

Bright LITE

Revolutionary technology can transform data into 3-D images

THIS SPRING, THE \$27 MILLION Louisiana Immersive Technologies Enterprise will open in University Research Park. The eye-catching building design is a clue that it's an extraordinary place.

Here are some answers to some frequently asked questions about LITE.

What is LITE?

It's a state-of-the-art facility with several "visualization environments" that will enable researchers to trans-

form huge amounts of complex data into workable 3-D models. Because it has access to multiple graphics "super-computers," it can process that data at incredible speeds.

LITE is the world's first completely *digital* 3-D data visualization facility. There are only a handful of similar facilities, but they are based on analog technology.

Where is the LITE building?

It's in University Research Park, at the intersection of Cajundome

Boulevard and Devalcourt Street.

University Research Park is between Congress Street and Eraste Landry Road.

What's that glass, oval-shaped part of the LITE building?

It's a three-story "total immersion space" that has six sides. A visitor enters on the second floor. Images are projected onto all the "panels" that compose the ceiling, walls and floor. It's one of four visualization envi-



DOUG DUGAS

An oval-shaped "total immersion" space will enable researchers to explore information in new ways, using virtual reality technology.

ronments in the building. LITE also has the largest immersive auditorium in the world. It can seat 175 people and features a 40-foot fully immersive screen. There are two conference rooms that can be used as immersive environments.

Who will use the facility and how?

Researchers in just about any technology-rich field can benefit from what LITE offers, including the oil and gas industry, medicine, manufacturing, engineering, urban design, biotechnology, aerospace engineering and entertainment.

Government agencies, companies and universities will have access to LITE. Because of its computer networking capabilities, it can be accessed by multiple collaborators at the same time, even if they are at different locations around the world.

LITE will be a particularly significant resource for small and medium-size independent oil and gas companies in south Louisiana, which need to perform complex calculations and would benefit from the ability to convert data into 3-D images.

Initially, LITE is expected to focus on the oil and gas industry, medical research and coastal restoration efforts.

Who is responsible for LITE?

LITE is a partnership between the State of Louisiana, the University of Louisiana at Lafayette and the Lafayette Economic Development Authority (LEDA) for the purpose of economic development.

What is LONI and what is its relationship to LITE?

The Louisiana Optical Network Initiative is a fiber-optic network that connects eight research universities in the state: UL Lafayette, Louisiana Tech, Louisiana State University at Baton Rouge, the University of New Orleans, Southern University, Tulane University and the LSU Health Sciences Centers in Shreveport and New Orleans. LITE is connected to LONI. And, LONI is connected to the National Lambda Rail.

What's the National Lambda Rail?

It's a connection of supercomputers in 25 states across the country, including Louisiana.

The NLR connects to StarLight, which provides access to other national and international fiber optic networks. ■

 www.lite3d.com

VIRTUAL REALITY PIONEER WILL HELP PROMOTE LITE'S UNIQUE COMBINATION OF TECHNOLOGIES

The woman known worldwide as a pioneer in the virtual reality field will lead the Louisiana Immersive Technologies Enterprise as its chief scientist.

Dr. Carolina Cruz will be responsible for building research teams and developing projects, among other duties for LITE. The newest facility in University Research Park will house state-of-the-art immersive visualization and supercomputing technologies. LITE features a six-sided digital virtual reality cube, a 175-seat auditorium and several immersive teleconferencing rooms. These systems will be powered by one of the fastest supercomputers in the world.

"The hiring of this high caliber leader in the field of virtual reality reaffirms UL Lafayette's commitment to economic development in this community and state," said Dr. Ray Authement, president of the University of Louisiana at Lafayette. "We are sending a message that we are invested in this progressive community and ready to help maximize its economic potential."

Cruz formerly held the Stanley Chair in Interdisciplinary Engineering at Iowa State University, where she was a professor in the Industrial and Manufacturing Systems Engineering Department. She is also founder and vice president of Business Development for Infiscape – a privately held software services corporation.

"Carolina's arrival at LITE validates our desire to demonstrate to the world that Lafayette, Louisiana, is a technology hub and is a place where the most advanced technologies are deployed," said LEDA President Gregg Gothreaux. "It is encouraging to LEDA to know that she places a high value on business development and economic development activities, and we are excited she has chosen Lafayette."

Cruz' doctoral dissertation included the design of the CAVE Virtual Reality Environment, the CAVE Library software



Dr. Carolina Cruz

specifications and implementation, and preliminary research on CAVE-Supercomputing integration. She was instrumental in the construction of the first CAVES in the United States, including one for General Motors, another at Argonne National Laboratories and one at Iowa State University.

"This is a wonderful next step in my career," said Cruz. "This facility is certainly one of the top five big players in its field both nationally and internationally. It's the only one that integrates visualization and supercomputing. It's 'the place' to be in that respect."

Her long-term goal is to position LITE as a unique facility offering the integration of visualization and supercomputing.

Administrators also hope Cruz' professional reputation will help recruit top companies and researchers to LITE. "She is well-known in her field and people are watching her moves," said Dr. Bob Stewart, vice president for Research and Graduate Studies at UL Lafayette. ■