

## Best in the Nation

Engineering majors create upsurge in efficiency

**E**NGINEERING STUDENTS AND FACULTY are helping mid-size manufacturers become more productive and energy efficient. Their reward: being named the best university-based Industrial Assessment Center in the nation in 2008 by the U.S. Department of Energy.

**From its inception through 2008, the IAC identified an average savings of \$173 million per year for its clients.**



In the TABASCO® factory, from left, Blakeley Blanchard and Aaron Artigue check the air compression system, while Ryan Kelley takes readings with a thermal-imaging camera.

DOUG DUGAN

The IAC conducts free, on-site assessments to evaluate energy use, waste disposal and productivity. Established in 2000, it is one of only 26 university-based centers across the country and the only one in Louisiana. Since its inception, the center has worked with more than 200 businesses. It serves a wide area: all of Louisiana, most of Arkansas, plus portions of Texas and Mississippi. Team members have worked in printing plants, food processing facilities, shipyards and oil refineries. They've traveled 1,300 feet underground to evaluate a salt mine and more than 200 miles offshore in the Gulf of Mexico to examine an oil platform.

In early May, team members visited Avery Island, La., to assess the McIlhenny Company's TABASCO® pepper sauce factory. It was a return visit for the IAC, which conducted an assessment for the company nine years ago. "We believe in continuous improvement," said Troy Romero, McIlhenny's vice president of operations. "We're happy to be a partner with the university, giving students the opportunity to fulfill their roles as learners and helpers in industry."

Mechanical engineering senior Blakeley Blanchard and two juniors, Aaron Artigue and Ryan Kelley, spent four hours in the factory, analyzing everything from the conveyor belt to the factory's emergency lighting system. They took measurements with sophisticated equipment, including a thermal imaging camera and an electronic light reader. The trio analyzed the factory's air compression system, checking it for air leaks.



Aaron Artigue inspects the production line, where a batch of bottles are destined for Brazil.

Dr. Ted Kozman, associate professor of mechanical engineering and the center's director, accompanied the student team.

As they do after each assessment, team members will create a detailed report with recommendations for the McIlhenny Company's factory. Depending on their findings, those recommendations may be as complex as installing a new energy system or as simple as placing motion sensors in rooms to prevent lights from being left on unnecessarily.

About nine months after the assessment, Kozman makes a follow-up call to find out which, if any, of the IAC recommendations have been implemented. From its inception through 2008, the IAC

identified a total of \$173 million per year in utilities savings for its clients. "In reality, we've had \$34 million per year implemented," said Kozman.

The students are paid for their work. Brittany Aulds, a graduate student in mechanical engineering, is the team's student leader and lead report writer. "Instead of working at a desk or at McDonald's, I have a job that's going to contribute to my understanding of engineering and energy," she said. Graduate and undergraduate students in any field of engineering may be part of the team.

Kozman said he enjoys the camaraderie. "I enjoy the students having fun, more than anything else. Engineering, to me, is fun. It's a hobby, in addition to being a vocation. So, I want our students to view it the same way – working in energy efficiency is just a means to make that happen."

Dr. Jim Lee, professor of engineering and technology management and the team's associate director, said the real-world problems identified by the IAC often fuel research. "We're getting recognition in high-quality academic jour-

nals and presenting papers at national and international conferences." He pointed out the university strives for balance in teaching and research. "So, we're doing both. We train our students. Our students will learn all the things they need when they graduate, so that's the educational side. At the same time, we've got some good research going on."

And that seems to be a winning combination for graduates. The U.S. Department of Energy tracks IAC students beyond graduation. "About 70 to 75 percent of our students end up in energy-related fields," Kozman said. ■

## STUDENTS GAIN EXPERIENCE

**M**echanical engineering student Aaron Artigue pays attention to detail. That's because, as part of the Industrial Assessment Center, he is responsible for making sure that all calculations in a client's final report are accurate and complete.

Even though he is still a junior, Artigue has conducted more than 80 assessments over the past two-and-a-half years.

IAC students like him are highly sought after in the energy industry because of the training and knowledge they receive.

Students and graduates receive support from the U.S. Department of Energy through a web site and online forum that includes scholarship opportunities and links to companies that were founded by or employ IAC alumni.

Nationwide, more than half of employed IAC graduates receive a starting wage of \$50,000 to \$99,999, which indicates that IAC graduates begin at salaries above the average of \$50,892 for salaries across engineering disciplines, according to the National Association of Colleges and Employers.

The Department of Energy tracks IACs alumni to learn how many are employed in energy-related fields. An estimated 70 to 75 percent of UL Lafayette engineering alumni who have participated in the IAC move on to pursue careers related to energy or energy efficiency, as compared to 56 percent of graduates nationwide. ■



Students use a thermal-imaging camera to measure the efficiency of the factory's lights.