

ALUMNI REGISTRATION

The Department of Civil and Environmental Engineering is always interested in how our alumni are doing. We hope you will take time to complete the Alumni Update information below. Please include information on your recent professional and personal developments, along with a high-quality photo if available. Please email your information to jmueller@lsu.edu or mail submissions to **Civil and Environmental Engineering, Louisiana State University, 3418 CEBA Building, Baton Rouge, LA 70803-6405.**

Name: _____ Year of Graduation: _____

Home Address: _____

Home Telephone: _____ Email: _____

Company: _____ Title: _____

Business Address: _____

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News: _____



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Civil and Environmental Engineering Department



CEE Joins LSU's Foundation of Excellence Programs

LSU Interim Executive Vice Chancellor and Provost Harold Silverman announced on July 3rd that the Department of Civil and Environmental Engineering, along with three other departments, has been added to the Foundations of Excellence program. These four additional programs, joining seven existing departments which were added in the spring of 2005, now bring the total to 11 departments.

The University Planning Council, composed of top faculty and senior administrators across campus, recommends programs for designation as Foundations of Excellence based on rigorous assessment of written documents and an oral presentation provided by each department to the council. Among the criteria for selection were the national and international reputation for the individual faculty and graduate programs, the centrality of the programs to the academic mission of LSU, and the trajectory of progress a program has experienced in recent years.

"Many excellent proposals were submitted and this was a difficult decision for the UPC, so the departments selected should be proud of this accomplishment," said Silverman. "The UPC was committed to selecting the best of the best to become Foundations of Excellence, and the group did a very thorough and commendable job."

The Civil and Environmental Engineering department has experienced astonishing growth since 1978. The department includes faculty members in six areas of specialization (both at the undergraduate and graduate level): environmental engineering systems, geotechnical and geophysical systems, transportation engineering and geoinformatics, material modeling and visualization, structural engineering and mechanics, and water resources engineering systems.

The department maintains state of the art laboratories in Remote Sensing, Hydraulics, Mechanics of Materials, Photogrammetry, Water Resources Research, Environmental Engineering and more. Other faculty resources include access to many other marine/estuarine research facilities of the Louisiana Agricultural Experiment Station and Louisiana Universities Marine Consortium facility as well as Environmental engineering's collaboration with engineers and scientists on-campus,

nationally and internationally. These resources enable the department to conduct nationally competitive research as well as generate nationally competitive graduates.

Along with the prestige of being designated as a Foundation comes the eligibility to receive extra resources for the department. These resources would serve as additional means to recruit and retain top faculty and graduate students to the department.



Dr. George Z. Voyiadjis,
 Boyd Professor, Chairman
 and Bingham C. Stewart
 Distinguished Professor

“These programs are the foundations of excellence on which LSU's students, faculty, and staff are building to make the University a leading center of learning and discovery for the 21st century.”

The comments received from the University Planning Report were gratifying and exceptionally encouraging to the department. The designation of a program as a Foundation of Excellence has a 5 year term and therefore the ultimate goal of the department is to become a permanent, life member of this elite group. The faculty and staff as a whole are committed to continuing the improvement and advancement of the department. The success and growth of the department in the recent years is only a small indication of what is to come for CEE.

This exciting news was announced to the department on June 28 and was celebrated with a banquet. The faculty and staff enjoyed an afternoon snack and an opportunity to relish in this great accomplishment of the department. Dean Zaki Bassiouni and Chair George Voyiadjis extended their gratitude to the faculty and staff (both current and former) for their hard work and dedication to which the success is attributed.

As always, we thank the alumni and friends of CEE for your continued support, as it is vital to the betterment and the future of this department. Our success is shared with all of you!

For more information about Foundations of Excellence, visit www.lsu.edu/foundations

Quote from the Foundations of Excellence website

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FUNDING OPPORTUNITIES



The CEE Department would like to express our appreciation for the generosity of alumni and friends who have taken part in the Forever LSU campaign. Here are just a few of the CEE alumni and friends who have played a role in Forever LSU, the largest, most ambitious fundraising campaign in the school's history. Their contributions, as well as yours, are vital to the betterment of this department.

Joseph W. Carmena, Sr. Memorial Scholarship

John N. "Jack" Carmena, along with his brothers Joseph Carmena, Jr. and Thomas N. Carmena have endowed an undergraduate scholarship in the name of their late father, Joseph W. Carmena, Sr., a CE Alumnus.

Joseph W. Carmena, Sr., a CE Alumnus, was the third of seven children, the son of a farmer, born January 6, 1891 and raised in Zachary, La. He was the only one of his siblings to complete college. In 1912, he received a BS Degree in Civil Engineering from LSU. Since there were no scholarships offered in his time, he earned some of his college expenses by raising and selling sweet potatoes. When he attended LSU, the campus was near the State Capital in Baton Rouge and as a cadet, he lived in the Pentagon Barracks.

