

## Among The Elite

UL Lafayette earns a place in the nation's 'solar village'

**T**HE UNIVERSITY OF LOUISIANA AT Lafayette is one of only 20 colleges and universities from around the world chosen to compete in the U.S. Department of Energy's fourth Solar Decathlon.

Teams from those schools will each design, build and operate a small energy-efficient house that's powered entirely by the sun. Their entries will form a "solar village" on the National Mall in Washington, D.C., in Fall 2009. UL Lafayette is the only Louisiana university represented in the decathlon.

Other participants include Cornell University, Penn State, Technische Universität Darmstadt in Germany and Ohio State.

UL Lafayette's BeauSoleil Team will design and build the BeauSoleil Louisiana Solar Home over the next two years. BeauSoleil means "beautiful sun" or "sunshine" in French.

"It's kind of our CajunBot," said Geoff Gjertson, an associate professor in architecture at UL Lafayette and team coordinator. CajunBot is the university's autonomous land

vehicle, which has competed in three prestigious, national contests sponsored by the U.S. Department of Defense.

The BeauSoleil Team represents col-



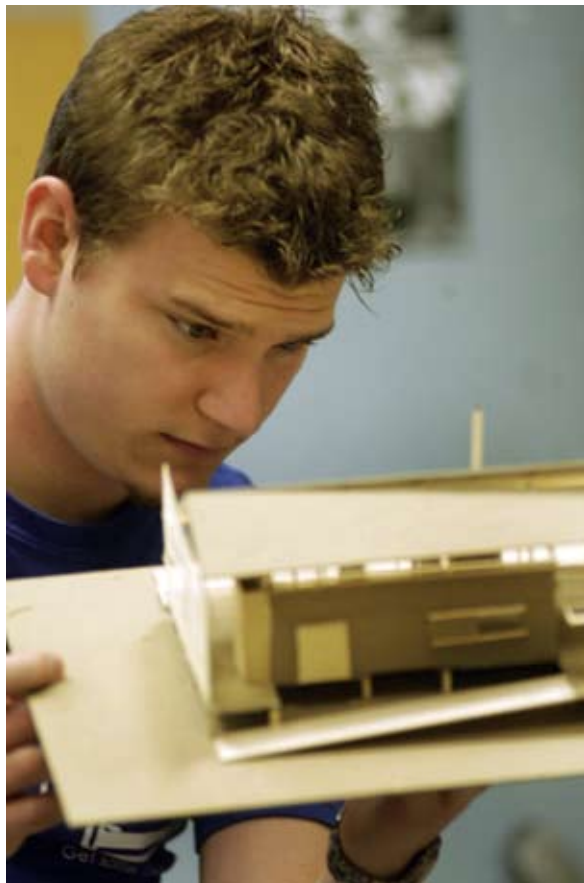
laboration among the UL Lafayette School of Architecture and Design, the College of Engineering and the College of Business. Architecture, design, business and engineering students, along with Louisiana System Built Homes and other community partners, will design and build the BeauSoleil Home over the next two years.

The Solar Decathlon gets its name from 10 specific areas of competition: architecture, engineering, market viability, communications, comfort, appliances, hot water, lighting, energy balance and transportation. Each house must produce enough electricity and hot water to perform all the functions of a home, including cooking and washing clothes. A house may earn extra points by generating a surplus of energy. The team that earns the most points is the winner.

There are three main criteria for the BeauSoleil Home. It must represent the region, be a marketable prototype and have a balanced hybrid of passive and active systems.

The team's name, inspired by the Grammy-winning Cajun band, reflects the team's intent to relate the project to its Cajun roots.

"We'll bring our own kind of Louisiana,



Chris Dufreche examines one of the designs for the BeauSoleil Home.

TERRI FENSHEL



By early April, several designs were under consideration for the BeauSoleil Home. One will be chosen by the end of the spring semester in May. Shown, from left, are students Chris Leger, Jean Paul Accomando, Chris Dufreche, Cat Guidry, Denisse Castro, Tim Dumatrait, Jeremy Cradeur and Dr. Geoff Gjertson, an assistant professor and BeauSoleil Team coordinator.



Geoff Gjertson

Cajun flavor to it. The competition includes a cultural aspect. It requires a team to serve a meal, prepared in its solar home, to other teams, something we're perfectly suited to do," Gjertson said.

"We figure we've got that portion of

**Each house must produce enough electricity and hot water to perform all the functions of a home, including cooking and washing clothes. A house may earn extra points by generating a surplus of energy.**

the contest won," he added, tongue-in-cheek.

Gjertson noted that UL Lafayette was drawn to the solar decathlon, in part, because it requires more than meeting technical specifications. "It's really got a lot of subjective things about living in a house and what a Louisiana house means," he said.

In addition to promoting Louisiana's culture, the BeauSoleil Home is intended to be affordable and practical.

