



The Leak

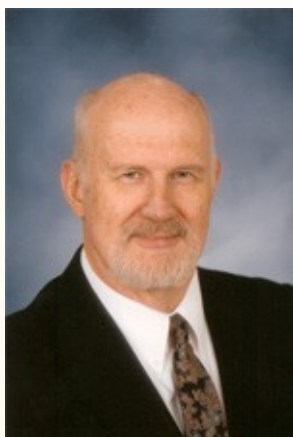
Fall 2012

A Newsletter for Alumni and Friends of the UL Department of Civil Engineering



DEPARTMENT HEAD'S MESSAGE

A Year of Growth and Continued Success



Dr. Ken McManis

Looking back over this past year, it is interesting to see the number of activities, changes and accomplishments that have occurred within our academic program and in the lives of our students and faculty. At times there were a few set-backs. However, I believe that the progress being made by UL Civil Engineering far exceeds any temporary losses. This issue of *The Leak* shows that we are gaining ground and that we have had a number of successes over this past year; more than can be cited in this issue.

Our goal is to provide our graduates with the educational foundation required to achieve status as a professional civil engineer. This is one of our program objectives. In addition to successfully completing the academic program, UL civil engineering students are strongly encouraged to work toward professional licensure by completing the Fundamentals of Engineering (FE) Exam with graduation. A few years back, we set our goal to meet or exceed the overall national, FE Passage rate. We are pleased to note that those goals have been achieved with 100 and 77 percent of our students passing in the fall 2011 and spring 2012 semesters, respectively, exceeding the corresponding national passage rates of 86 and 70 percent.

Establishing the academic momentum required to produce a professional civil engineer for the twenty-first century has increased the expectations in the performance of UL Civil Engineering students. However, classroom instruction is not the only means that produce professional engineering practitioners. The many extra-curricular activities available to students also compliments and contributes greatly to the professional growth of the individual. Participation in on-campus activities and in regional/national events has not only produced more student involvement and enthusiasm, but also brings recognition to our program through awards and citations.

Over the past two years, two faculty members, Drs. Don Hayes and Ehab Meselhe, have gone on to other assignments and will be missed. However, on the positive side, we welcome Dr. Matthew Fadden, our candidate of choice, as of January 2013. He joins us from the University of Michigan, and will compliment our growing structural program with a concentration in structural steel.

The reduction of state support for higher education in recent years has had a major impact on the Department's resources. In 2012 the UL Civil Engineering Advisory Board launched a fundraising initiative, featured on pages 4 and 5, to help supplement these budget shortfalls. We greatly appreciate all of the efforts our alumni and friends have provided in the past, at the present, and plan to in the future.

Madison's Concrete Monument

The concrete structure found in front of Madison Hall has been a topic of conversation for many years among students and faculty, and has evoked many questions as to its origin and meaning. It was designed and constructed under the leadership of former Civil Engineering graduate, Kerry LaBauve (class of '70) and has recently been cleaned and refurbished with brass plaques added for each of the 6 academic programs within the College of Engineering and a fleur de lis placed upon the top. Fabricated in the Civil Engineering Concrete Lab, the monument was erected by a civil engineering group that included Tim Mader, Allen Verett, Alfred Naomi, Mickey Martin, Dennis LaFleur, et al. Under the watchful eye of Dean Wallace from his Madison Hall office, the final positioning of the monument was completed just prior to the Engineering Day events and contributed to the Department winning the competitions that year.



ASCE, THEN AND NOW

In 1957, the Student Chapter of the American Society of Civil Engineers was founded at UL Lafayette. By the 1962-63 academic year the chapter had grown to 24 members, a number of which were actively involved with

ette had both a Steel Bridge and Concrete Canoe at the Deep South Conference. Members are again active and contributing through extracurricular projects, community service, and the Dean's Cup.

At the Deep South Conference, UL Lafayette racked up a total of 10 awards, one in the Asphalt Pigeon Competition, two from Concrete Canoe, or in the case of UL, Concrete Pirogue, and seven from the Steel Bridge, one of which was a second place overall finish, qualifying the team for the national competition in Clemson, SC. Students also participated in a Habitat for Humanity project in the fall of 2011 and actively competed in the Dean's cup activities year round, including a First Place finish in Flag Football over Petroleum Engineering and a Third Place overall finish awarded at the LES banquet at the conclusion of Engineering Week activities.

