

UAMS News Bureau

Office of Communications & Marketing
4301 West Markham # 890
Little Rock, AR 72205-7199

www.uams.edu/newsbureau

News Release
April 18, 2006



For more information:

Leslie W. Taylor, 501-686-8998
Wireless phone: 501-951-7260
Leslie@uams.edu

Andrea Peel, 501-686-8996
Wireless phone: 501-351-7903
Andrea@uams.edu

New Research Computer at UAMS First of its Kind in State

LITTLE ROCK – The quest for new medical treatments through research at the University of Arkansas for Medical Sciences (UAMS) can now take advantage of a high-speed fiber optic data network and a super computer that is the only one of its kind in Arkansas for medical research.

A more than \$400,000 grant from the National Institutes of Health (NIH) boosts the biomedical research capabilities at UAMS and eight Arkansas universities. The grant allowed UAMS to purchase a computer system that is actually a collection of seven independent computers, running 14 computer processors in a “cluster” to efficiently analyze the vast amounts of data generated by medical research.

The grant also funded equipment for UAMS, Harding University, Hendrix University, John Brown University, Lyon College, Ouachita Baptist University, the University of Arkansas at Monticello, the University of Central Arkansas and UAMS’ Delta Area Health Education Center to access a high-speed fiber optic data network for research. The network connection allows collaborators at different locations to communicate by voice and video as well as quickly transmit data. Today there are more than 160 access points to this network at universities and research facilities worldwide.

The grant for the new equipment is part of the NIH’s Institutional Development Award (IDeA) program, intended to improve the nation’s biomedical research infrastructure. UAMS is home to the Arkansas IDeA Network of Biomedical Research Excellence (INBRE) that administers this program in the state.

“An investment in biomedical research like this improves the potential for new health care treatments that could benefit Arkansans,” said Lawrence E. Cornett, Ph.D., director of Arkansas INBRE and a professor in the Department of Physiology and Biophysics in the UAMS College of Medicine. “These tools give researchers in Arkansas the ability to unlock new avenues of research and improve collaborative efforts across the state, across the country or even worldwide.”

The new stations for connecting to the data network, known as access grid studios, improve research by allowing more efficient communication and methods of data exchange for researchers. Collaborators at remote locations can communicate, conduct presentations and share data in real time.

UAMS researchers are already using the access grid studio for research involving viral replication at the protein level. Successful research could eventually lead to earlier identification of viral infections and potential treatments.

The new computer system, called a Bioinformatics Workgroup Cluster, has two terabyte (TB) of data storage on the UAMS Storage Area Network (SAN). One terabyte equals about 1,000 gigabytes (GB) of storage. In contrast, the hard drive capacity of newer home desktop computers run from 80 GB to 160 GB. A SAN is a large collection of disk drives, networked over fiber optic cable, with virtually unlimited capacity for expansion.

The UAMS Bioinformatics Cluster has eight GB of high speed, Random Access Memory (RAM). A newer home computer might have 512 megabytes of RAM. The Workgroup Cluster can expand to 112GB of RAM to accommodate future needs of the research community.

The new workgroup cluster is specifically designed with bioinformatics applications in a Web-based portal for easy

http://www.uams.edu/update/absolutenm/templates/news_release_andrea.asp?articleid=4867&zoneid=35

4/28/2006

access by researchers. Scientists can go to the Web page, submit data for processing and have the results displayed or e-mailed to them. Bioinformatics is the emerging scientific field that uses computer-based technologies to service biological, biomedical and biotechnology research.

The new system arrived in early March and is now being configured for research. It is expected to be used soon in cancer research, drug design and other advanced research and teaching programs.

Data analysis is divided across the 14 computer processors, allowing for speed and the ability to handle the large data files. For example, if scientists are trying to analyze a sequence of DNA, they can enter the information and compare it against a DNA database. It quickly searches through huge volumes of life sciences data to try to find a match.

Previously, a computer technician would choose between several computer programs, downloading their source-code, building it on a computer, and then making it available to the scientist who wanted to use it. The new workplace cluster has 200 of the most commonly used analysis tools installed, and can be upgraded or expanded as needed.

UAMS is the state's only comprehensive academic health center, with five colleges, a graduate school, a medical center, five centers of excellence and a statewide network of regional centers. UAMS has about 2,320 students and 690 medical residents. It is one of the state's largest public employers with almost 9,000 employees, including nearly 1,000 physicians who provide medical care to patients at UAMS, Arkansas Children's Hospital and the VA Medical Center. UAMS and its affiliates have an economic impact in Arkansas of \$4.4 billion a year.

###

[Email This News Release to a Friend](#)

Articles can be E-mailed to a friend and you can get a printable version of the article.

University of Arkansas for Medical Sciences
4301 W. Markham St., Little Rock, AR 72205