"We're trying to make it a marketable and viable housing alternative, rather than a very high-tech toy that's beyond reach of most people," Gjertson said.

The BeauSoleil Team has done its homework. It cites 2005 census statistics that show the median household income in Louisiana was \$36,729. According to federal guidelines, a family with that income could afford a house that costs a maximum of \$100,000. So the cost of a 700-square-foot solar house could not exceed about \$145 per square foot.

UL Lafayette's interest in energy-efficient designs that complement Louisiana's landscape and culture is not new. "It's not a fashionable thing. It's part of our program," Gjertson said.

For example, two of its architecture professors, Edward J. Cazayoux and Hector LaSala, designed and built a solar house on university property more than 20 years ago. Their innovative design won an award from the U.S. Department of Energy and the house continues to be used as a teaching tool.

Faculty and students prepared UL Lafayette's application to compete in the 2009 Solar Decathlon. Forty universities applied; only 20 were chosen.

Gjertson said UL Lafayette wasn't intimidated by the caliber of the other applicants. "We may not have the resources of some schools that may be able to throw millions of dollars at a project, but we really make the most of what we have," he said.

"First and foremost, the design has to be there and it has to be an educational tool for students."

At press time, 12 UL Lafayette students were working on several possible designs for the BeauSoleil Home. They were scheduled to hold a charette, or public meeting, in early April to get feedback. One design will be chosen by the end of the spring semester in May.

In addition to working on its design, the BeauSoleil Team is busy raising funds. The U.S. Department of Energy provided \$100,000 to each of the 20 schools competing in the decathlon. But the BeauSoleil Team needs an additional \$300,000 to pay for research, construction material and transporting the home to Washington, D.C.

"We've been trying to get the word out far and wide and to develop partnerships and relationships with all kinds of different

## VEHICLE SHOWS STUDENTS HOW TO GO GREEN

**S**ome UL Lafayette students are tinkering with an SUV to learn how solar power can be harnessed as a practical energy source.

It's a solar utility vehicle donated by BP, a global oil, gas and chemicals company. Glenn DaGian, a 1972 graduate of USL (now known as the University of Louisiana at Lafayette), presented it to the university in February. He's director of Government Affairs for BP in Texas.

The SUV is equipped with two electric motors totaling 30 horsepower and more than 170 pound-feet of torque, which makes it one of the most powerful all-terrain vehicles available. BP's 185-watt solar panel, which augments the vehicle's battery system and gives the SUV more range, is mounted on top. The four-wheel drive vehicle is capable of seating four people, can carry up to 880 pounds and can maintain a speed of 20 miles per hour. It has a 30-mile range.

"Very few schools can touch this type of technology," said Dr. Mark Zappi, dean of the College of Engineering. "Students will be able to study it and drive it. The benefits will go on for many years."

DaGian, a political science graduate, said the vehicle's



A Bad Boy Buggies representative demonstrated the solar utility vehicle's power by using its reverse gear to climb the outdoor stairs of Martin Hall.

silent operation is an advantage. "The solar utility vehicle is primarily useful for wildlife parks, areas where noise or pollution is a problem," he said.

Current uses for the solar buggy include wildlife areas, such as Yellowstone National Park and the Sandy Point State National Park in Maryland. DaGian said the solar panel could be adapted to applications involving boats.

DaGian and BP are also working on a charging station that uses solar panels to recharge the SUV when its not in use, eliminating the need to have an electrical source to charge the buggy.

DaGian developed the solar panel and attached it to the vehicle, which was manufactured by Bad Boy Buggies in Natchez, Miss. The SUV given to UL Lafayette was the 14th developed by DeGian, BP and Bad Boy Buggies. ■



Scott Chappuis checks out a proposed design.

people. For example, we're looking at a partnership with Catholic University of America, which is in Washington, D.C., because it would be a great help for the logistics of the competition up there. Maybe it could help us collaborate on part of the project," Gjertson said.

Many state and local leaders have expressed interest in the BeauSoleil Home, he continued. The BeauSoleil Team is working with them to see how they can help.

In addition to benefiting UL Lafayette students, the BeauSoleil Home will draw national and international attention to the university.


In 2007, about 120,000 people toured homes in the "solar village" on the National Mall.

But Gjertson said public exposure is also measured by "impressions," which refers to the number of people who read published information about a project or see coverage by broadcast media.

"In 2007, decathlon officials calculated that there were over 600 million impressions, which means that 600 million people were exposed to the project," he said. That number is expected to grow to a billion after documentaries about the decathlon are completed and distributed.

Gordon Brooks is dean of UL Lafayette's College of the Arts, which encompasses the School of Architecture. He said the potential impact of the BeauSoleil House is huge.

"Every now and again, a project comes along that has transformative powers. This is one of them." ■

 [beausoleilhome.org](http://beausoleilhome.org)