In a transition to the upcoming academic year, a group of students performed a renovation of the ASCE

As president of the ASCE Student Chapter, it was an honor to lead a group of fellow students with such dedication and perseverance in pursuit of chapter goals. Representing, not only ASCE, but the University as well was a very rewarding experience and I wish the best of luck to the chapter in their future endeavors.

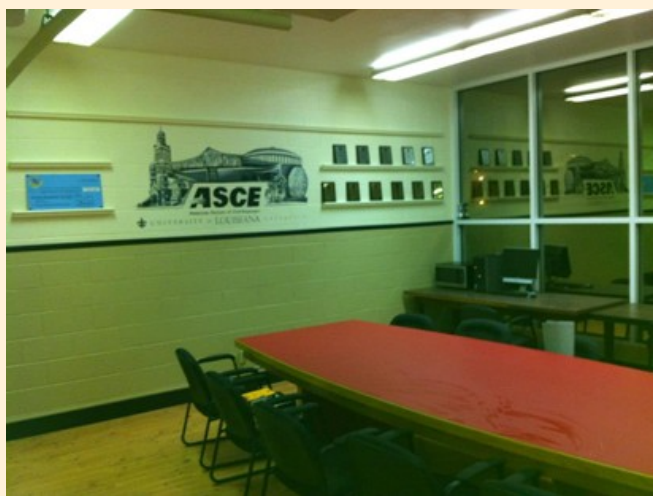
- Jacob Benton, ASCE President

chapter business. In 1963, the student chapter was commended by ASCE National for its 1962 activities, one of only 20 universities honored that year.

Fast forward 50 years and many of the 1962-63 members prepare to celebrate their 50th class reunions, while the student chapter has tripled in size to over 70 members. During the 2011-2012 academic year, the student chapter made tremendous strides. Under the direction of President, Jacob Benton, membership rose 25 percent and for the first time in nearly ten years, UL Lafay-



Before



After

Student Lounge prior to the start of the fall semester. The updated lounge includes a new paint job and mural, wall shelves, a white board, and laminate hard wood flooring.



1962-1963 ASCE Student Chapter

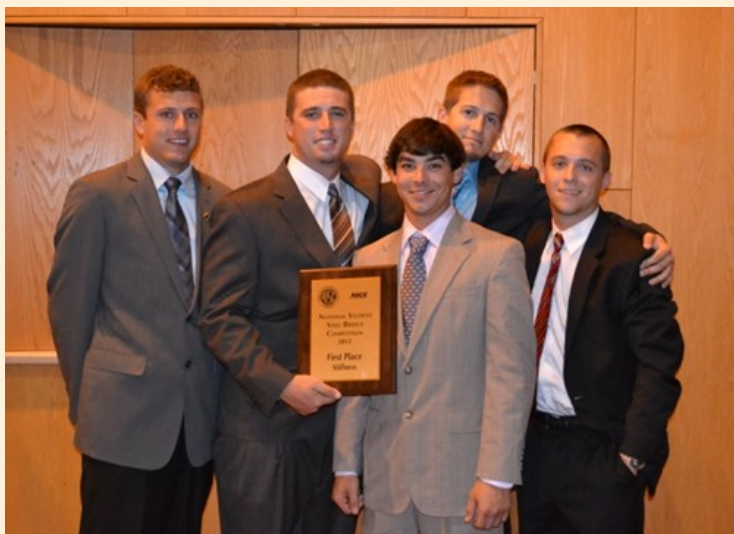


2012 ASCE Deep South Regional Conference

STEEL BRIDGE RECEIVES NATIONAL RECOGNITION

The AISC-ASCE National Student Steel Bridge Competition was first held in 1992 at Michigan State University. Year after year, you'll see the likes of MIT, the University of Illinois, Georgia Tech, Virginia Tech, and Texas A&M competing, all of which are regarded in top ten programs in the country. What you won't see is any of those listed as champion, but you will see the University of Southwestern Louisiana, one of only 15 schools that have held that title.