Prior to serving in the U.S. Army in World War I, he held multiple positions in the construction industry. He was commissioned a Lieutenant in the Corps of Engineers and served during World War II. After his military discharge, he accepted a position with Standard Oil of Louisiana, a predecessor of Exxon-Mobil. During his career with Exxon, he worked on various capacities in their Maintenance and Construction Group at the Baton Rouge Refinery.

John retired in 1956 and spent the next eleven years in intellectual pursuits, one of which was writing a manuscript on Human Engineering. He died in 1967. One of his children and one of his grandchildren acquired Engineering degrees from LSU.

Forever LSU, The Campaign for Louisiana State University, was launched at the end of June 2006. The goal is to raise \$750 million by the University's Sesquicentennial in 2010. The Department of Civil and Environmental Engineering campaign target has been set at \$4 million for departmental initiatives in the next four years, with a stretch goal of \$8 million. The "Case for Support," which is available upon request, outlines the Department's specific priorities for the campaign.

These gifts from alumni and friends will provide the department with the opportunity to use private funds as a strategic investment: to improve academic excellence and to make transformational change. We are very proud that the national ranking of CEE continues to rise, with the hard work of our faculty, staff and students, and the increasing support of our alumni and friends. With your involvement and investment, we can aspire to be among the top in the U.S.

These are just a few highlights of the generosity of CEE's alumni and friends. Each and every contribution is cherished and we hope that these highlights will encourage others to join us in this vital campaign to truly transform the department.

Wal-Mart Laboratory for the Study of Pollution Control

A \$150,000 contribution from Wal-Mart will be used to renovate and equip a newly designed Wal-Mart Laboratory for the Study of Pollution Control. This laboratory, housed within LSU's Department of Civil and Environmental Engineering, will be used for undergraduate and graduate classroom demonstrations and laboratory classes. When not being used for classes, the laboratory will be used for student and faculty research involving control of environmental pollutants.

This generous donation will provide for equipment that would markedly expand the department's capacity for students to perform hands-on experiments as an important part of their formal coursework. The infrastructure would also allow student and faculty to perform meaningful research in the area of pollution control.

John Edlin and Mary Virginia Johnson Endowment for Materials Behavior Lab

John Edlin Mercer, a CE Alumnus of Mercer Island, Washington passed away on August 14th 2005 at the age of 84. John and his wife Mary Virginia provided an endowment for the Materials Behavior lab.

John was born in Bunkie, Louisiana in 1921 as the youngest son of nine children. Despite coming from a large family, Mercer graduated from LSU in 1942 at the top of his class in civil engineering and served as President of the academic society of that time. He went to work

at the Tennessee Valley Authority in Knoxville, Tennessee where he met Mary

Virginia Thompson from Hardy, Arkansas. They were married in 1945 in Memphis.

Mary and John settled in Fort Worth, Texas in the 1950's where they had four children: John Edlin Jr., Phillip Webb, Mary Susan and Melissa Anne. His engineering interests and education landed him a job at Boeing in Seattle in 1957. The family moved into a home, built by John and Mary themselves, on Mercer Island, a suburb of Seattle, in 1960. Though John and his family embraced the Pacific Northwest and remained on Mercer Island, John always remained a great Tiger fan.

John worked for Boeing for over 30 years. He was Assistant Chief Project Engineer for Structures for the SST, Deputy Structures Design Manager for Airframe Components for the Space Shuttle, Project Designer for airframe structures on the AWAC program and led the structures design for the Model 757. His last position before retirement was as Chief Structures Design Engineer for the Renton Division.

John had a passion for education, expressed through trusts for his six grandchildren and his charitable trust. Just a few weeks before his passing, John's children worked with him to make sure he could be more involved in directing his charitable trust. He expressed great interest in endowing his alma mater LSU, along with the Seattle Foundation and Catholic Relief Services.

STUDENT NEWS



Graduate Student Highlight: Jose Edgar Villalobos Encisco

In 2006, as part of its 125th anniversary, the Dutch Company Royal Haskoning organized the Delta Competition. The Delta Competition aimed to stimulate PhD,

master's and bachelor's program students from all over the world to develop innovative, sustainable solutions to the threats and issues facing densely populated delta areas due to climate change. In particular, the competition was looking for new, inspiring and bold ideas from different disciplines that would provide unexpected solutions to these issues and problems that would contribute to the sustainable development of delta areas.

