



# Louisiana EPSCoR

Volume 2  
Number 7  
July 2005

## Experimental Program to Stimulate Competitive Research

### Biomedical Research Network Growing by Leaps and Bounds

*(The following is the first in a two-part series on the Louisiana Biomedical Research Network. The August issue will highlight some of the network's successes, research and programs for junior faculty and undergraduate and graduate students.)*

A \$16.9 million National Institutes of Health (NIH) grant to further consolidate the State's biomedical research network has been awarded to the Louisiana Biomedical Research Network (LBRN), a collaboration of eight institutions of higher education. It is the second award since 2000 to strengthen and expand the statewide biomedical research network linking Louisiana universities and health sciences centers.

The focus of the interdisciplinary research will be molecular/cell biology and bioinformatics/biocomputing, areas selected on the basis of existing strengths and potential growth within Louisiana universities.

The five-year grant from the NIH IDeA\* Networks of Biomedical Research Excellence award will link Louisiana Tech University and Louisiana State University in Shreveport (LSU-S) with LBRN collaborators at Louisiana State University and A&M, the lead institution, and LSU Health Sciences Center in New Orleans (LSUHSC-NO), Southern University and A&M (SUBR), and the University of Louisiana at Monroe (ULM).

The LSU Health Sciences Center in Shreveport and Tulane University are part of a special one-year \$331,829 supplement to the \$16.6 million main grant. All of the State's institutions of higher education are automatically LBRN outreach institutions, and all faculty and students are eligible for the network's outreach opportunities.

"This highly competitive award is an economic plus for the State," says Commissioner of Higher Education E. Joseph Savioe. "The center of a new era of biomedical research, the application of molecular techniques to real world problems has generated a multi-billion biotechnology industry within the United States. The research will provide essential linkage among important basic fields of biomedical sciences, such as genetics, developmental biology, immunology, neurobiology and cancer biology."

"The rapid growth of biological information has necessitated the development and implementation of massive computational power and networks that can be applied to biomedical problems, real-time imaging and the storage and manipulation of data necessary to bring us closer to understanding the underlying characteristics of disease and wellness," says Dr. Harold Silverman, LBRN Principal Investigator and LSU Interim Vice Chancellor of Research and Graduate Studies.

Dr. Silverman identifies the following particular strengths that the principal participating institutions bring to LBRN:

*\*The Institutional Development Award (IDeA) Program fosters health-related research to enhance the competitiveness of investigators at institutions located in states in which the aggregate success rate for applications to NIH has historically been low.*



*At the press conference announcing the NIH LBRN grant are, left, Dr. E. Joseph Savioe, Commissioner of Higher Education, and Dr. Harold Silverman, Interim Vice Chancellor for Research and Graduate Studies, Louisiana State University and A & M College.*

- LSU: faculty research expertise in biological, physical and computer sciences and veterinary medicine. It is also the home of the network's administrative core.
- LSUHSC: home of one of nation's top NIH-funded eye centers.
- LSU-S: an expanding biocomputing science program; bringing a strong collaboration with LSUHSC in Shreveport in the area of bioinformatics.
- LA Tech: established multidisciplinary, engineering-based research, including computational and biological engineering; bioinformatics and bionanotechnology.
- SUBR: environmental toxicology, one of the university's highest research priorities.
- ULM: home of the State's only public College of Pharmacy; enhancing faculty molecular expertise is a goal. Its Department of Basic Pharmaceutical Sciences has been the recipient of five NIH awards.

Dr. Les Guice, Louisiana Tech's Vice President for Research and Development, says that the network's projects should lead to new technologies that will result in spin-off businesses and support the growth of the biomedical industry.

Dr. Guice, who also chairs the Board of Regents' Louisiana Optical Network Initiative (LONI) Management Council, adds that the high-speed network and grid computing environment of LONI and Louisiana's subsequent membership in the National LambdaRail (NLR) network will facilitate LBRN's research and educational activities.

*Continued on pg 2*

*Continued from pg 1*

"The unique capabilities of LONI and NLR will enable our researchers to accomplish results that would be quite difficult for others," he says. "LONI has positioned Louisiana in the national lead in optical networking. Our biomedical research network positions us to be in a lead in selected areas of biomedical research."

The impact of the biomedical research network on the LSU-S campus will be felt throughout the campus, and literally all students will benefit, according to Dr. Paul Sisson, Dean of the university's College of Sciences. "The principal purpose of the funding is to achieve the goals of two of our major research projects, both of which require a great deal of support infrastructure.

"The campus computer network will benefit from the increased Internet bandwidth required in order for our researchers and students to receive and transmit the massive amounts of data they will be analyzing. We will also be constructing an Access Grid node in order to allow our researchers to collaborate productively with colleagues off-site," he says, adding that the high-tech communication facility will be available to everyone on campus.

"Finally, the network will provide the means to employ many more undergraduate and graduate students as student researchers, giving them a material benefit they will appreciate immediately as well as a wealth of experience that is unprecedented at LSU Shreveport."

"The genesis of a biomedical research network emerged from the Biological Computation and Visualization Center (BCVC), funded in 2000 by a \$3.85 million grant from the Board of Regents Health Excellence Fund," says Dr. Michael Khonsari, Louisiana EPSCoR Project Director and Board of Regents Associate Commissioner for Sponsored Programs Research and Development. "The Center was established to enable major biomedical breakthroughs by integrating advanced modeling/simulation, data mining and scientific visualization with experimental research."

LBRN was established in September 2001 with a total of \$5,719,423 in initial funding and an administrative supplement in 2003 of \$222,522 from the NIH Center for Research Sources. Its objective was to improve the



*The Access Grid, a network of sites dedicated to high quality audio and real time video, allows multiple group-to-group communications via high-speed networking. Each site on the Access Grid network is referred to as a Node.*

competitiveness of Louisiana biomedical researchers by establishing a network to facilitate computations and biomedical research throughout the state.

"Under the auspices of the first NIH award, Louisiana successfully established the foundation for interdisciplinary and inter-institutional research, education and mentoring programs," says Dr. Khonsari. "Emphasis was placed on predominantly undergraduate campuses in order to entice more effective participation in significant biomedical research. It was based on that success that this latest NIH grant was awarded."

Other LBRN goals include strengthening research capabilities of partner institutions through the support of new faculty hires in appropriate areas of each institution, the promotion of faculty pairs to mentor research students and junior faculty, and the recruitment of quality students, particularly from under-represented groups, to participate in the LBRN partnership institutions.

*For detailed information on the Louisiana Biomedical Research Network, go to <http://lbrn.lsu.edu>.*



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