In 1998, USL, now UL Lafayette, won the AISC-ASCE National Student Steel Bridge Competition and three years later, placed third. Since 2001, the steel bridge hasn't been a hot commodity around campus, but in 2011 the ASCE student chapter, led by senior Joseph Easley, fielded their first bridge



Member of the Construction Team with the First Place plaque, pictured left to right, Nick Helminger, Justin Ledet, Craig Girouard, Billy Fontenot, and Todd Touchet. Other steel bridge team members not pictured, Jacob Benton, Andrew Molitor, Eric Lachaussee, and Rachel Fradella.

in nearly ten years, laying the foundation for what's to come. After attending the 2011 national competition in College Station, TX as spectators, members of the 2012 team set their goals high: *make it to nationals in only their second year!*

Led by seniors Justin Ledet and Todd Touchet, the UL Lafayette steel bridge team designed and fabricated their second bridge in as many years for the Regional Deep South Competition in Martin, TN,

winning seven awards including an overall second place finish, qualifying them for nationals, held at Clemson University.

Following the regional competition, the students took advantage of the time before the national competition, tweaking their design and rebuilding a new version of the bridge with tighter tolerances. On the road the team spent the majority of their down time in the hotel parking lot assembling and reassembling their bridge time and time again in preparation for the competi-

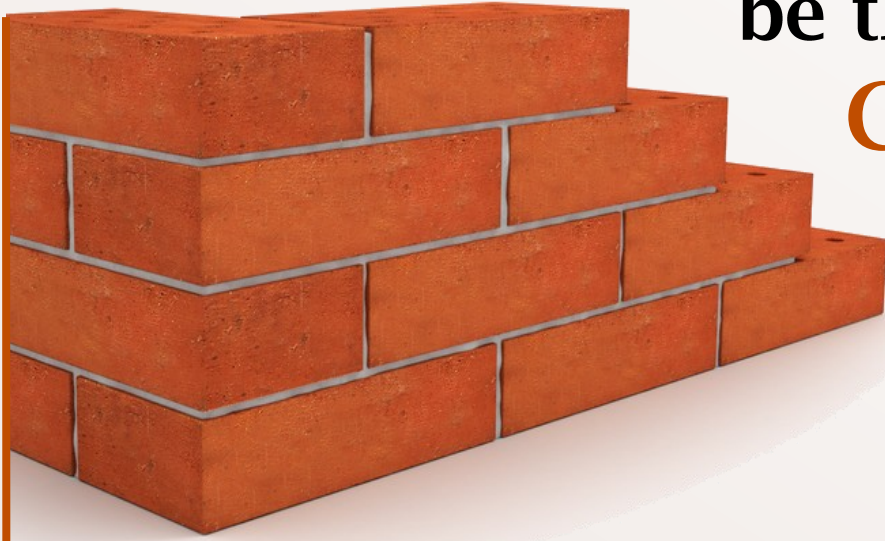
tion, a common sight at the competitions. During load testing of the bridge, judges were astonished that in only their second year, the students had fabricated a bridge of such quality, largely attributed to the efforts of Craig Girouard, who's welding skills proved to be key.

While the 2012 team didn't win the national competition, they did meet their goal, by making it to nationals. But they didn't just make it to nationals, as a result of their efforts to better their design, the UL Lafayette team took home First Place in Stiffness at the national competition!



The Steel Bridge Competition involved a lot of mental as well as hands on physical work, which is something I personally enjoy doing. Not only did we learn about the design and fabrication of the project, we also learned some valuable lessons of teamwork and doing whatever was necessary to get the job done.

- Craig Girouard



be the **CORNERSTONE** *of* a Student's career

A Message from the Civil Engineering Advisory Board:

With each passing year, the UL Department of Civil Engineering demonstrates an impressive record of accomplishments. From FE passage rates to participation in national competitions such as the concrete canoe and steel bridge, an active excitement is once again present in the Department. Our academic and extracurricular opportunities are stronger than ever, while the graduate program continues to grow with more and more attention from recent graduates native to this area; signs of promising times for UL Civil Engineering.

However, as you are aware, support for higher education in the state has been greatly reduced over the last three years. This decrease in funding

has significantly reduced the available resources required for many vital departmental activities. In short, the Department's opportunities for ongoing development are in jeopardy, and we need your help to ensure that our progress is not hindered.

The UL Civil Engineering Advisory Board (CEAB) initiated a plan to reach out to supporters and bring this extraordinary situation to your attention. We kindly implore you to support this important program by making a three-year pledge. A number of giving opportunities are listed for your convenience. Should you desire a special arrangement, we are more than happy to meet with you and tailor a program that meets your specifications.