The Delta Competition, which encourages talented students to devise new and innovative ideas, selected five of the most promising ideas presented in this competition. Among the five selected was the Hydrological Flood Forecasting System for Mesoamerica proposed by Jose Edgar Villalobos-Encisco.

Villalobos-Encisco, enrolled as a Ph. D. student in the Department of Civil and Environmental Engineering since August 2003, worked under the direction of internationally renowned hydrologist Dr. Vijah P. Singh. Villalobos' re-

search will result in the development of a quasi-real time flood forecasting system for South Mexico and the 7 Central America Countries. The manuscript is published in the book *Innovative Solutions for the Delta*, published by the Royal Haskoning Press of the Netherlands.

Awarded with a \$150 travel award from the LSU Graduate School and support from the CEE department, Villalobos' research was also presented in the 32nd International Symposium of Remote Sensing of Environment, held in San Jose, Costa Rica June 25-29.

This CEE graduate student was born in Guadalajara, Jalisco, Mexico. In 1983, he graduated in Civil Engineering at the *Universidad Autónoma de Chiapas*, in Mexico. After graduation he joined the Laboratory of Experimental Hydraulics at the *Comisión Federal de Electricidad*, in Chiapas, where he worked until 1984. There, Villalobos was involved in the designing, construction and operation of physical hydraulics models for various hydroelectric projects to be constructed in different parts of Mexico.

From 1984 to 1996, Villalobos joined the Mexican Ministry of Foreign Affairs, in the Mexican Section of the International Boundary and



Villalobos' research will result in the development of a real-time hydrological flood forecasting system for Mesoamerica

Waters Commission between Mexico and Guatemala. There, his duties included the planning and control of the shared river basins and the supervision of land boundary between both countries. From September 1996 to August 1998, Villalobos was enrolled in the International Institute for Infrastructural, Hydraulics and Environmental Engineering (IHE), Delft, The Netherlands, where he obtained the Master of Engineering (1997) and Master of Science (1998) degrees.

Since 1998, he joined the Hydraulic and Sanitary Engineering Department of the Civil Engineering School at the *Universidad Autónoma de Chiapas* in Tuxtla Gutierrez, Chiapas. In 1990 he obtained the diploma in Mathematics' Education for the *Instituto Tecnológico de Tuxtla Gutierrez*.

CEE Congratulates the Following Students:

Lauren Johnson received the Samuel Fletcher Tapman ASCE Student Chapter/Club Scholarship.

Joe Marino received the Institute of Transportation Engineers Scholarship.

Allison Vinson and Rebecca Tabor competed and won the Southeastern Asphalt User / Producer Group Scholarships. Each scholarship is \$3,000. Southeastern Universities eligible for this competition are from the following States: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

LSU ITE Student Chapter Receives Champion Plaque in 2007 Traffic Bowl Competition in Natchez. Chapter members who participated in the competition include **Matt Brunet, Joseph Marino, Bridget Scheyd and Jordan Montz**.



"Over the past few years, my wife and I discussed the great things that my education and the work ethic instilled in me by my professors at LSU had made possible for our family. We decided that we wanted to give something back to the LSU College of Engineering. During the decision process, an inspiring CE Newsletter came in the mail. Receiving this newsletter encouraged us to pursue the gifting process. We are so thankful that we could help today's students, entering the Civil and Environmental Field." **Stan Cothren, PE**

STUDENT NEWS

Deep South Conference Coming to Baton Rouge March 2008



This newsletter has been relaying the successes of our ASCE Student Chapter teams in regional and national conferences. Next year, it will be different. The regional conference, The Deep South, will be hosted by LSU ASCE Student Chapter. What does that mean? First, it means that many of our alumni will be able to experience the event first hand rather than through third party reporting. This does not happen very often. If you miss this chance, you will have to wait until the Year 2020 for the next round when LSU hosts again. We expect you to come and bring your family to cheer the Steel Bridge team or for a fun day by the lake watching the Concrete Canoe races. There will also be a "mystery" event; something to look for.

It also means that your help will be needed. Remember, our students are volunteering their time and effort to represent LSU. In some cases, they will need help and this is where you come in.

HOW CAN YOU HELP?

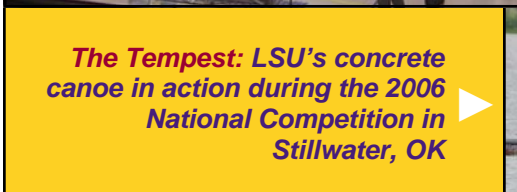
- **Fundraising:** The event hosts around 12 universities (approximately 300 participants). This requires a lot planning and resources. Our students will be aggressively fundraising to make the event a success. If you know of a potential sponsor, please contact us immediately.
- **Volunteers:** Volunteers will be needed at different levels and in numbers. One of the most important categories is "Judges". Professional Engineers are sought for this task. Prior experience with the competitions is not a requirement. After all, next year's rules are not out yet. Judges will be informed of the rules, trained on the proce-

dures and provided with the resources to make their job a pleasant one. Volunteers representing all participating schools and beyond are welcome. In addition to this important category, we will also need volunteers to assist in the planning and management of the event. As you can see, we need all the help we can get. Any and all help is greatly appreciated and vital to making this event a success.

