

Rising Star

Math, Computer Science Departments rank among nation's elite

IN OCTOBER, THE NATIONAL SCIENCE FOUNDATION announced that the University of Louisiana at Lafayette has one of the top 100 mathematics departments in the country.

UL Lafayette's Computer Science Department is among the top 60 university computer science departments in the country, according to the NSF.

The latest rankings are based on the amount of external funding the departments received in 2004.

Dr. Ray Authement, president of UL Lafayette, has stressed research during his 33-year presidency. UL Lafayette's computer science program has long been recognized for its innovation because of the attention he focused on it as president.

Having a math department that's among the top 2 percent in the nation is another indication that UL Lafayette's stature as a research university is growing, said Dr. Bradd Clark, dean of UL Lafayette's College of Sciences.

It also reflects the breadth of research conducted at the University of Louisiana at Lafayette. That scope was acknowledged in 2006 when the Carnegie Foundation designated it as a "Research University with High Research Activity." Universities in that category includes Clemson, Auburn and Baylor universities. The only other Louisiana institution in the same category is the University of New Orleans.

"One or two departments will not get you that designation by the Carnegie Foundation," Clark said. "You have to have breadth."

The high rankings for UL Lafayette's Mathematics Department and Computer Science Department are significant for another reason: a growing cross-discipline approach to research.

At UL Lafayette, for instance, mathematical modeling is being used to

make projections related to biological issues and health issues.

Dr. Azmy Ackleh, a professor of applied mathematics, has attracted about \$2 million in research funding from agencies such as the NSF and National Institutes of Health. He is especially interested in using mathematical modeling to predict population trends.

For instance, he and Dr. Jacoby Carter, an ecologist at the USGS National Wetlands Research Center, developed

a computer model that enables them to predict nutria population dynamics and movement patterns.

Ackleh and some colleagues at other schools are also working on a project that uses mathematical modeling to test policies related to alcohol consumption by college students. Their efforts could someday be used to help curb binge drinking by college students across the nation.

Ackleh has received NSF funding to establish a mathematical-biology option for undergraduates.

Computers are central to such collaboration. "We're building a generation of scientists that is accustomed to using the computer as a tool. Math is a language of science; a good mathematician is a translator. A mathematician can translate biological questions into formulas that can then be looked at by a computer. The computer is being used, through the modeling lens, as a tool," Clark said.

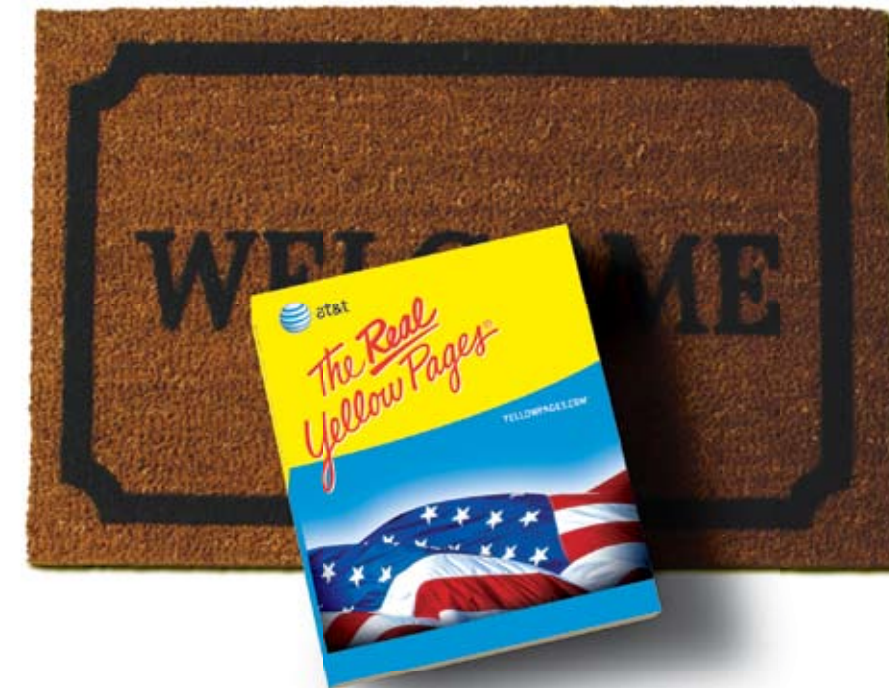
UL Lafayette has the expertise and computer power needed for complex projects. Its Center for Advanced Computer Studies, for instance, is a leader in grid computing.

UL Lafayette's Louisiana Immersive Technologies Center has a supercomputer that's connected to the Louisiana Optical Network Initiative. LONI is a state-of-the-art fiber optics network that links research universities in Louisiana. LONI is also part of the National Lambda Rail, which connects universities across the United States.

"As UL Lafayette gets involved in more and more complex questions, the need for more and more power is available. So we have the ability to work with data sets that are huge. That capability is allowing us to bring in strong young researchers. They become excited about the possibilities," Clark said. ■

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