Tom Carroll, P.E.
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Ken McManis, Ph.D., P.E.
Professor and Head
Dept. of Civil Engineering



Giving Opportunities



the (Dollar-A-Month) **DAM club** provides support for educational, professional, and extracurricular projects. These funds effectively **enhance the academic program and promote initiative and leadership amongst our students**. Contribution to this fund starts at a minimum of \$1 per month (\$12 per year).



the **Graduate Support Fund** aims to **supplement support** from existing assistantships **for our top graduate students**. All funding will go towards helping our graduate students finish their theses, meet academic and extracurricular requirements, and enhance their professional opportunities upon graduation.



the **Departmental Enhancement Initiative** includes **financial support for general improvements to the Department and faculty activities**. This program addresses a wide range of needs, including relevant equipment and materials for the Department and the maintenance of our facilities.



Endowments are supported through the UL Foundation and require the permanent investment of capital where the generated interest can be used for specific purposes. A wide variety of endowments are available, including **Endowed Scholarships** for undergraduate and graduate students, **Endowed Professorships** used to support and attract talented professors to the Department, and **General Endowments** for program support. For more information regarding specific types of endowments, please contact the Department at 337-482-6512.

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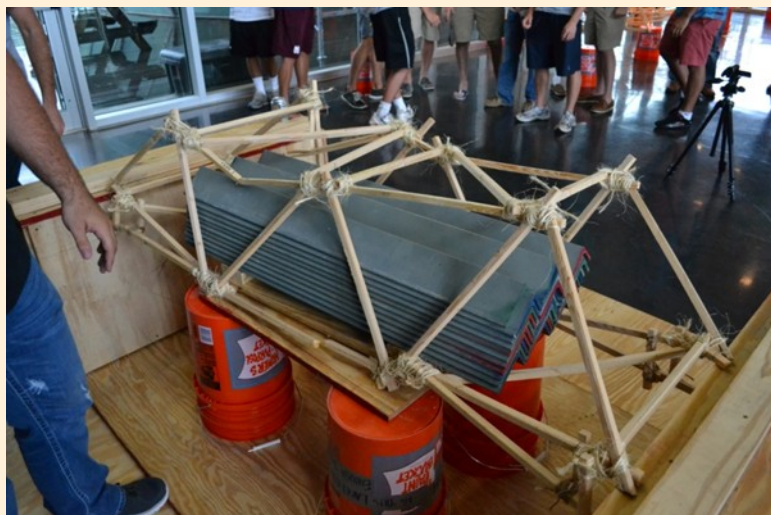
BRIDGING THE GAP

“You’ll use this one of these days” is something high school students hear on a regular basis in math class. They learn about angles and the Pythagorean Theorem, the law of sines, and law of cosines but rarely ever see it beyond the classroom. Over the course of the

from Lafayette High, constructed a bridge weighing a mere 8.09 lbs, needing 800 lbs of steel to buckle its top chords.

Weeks later, another group of 28 students from five area high schools involved with the Lafayette Parish

desired type of truss on day one of the camp and was given three days to construct their bridge. The winning team, led by graduate student Harrison Hymel, constructed a Warren Truss weighing just under 30 lbs. With seven students (~750 lbs) atop their bridge, it



The winning bridge, weighing only 8.09 lbs, held 775 lbs before top chords buckled in compression.



2011-2012 ASCE President, Jacob Benton, places Steel angles on the winning bridge.

past year, Dr. Chris Carroll and UL Lafayette students, Harrison Hymel, Andrew Juneau, Jacob Benton, Logan Locicero, Callie Coulon, and Michelle Campbell, brought geometry to life through two competitions focused on bridge building.

In conjunction with the Acadiana Branch of ASCE, the UL Lafayette Department of Civil Engineering held the first annual ASCE Wooden Bridge Competition at the LITE Center. The competition showcased wooden bridges from Lafayette and St. Thomas More high schools. Given only 96 ft of $\frac{3}{4}$ in. by $\frac{3}{4}$ in. furring strips, a handful of cotter pins, and a bundle of twine, student teams were asked to build a 6 ft long wooden truss, required to hold at least 200 lbs of steel. The winning team,

GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) Program attended a one-week summer engineering camp hosted by the Department of Civil Engineering. High school students were teamed up with current civil engineering students to build a 10 ft long bridge using nothing but foam core board, Scotch tape, and hot glue. Each team chose their

plummeted 8 inches to the ground as a result of a connection failure.