- **Ideas:** The success of the conference will heavily rely on our creativity. By "our", we mean all of us. Sharing your ideas with the management team is instrumental in making our conference stand out. We welcome and look forward to hearing all of your ideas; all of them. So please, do not hesitate to contact us.



Students compete at the National Steel Bridge Competition: the 2005 National Competition in Orlando, FL



The Tempest: LSU's concrete canoe in action during the 2006 National Competition in Stillwater, OK



Surveying Competition: There will also be a competition in surveying.

Deep South Schools

- Arkansas State University
- Christian Brothers University
- Louisiana State University
- McNeese State University
- Mississippi State University
- Southern University
- Tulane University
- University of Louisiana at Lafayette
- University of Memphis
- University of Mississippi
- University of New Orleans
- University of Tennessee – Martin

So, mark your calendars for the last week in March 2008. Further details will be announced and distributed to you as they become available. And remember: **We count on you!**

ALUMNI CORNER

Grigsby Featured In BR Business Report



L. Lane Grigsby, Chairman of the Board of Cajun Constructors and a CEE Alumnus, was recently featured in The Greater Baton Rouge Business Report. Gracing the cover and cleverly labeled as "Citizen Lane", Grigsby is deemed by this locally popular publication as "one of the most influential men in Louisiana politics".

Grigsby, a Louisiana native, started Cajun Constructors, in partnership with Bob Mixon. Over the ensuing years, Cajun has grown to become one of the largest construction companies in the state.

Grigsby also founded Atlantic Company of America, a nationally recognized historical restoration business, and Mapp Construction, Inc., a commercial contractor based in Baton Rouge.

Realizing that being involved in politics was

important, if not necessary, to develop and sustain a successful business in Louisiana, Grigsby has established himself as a known player in local and state politics, both as a businessman and as an actively involved voter. Focusing his support on whomever he deems the best fit candidate rather than simply backing a particular party, his support is always genuinely placed and well-sought. Grigsby has been actively involved in just about every election mayoral, Metro Council and House or Senate Race since 1980.

As an active participant in community affairs, Grigsby founded the Pelican Chapter of The Associated Builders and Contractors, which has become the largest construction training facility in the United States. He served on the Board of Directors for over 20 years, has held every office and received ABC's Man of the Year Award twice.

Grigsby has also served leadership roles in a variety of organizations including in the Baton Rouge Chamber of Commerce, the Louisiana Association of Business and Industry, The Baton Rouge Metro Airport Commission, the Public Affairs Research Council, and the Medi-

cal Center Board of Directors. Since 1994, he has served on the Board of Directors of the Shaw Group, the 3rd largest EPC firm in the world.

As a CEE Alumni, he has been active in a variety of fund raising efforts to benefit LSU. Grigsby was inducted as a member of the LSU Engineering Hall of Distinction in 1997 and the CEE Hall of Distinction in 2001. He has also served on advisory boards of the LSU College of Engineering, the Civil and Environmental Engineering Department and the Construction Management Department.

Grigsby has made his mark on Louisiana in more ways than one and this recent highlight in The Greater Baton Rouge Business Report is only one reflection of his level of involvement in political and community affairs. His carefully directed passion and strong level of involvement wherever that passion is placed, has been the key to his success and will ensure that it continues.

To view the article, visit The Greater Baton Rouge Business Report online at www.businessreport.com

Dr. Munfakh Featured in Tunnel Business Magazine



Dr. George A. Munfakh, LSU CEE alumnus and 2004 Hall of Distinction member, appeared in the December 2006 issue of Tunnel Business Magazine. The article, titled "Connecting the Past & Present with State-of-the-Art Solutions", highlights the foundation, success and future of worldwide consulting firm Parsons Brinckerhoff Inc. of which Dr. Munfakh serves as Senior Vice President and Manager of PB's Geotechnical and Tunneling Group.

Dr. Munfakh received his Bachelor of Science degree in civil engineering from the University

of Aleppo, Syria in 1967. He then received his M.S. in 1970 and P.h.D. in 1973, both from Louisiana State University.

Joining Parsons Brinckerhoff Inc. over 30 years ago, Dr. Munfakh's project experience includes underground, marine and surface facilities. He is also considered a worldwide expert in ground improvement, of which he is a regular keynote speaker at conferences. Today, Dr. Munfakh has established himself as one of the leading innovators in the field of geotechnical engineering and rightfully so.

