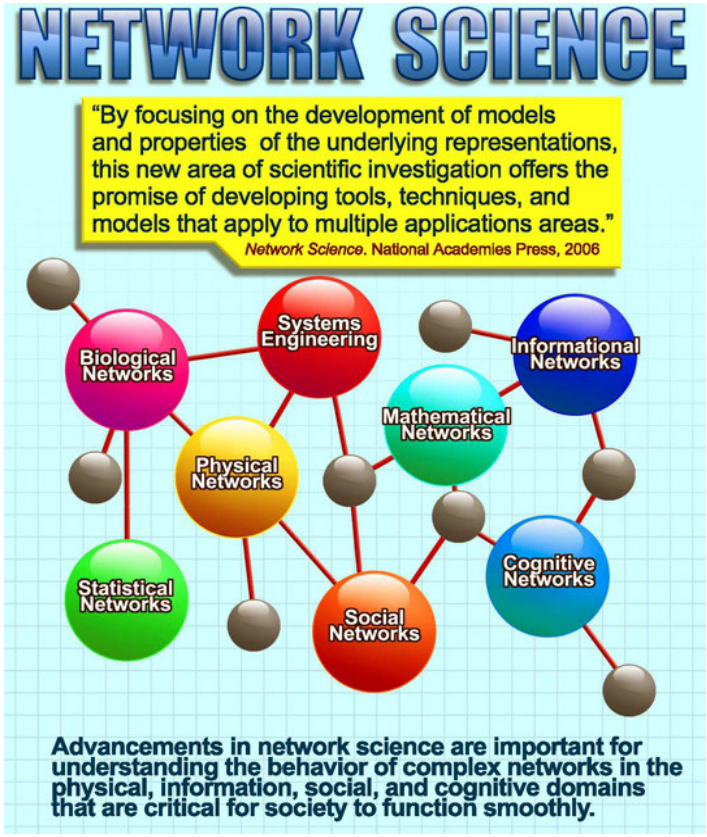
2007 FORUM AGENDA

Sunday, August 19, 2007

4:00 – 4:30 p.m. ……Welcome
Congressional and/or Governmental Representative (Invited)
4:30 – 6:00 p.m. ……Commissioners of Higher Education
Thomas C. Meredith, Commissioner of Higher Education, Mississippi Institutes of Higher Learning
Gregory G. Fitch, Executive Director, Alabama Commission on Higher Education
E. Joseph Savoie, Commissioner of Higher Education, Louisiana Board of Regents
6:00 – 7:30 p.m. ……Reception

Monday, August 20, 2007

8:00 – 5:00 p.m.……Poster Session
8:00 – 8:15 a.m. ……Welcome
Michael Khonsari, Louisiana EPSCoR Project Director, Board of Regents
Les Guice, 2007 Forum Chair, Louisiana Tech University
8:15 – 9:00 a.m. ……**Kathie Olsen**
Deputy Director, National Science Foundation
NSF Investments
9:00 – 9:45 a.m. ……**Dr. Proctor Reid**
Rising Above the Gathering Storm
Director, National Academy of Engineering Program Office (Invited)
9:45 – 10:15 a.m.……Break & Posters
10:15 – 10:45 p.m.……**Margaret Davidson**
Director, National Oceanic & Atmospheric Administration Coastal Services Center
NOAA Regional Efforts in the GOMEX (Gulf of Mexico Exercise)
10:45 – 11:15 a.m. ……**David Hale**
Director, Aging Infrastructure Systems Center of Excellence, Director, Management Information Systems Program, University of Alabama
Network Science
11:15 – 11:45 a.m. ……**Lance Gunderson**
Associate Professor, Environmental Studies, Emory University
Managing Ecological Surprises — Resilience in Theory and Practice
Noon – 1:00 p.m. ……Luncheon Speaker
Forum 2006 Perspectives – From Recovery to Discovery
Robert Twilley
Director, Wetland Biogeochemistry Institute
Louisiana State University & A&M College
1:15 – 2:45 p.m. …… General Meeting
Building Towers of Excellence in the Gulf States
Ken Fridley, Head, Civil & Environmental Engineering, University of Alabama
David Shaw, Director, GeoResources Institute, Mississippi State University
Ed Seidel, Director, Center for Computation & Technology
Louisiana State University & A&M College
2:45 – 3:15 p.m.……Break & Posters
3:15 – 4:30 p.m. …… Breakout Discussion Groups



What Opportunities in Network Science across the Gulf States could Serve as Foundations for Towers of Excellence?

Biological	**Don Gaver**, Facilitator	**Sheri Powell**, Recorder
Social	**Art Cosby**, Facilitator	**Marty Kress**, Recorder
Physical	**Mark Zappi**, Facilitator	**Sandra Harpole**, Recorder
Integrated	**John Steadman**, Facilitator	**Roger King**, Recorder

4:30 – 6:00 p.m. ……Refreshments & Poster Session

Tuesday, August 21, 2007

8:00 – 10:00 a.m. ……Funding Opportunities Breakaway
Todd Davidson, NOAA Stennis Office (Invited)
Doug MacTaggart, NSF EPSCoR Program Manager for Evaluation
Program Director for NSF Cyberinfrastructure (Invited)
Mark Glorioso, Chief, Applied Research and Technology Project Office, NASA Stennis Space Center
Program Director for Department of Defense (Invited)
Program Director for Department of Energy (Invited)
10:00 – 11:00 a.m. …… Forum Wrap-Up
Kirk Schulz
Vice President of Research and Economic Development, Mississippi State University

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