In effect, the students who participated in this year’s competitions got a chance to build bridges on scale much beyond a typical balsa wood bridge. The large scale bridges brought the math to life and gave students the chance to learn about structural design. They learned about tension and com-

pression members and the importance of connections, topics not covered until the sophomore year of college in most engineering programs. In a day and age where students are drawn to technology driven entertainment, the bridge competitions prove that some furring strips and a couple of boxes of foam core board can go a long way to spark some interest in engineering!



Summer camp students atop their bridge just before structural failure.

ACI STUDENT CHAPTER RECEIVES RECOGNITION



Members of the ACI FRC Bowling Ball Teams, pictured left to right, Algy Semien, Jeanne Switzer, Jacob Benton, Michelle Campbell, Nick Helminger, and Rachel Fradella.

In less than two years, the UL Lafayette ACI Student Chapter has attained the "ACI Excellent University Award" as a result of its participation during the 2011 calendar year, an award given to only 22 universities. In the fall of 2011, seniors Jacob Benton and Billy Fontenot, along with junior Nick McCoy attended the Fall 2011 ACI Convention in Cincinnati, competing in the ACI Pervious Concrete Competition, the objective of which was to design a pervious con-

crete mix with the best permeability while maintaining the highest possible tensile strength. In their inaugural appearance, the UL Lafayette team placed 11th overall of the 33 teams who entered the competition. The following semester, six students, Jacob Benton, Nick Helminger, Algy Semien, Rachel Fradella, Michelle Campbell, and Jeanne Switzer, attended the Spring 2012 ACI Convention in Dallas. The students competed in the Fiber Reinforced Concrete Bowling Ball Competition, likely one of the most challenging of the student competitions. The objectives of the FRC Bowling Ball is to roll a hollow-core concrete bowling ball between two bowling pins and reach the maximum permissible load when tested in a compression machine. Now in its third year, the ACI Student Chapter is thriving with student participation, through which the students are gaining hands-on practical experience, a desirable trait amongst many potential employers.

Khattak Receives "Best Paper Award"

Dr. Jamal Khattak, UL Lafayette Associate Professor of Civil Engineering attended the World Engineering, Science and Technology Congress in Kuala Lumpur, Malaysia from June 12-14, 2012. He presented two research papers at the International Conference on Civil, Offshore, and Environmental Engineering, one of eight conferences at the Congress.

One of Dr. Khattak's papers, entitled "Micromechanical Modeling of Portland Cement Concrete Mixture," was awarded "Best Paper" and reports on a material modeling technique which allows image processing of a photograph of a Portland cement concrete sample to identify each material component. A subsequent computer simulation predicts the strength and stiffness of the mix allowing researchers to minimize laboratory testing of materials, in turn reducing costs.

STUDENTS RECEIVE DEEP SOUTH ITE SCHOLARSHIPS



Pictured are: Dr. Xiaoduan Sun, ITE Student Chapter Faculty Advisor; Subasish Das, Leia Kagawa, and Neil Schneider, scholarship recipients; and Dr. Ken McManis, Head of the Department of Civil Engineering.

Three members of UL's student chapter of the Institute of Transportation Engineers (ITE) were recently selected as recipients of Deep South ITE scholarships for 2012. The Deep South ITE Section is comprised of ITE

members residing in Louisiana and Mississippi.

DSITE is a section within the ITE's 5th District, which covers most southern states supporting student chapters at Louisiana State University, the University of Louisiana at Lafayette, Jackson State University, Mississippi State University and the University of Mississippi. The 2012 scholarships were competitively awarded to students from engineering colleges within the region.

A team of students, representing

UL's student chapter, traveled to the DSITE winter meeting held in Baton Rouge, Louisiana on March 1-2 in 2012 to participate in the Deep South Traffic Bowl. The Traffic Bowl provides the opportunity for undergraduate and graduate students to participate in a team competition of transportation knowledge. The UL team place first, qualifying them to participate in the ITE Southern District Meeting in Lexington, Kentucky.



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