Dr. Munfakh's professional affiliations include the International Society of Soil Mechanics and Geotechnical Engineering, the American Society of Civil Engineers, Chi Epsilon, and Phi Kappa Phi. He also served as chairman of the Met Section Geotechnical Division. He has

received numerous awards and honors including the American Road & Transportation Builders Association's Globe Award for Environmental Excellence in 2002, presenting the prestigious ASCE Martin S. Kapp Lecture in 1999, the Parsons Brinckerhoff Professional Publication Award for the paper titled "Ground Improvement Engineering – The State of the Practice" (1996) and the Michael Clause Memorial Award for Excellence in Engineering Research from LSU in 1973. Dr. Munfakh has also published over 35 works during the span of his career and his highly respected by all in the field.

For more information about Parsons Brinckerhoff Inc. visit www.pbworld.com. Also, visit Tunnel Business Magazine online at www.tunnelingonline.com.

Where are they now?

Koby Jude Coulon, a graduate of LSU in Civil Engineering in 2001, was awarded his Professional Engineering License by the Louisiana Engineering Society at a recent ceremony in Baton Rouge. Mr. Coulon is a civil engineer for Gilchrist Construction in Alexandria, Louisiana.

We would like to thank the treasured alumni who forward up-to-date information and addresses. Please use the form on the back page to make your submission. Also, please visit our website www.cee.lsu.edu to sign our new Alumni Guestbook. We look forward to hearing from you!

Civil and Environmental Engineering's Annual Banquet Held

The Civil and Environmental Engineering Department held its annual banquet on April 20, 2007. The banquet was held at the University Faculty Club in Baton Rouge, LA and was a great success. During the event, faculty awards were presented and new Hall of Distinction members were inducted.



Larry McKee and Family



Kam K. Movassaghi, Kenneth McManis, Larry McKee, Ara Arman and George Voyiadjis



Q. Jim Chen, Mr. & Mrs. Clint Willson

FACULTY ACHEIVEMENT AWARDS



George Voyiadjis Presenting to Clint Willson



Dean Adrian & George Voyiadjis Presenting to Frank Tsai



Dean Adrian & George Voyiadjis Presenting to Steve Cai

Presentation of Inductees to the CIVIL AND ENVIRONMENTAL ENGINEERING HALL OF DISTINCTION

The Civil and Environmental Engineering Department established a Hall of Distinction to recognize individuals who have made stalwart contributions to the profession. At this year's CEE Banquet, two new members were inducted: **Kenneth L. McManis and Larry A. McKee.**

Criteria for election include distinguished professional achievement and service to Civil and Environmental Engineering. Inductees will have made substantial impact in their field and to the Department of Civil and Environmental Engineering. Induction is not limited to Departmental Alumni.

In honoring these individuals, the Department intends through them to recognize all those who contributed to Engineering excellence.



Kenneth L. McManis and George Voyiadjis



Larry A. McKee and George Voyiadjis

Chi Epsilon News and Chapter Updates

The Louisiana Alpha chapter of Chi Epsilon at Louisiana State University proudly inducted twenty-three new members in the Spring Semester of 2007. This initiation also brought fourth a new officer as Lauren Johnson was selected to be the chapter's marshal. The continuing officers led by Stuart Adams (president), Christopher Siverd (vice president), Kate Landrum (secretary), Ellen Burke (treasurer), and Kevin Chenier (associate editor) are pleased to welcome Lauren to the group.

The Spring Semester of 2007 activity highlight took place Thursday, March 15th, 2007, as Chi Epsilon participated in a one day playground build at Highland Elementary in Baton Rouge, LA. This project was organized by LSU, KaBoom! (www.kaboom.org), and The Home Depot. Volunteers were assigned such tasks as mixing concrete, shoveling mulch, and/or assembling playground equipment.

The project was completed by 2:00pm thanks to the help of Chi Epsilon, ASCE at LSU, LSU's Tau Beta Pi Chapter, the LaSTEM Research Scholars, the LSU Biological Engineering Department, City Works, The Home Depot, and KaBoom! Chi Epsilon would like to specifically thank Katie Rousseau, Kyle Bridges, and Dr. Marybeth Lima from the LSU Biological Engineering Department for their help.

Also, Chi Epsilon is excited to announce the launch of their new website. To learn more about Chi Epsilon at LSU, please visit www.lsu.edu/student_organizations/chiepsilon/index.html. Here you can learn about upcoming events, check out past events, find out how to join the chapter, and much more!



Brian Raef, Megan Drewes, Andrew Friot, Stuart Adams, and Jourdan Despot



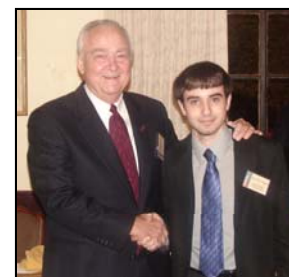
Spring 2007 Community Service Project: Highland Elementary Playground

Rick A. Nugent Receives Dual Clayton Excellence Awards

An incoming graduate student, Mr. Rick A. Nugent, received two Donald W. Clayton Excellence Awards—the Clayton Engineering Excellence Award for Outstanding Undergraduate Students and the Clayton Graduate Assistantship Supplement Award. Both awards were established through an endowment by LSU graduates Donald W. and Gloria P. Clayton to support the College of Engineering in its quest for excellence.

Nugent graduated from the CEE Department at LSU in Spring 2007. During his 4 year undergraduate study at LSU, Nugent participated in a wide variety of community activities and services and showed great leadership. He

has served as an excellent role model for the College of Engineering. Nugent has a cumulative GPA of 4.00/4.00 and obtained excellent MCAT (37/45, top 2%) and GRE (1430/1600) scores. Even though he has completed pre-medicine curricula at LSU, he still stays in engineering and wants to enter the teaching profession. For graduate study, he will be conducting research on the interaction between coastal sediments and biofilms and biopolymers, which is expected to develop more environmentally benign and economic techniques for coastal wetland restoration and sediment erosion control. His extensive background in biological sciences, organic chemistry, and nanomechanics will help him succeed in his pursued research.



Donald Clayton and Rick A. Nugent

Jason Fennell Awarded 2007 Donald W. Clayton Excellence in Engineering Award

Jason Fennell was awarded a 2007 Donald W. Clayton Excellence in Engineering Award. This award recognizes students who have demonstrated exemplary character, scholarly accomplishment, leadership and has served as a role model and ambassador for the College of Engineering. Jason worked in the LSU Wind Tunnel Laboratory for four years and was the lab manager for two years. Jason is also active in the LSU student chap-

ter of ASCE. He was a member of the Steel Bridge team in 2005 and was captain of the team in 2006. Jason graduated in December, 2006 and is currently pursuing a Masters of Civil Engineering with a focus on Structural Engineering. He is also pursuing a Graduate Minor in Disaster Management. He hopes to focus on areas of damage mitigation to engineering infrastructure due to hurricanes.



Jason Fennell and Donald Clayton

Don't forget to checkout our website: www.cee.lsu.edu
Find out the latest information about the CEE department, get information about graduate and undergraduate programs, find the most up-to-date information about student organizations, contact faculty and staff, and much more!

FACULTY NEWS

NSF Recognizes LSU Coastal Engineering Research

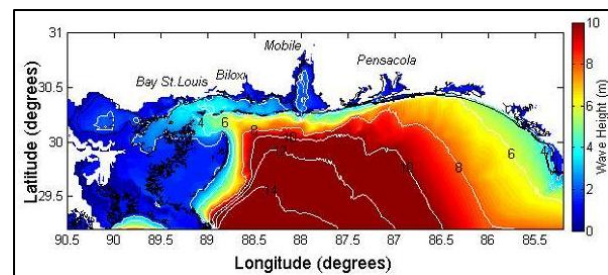
The Fluid Dynamics and Hydraulics Program of the National Science Foundation (NSF) has recently selected the research accomplishments by Dr. Q. Jim Chen and his coastal engineering research group at LSU as one of the two 2007 Nuggets from the program.

NSF recognizes notable achievements from its awards each year. It features Dr. Chen's research in coastal engineering on the agency's webpage entitled "Wind Wave and Storm Surge Modeling Predictions to Avert Future Natural Disasters, such as Hurricane Katrina" www.nsf.gov/eng/cbet/huggets/1443/1443_chen.htm.

"The Chen Group was highly insightful in combining the two modeling techniques to provide an improved model for storm surge and wind waves effects," said the NSF article.

"The Chen Group realized a need to simultaneously model storm surge and wind wave activities and to predict their impact. Combining the two hydrodynamics processes has led to a new modeling technique that will impact storm prediction, city design, and damage mitigation. The Group has created opportunities for increased coastal engineering research and education along the Gulf Coast, allowing the region to be better prepared for the future disaster."

Dr. Q. Jim Chen joined the Department of Civil and Environmental Engineering (CEE) at LSU as an associate professor in August 2006. He specializes in nearshore hydrodynamic modeling and coastal engineering. The National Science Foundation has given Dr. Chen one of its most prestigious awards in support of state-of-the-art coastal wave and storm surge research that could help protect hurricane-prone Gulf Coast, especially the Louisiana coast devastated by recent hurricanes.



Hurricane Katrina's wave atlas produced by Dr. Chen's integrated wave-surge modeling system for the northeastern Gulf of Mexico. His numerical experiments have revealed that the barrier islands and shallow continental shelf reduced the wave energy by 86%, while the absence of the barrier islands and wetlands east of Mississippi River would have increased the maximum surge height by 10 – 15% during Katrina.

In addition to the NSF award, Dr. Chen has secured five other federal grants since he joined LSU last summer, totaling \$1.4 million. Among them is a 3-year grant from the U.S. Department of Defense (DoD) aimed at developing a new modeling framework for simulations of coastal processes in deltaic environments using high-performance computing technology. Dr. Chen serves as the Principal Investigator of the project and is collaborating with colleagues at LSU Center for Computation and Technology (CCT) to integrate his coastal models with CCT's computing power.

The long-term goal of the DoD project is to develop and enhance the research and educational capabilities in the area of coastal engineering in the Department of Civil and Environmental Engineering at LSU while simultaneously supporting the U.S. Navy's research goals in the areas of coastal dynamics.

"The three PI and Co-PIs form a very strong team for the proposed study because they have excellent previous experiences in the research topic, and their expertise complements each other nicely," said one of the anonymous reviewers of another research project led by Dr. Chen and Clint Willson, in the Department of Civil and Environmental Engineering.

Funded by the NOAA Sea Grant Program, the CEE research team is aimed to improve the

capability of modeling surge and wave attenuations over wetlands and erosion potential, provide technical assistance and educational support to the Louisiana Department of Natural Resources (LDNR) Coastal Engineering Division, and develop a predictive model to estimate the volume of cohesive sediments potentially carried onshore by a storm surge. The LDNR contributes \$80,000 match for the NOAA project led by Dr. Chen.

The success of protecting and restoring Louisiana's coast requires better capabilities for predicting the response of natural coastal processes to engineering solutions under different forcing agents. Implementation of the Comprehensive Coastal Protection Master Plan calls for a strong partnership between the Coastal Engineering Division at LDNR and the Coastal Engineering Program in the Department of Civil Engineering at Louisiana State University.

Dr. Chen and the coastal engineering group are developing such a partnership that is in line with one of the Louisiana Sea Grant College Program's strategic goals, which is "to establish the academic research community as a major provider of applied research support for coastal restoration technology and programs."

Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC

Drs. Ishak and Wolshon were awarded a one-year research project in the amount of \$50,000 to lay the foundation for establishing a state-of-the-art ITS lab at Louisiana Transportation Research Center (LTRC). This lab would serve to collect, analyze, and report data as part of the Intelligent Transportation System (ITS) effort in Louisiana. The purpose of the lab is to develop and demonstrate procedures that successfully transform existing ITS data into useful information, and then pass the procedures on to agencies in order to apply them on a routine basis. It is also expected that the lab will be utilized to complete analysis functions for the DOTD and to de-

velop, evaluate, and refine procedures for more effectively utilizing the ITS system offline.

The new lab will serve primarily the metropolitan and state transportation authorities in their service to the traveling public. The information will allow transportation officials to inform the public of current and expected future traffic conditions, and assist in developing operational strategies that make the best use of existing infrastructure. The lab will also serve academics, researchers, and practitioners in providing access to raw and processed data of traffic flow.

The lab is also anticipated to be a tool to retain, recruit, and inspire interest in the field of advanced traffic management systems for students in Louisiana as well as potential graduate students from outside Louisiana.

The short-term measure of success of the lab will be reflected by the capability to stream traffic data in real time from traffic monitoring sites that are connected to the TMC. Also, the lab will offer technical reporting capabilities that assist users in extracting the most relevant information needed from such data.

FACULTY NEWS



Mostafa Elseifi LSU's Department of Civil and Environmental Engineering is pleased to announce the addition of a new faculty to its Civil Engineering Program. Dr. Mostafa Elseifi joined the department in fall 2007 from Bradley University.

In 1988, he graduated from Ferdinand Buisson Preparatory School in Paris, France. Dr. Elseifi then returned to Cairo in 1990 where he was admitted in the College of Engineering at Cairo University. In 1996, he obtained his Bachelor's Degree in Civil Engineering. Dr. Elseifi was awarded a distinction degree for his final project in Airport and Pavement Design. He then earned his Master and his Ph.D. degrees from Virginia Polytechnic Institute and State University.

After graduating from Virginia Tech, Dr. Elseifi worked at the Virginia Tech Transportation Institute (VTTI) as a senior research associate. During that time, he worked closely with

the Virginia Department of Transportation, highway contractors, and a variety of pavement related agencies during the construction of the first pavement instrumentation project in Virginia (The Virginia Smart Road). Dr. Elseifi was also directly involved with the installation and calibration of one of the world largest networks of pavement instrumentation in this state-of-the-art research facility.

Dr. Elseifi's research expertise focuses on pavement design and evaluation using analytical methods such as the finite element method, fracture behavior of HMA, and modeling of binder and asphalt mixtures performance. He has conducted research on the development and theoretical validation of a testing procedure to estimate HMA viscoelastic and plastic properties in the laboratory. Dr. Elseifi has also worked extensively on the SuperPave Specification Testing System, flexural four point fatigue test, and indirect tensile test.

During his professional career, Dr. Elseifi also worked closely with Michelin Americas R&D in tire evaluation and development. One of the tires researched was a new generation of

wide-base tire that offers the trucking industry significant economic advantages, such as improved fuel efficiency, increased payload, handling and braking, improved comfort, less repair, and reduced tire cost. During this research project, Dr. Elseifi developed a wide array of Finite Element (FE) models to accurately simulate vehicular movement and loading. The developed FE models also incorporated advanced viscoelastic constitutive models to simulate the delayed response of HMA materials.

Many of Dr. Elseifi's research findings have been published in recognized journals in his field such as the Journal of the Transportation Research Board (TRB) and the Journal of Materials Engineering (ASCE). Over the past ten years, he has authored or co-authored more than thirty publications. Dr. Elseifi has also received the Paul E. Torgersen Research Excellence Award for his work on reflection cracking. One of his papers titled "Viscoelastic Model to Describe the Mechanical Response of Bituminous Sealants at Low Temperature" by Elseifi, Dessouky, Al-Qadi, and Yang was the winner of the 2006 TRB D. Grant Mickle Award.

Welcome!

The Department of Civil and Environmental Engineering

Welcomes New Faculty Members



Heather Smith is joining the Department of Civil and Environmental Engineering at LSU as an assistant professor, specializing in sediment transport, fluid-structure-sediment interactions, and coastal engineering.

Heather is completing her doctoral work in civil engineering at Ohio State University. Heather's research uses fine-scale numerical models and

available data to investigate what happens to structures placed on or near the seabed. While at Ohio State and during a research internship at the Danish Technical University, Heather has been actively involved in obtaining laboratory and field data of these processes.

Heather's research interests include the scour and burial of objects in mud dominated environments, vortex interactions with the free surface, and the mechanisms for seabed failure and structure burial.



Michele Barbato will join in October 2007 the Department of Civil and Environmental Engineering at LSU as an Assistant Professor, specializing in finite element methods for response and response sensitivity analyses and

computational reliability analysis of structural and geotechnical systems.

Before joining LSU, Mr. Barbato conducted doctoral research at the University of California at San Diego. He is co-author of six peer reviewed articles published in renowned archival journals and of several papers presented in national and international conferences.

His research is at the junction of two main branches of Structural Engineering, *deterministic computational structural mechanics* and *probabilistic analysis* of structural systems. This research aims at reaching a better understanding of the physical behavior of structures taking into account the stochastic nature of the

structural and material properties and of the loading environment. This effort can lead to safer, more economic and more rational design procedures and contribute to make the world safer from natural and man-made hazards.

Mr. Barbato's early work, at the undergraduate level in Italy, focused on finite element modeling and analysis of reinforced concrete structures retrofitted with fiber reinforced polymers. His research work at the graduate level embraces the areas of finite element sensitivity and reliability analyses; earthquake engineering and structural dynamics; random vibration theory; modeling and analysis of reinforced concrete, steel and steel-concrete composite structures; and modeling, analysis and reliability of soil-foundation-structure interaction systems.

Currently, he is strongly involved in three different research areas: finite element response sensitivity analysis, stochastic process modeling and random vibration theory, and computational reliability analysis of structural systems. His Ph.D. research has been funded by the National Science Foundation (NSF) and

the Pacific Earthquake Engineering Research Center (PEER). He contributed to the extension of the finite element frameworks OpenSees and FedeesLab, which are integral simulation components of the George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES).

Mr. Barbato's research efforts are directed toward the integration of state-of-the-art computational mechanics models and advanced probabilistic methodologies, which are fundamental components of newly emerging engineering philosophies such as performance-based and consequence-based engineering. It is envisioned that, in a not-far future, performance-based engineering, consequence-based engineering, reliability-based optimization and other advanced simulation-based probabilistic methodologies will be analytical and numerical tools commonly required for an informed and conceptually sound decision making. The formation of a new class of engineers, familiar with these new analysis and design methodologies, is part of the mission of higher education institutions such as LSU.