

ASCE 2009 Student Chapter Happenings



Dr. Clint Willson is a co-PI on two new projects related to improving the nation's oil-and-gas production.

The first project, funded by Exxon-Mobil at \$677,000 for three years, is directed at better understanding the fundamental processes related to near-well head losses due to high velocity flows. The ability to incorporate these losses into reservoir simulators is critical for optimizing the production of deepwater wells. Other investigators on this project include Dr. Thompson (PI; Cain Department of Chemical Engineering) and Drs. Sears, Tyagi and White (Craft and Hawkins Department of Petroleum Engineering). The Advanced Energy Consortium (AEC) is funding the second project at \$560,000 over three years. The AEC funded research is aimed at relating the transport behavior of nanosensors to rock structure and fluid properties in the hopes of improving our ability to characterize oil-and-gas reservoirs. The AEC project team includes Dr. Thompson (PI; Cain Department of Chemical Engineering) and Dr. Nikipolous (Department of Mechanical Engineering). For both projects, Dr. Willson and his research group will be responsible for imaging and characterizing a wide range of oil-and-gas reservoir rocks and other relevant sample using high-resolution synchrotron X-ray tomography. The graduate students will also be performing lab-scale column experiments in order to obtain data for numerical model calibration and validation.



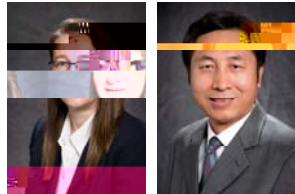
Dr. Steve Cai, Associate Professor, has recently received a fund (\$180k) from the National Science Foundation. The project, titled "Investigation and Damage Mitigation of Low-lying Coastal Bridges under Hurricane-induced Wind and Wave Actions", is to conduct fundamental research on the wind, surge, and wave loads on bridge decks, and to investigate mitigation countermeasures for coastal bridges. Part of this research will be conducted through international collaborations by using the unique wind and wave generating facilities in China.



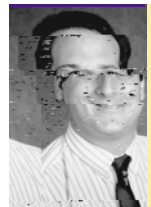
Dr. Brian Wolshon delivered the summer Distinguished Lecture for the Sandia National Laboratories' Nuclear Energy and Global Security Technologies Distinguished Lecture Series in Albuquerque, New Mexico in June. The Sandia Nuclear Energy and Global Security Technologies Division serves

the nation's security interests through excellence in science, technology, and engineering; continuously improved understanding of complex systems; contributions in arenas where technology and policy intersect; and appropriate global engagement in the areas of nuclear energy and global nuclear /radiological energy threat reduction. Dr. Wolshon's lecture focused on his recent federally-sponsored research to develop and apply innovative evacuation management and modeling techniques to increase the effectiveness of transportation systems during mass evacuations."

Drs. Zhi-Qiang Deng and Kelly A. Rusch received an award of \$400,000 from National Aeronautics and Space Administration for "Development of Sensor Assisted Water Quality Nowcasting and Forecasting Environment for Coastal Beaches." The project will identify bacterial source areas in



the watersheds of Cameron Parish beaches and develop water quality nowcasting and forecasting models for the coastal beaches in collaboration with Louisiana Department of Health and Hospitals and Louisiana Department of Environmental Quality. The project will also provide research training opportunities for 3 graduate students and 2 postdoctoral researchers.



Dr. Marc Levitan coauthored a new book, entitled *Health Care and Disaster Planning: Understanding the Impacts of Disasters on the Medical Community*, published by the Louisiana State Medical Society (LSMS). The book and accompanying training materials are the keystones of a planned national campaign geared at educating physicians and other health professionals

about disasters, their impacts on the physical infrastructure, and how this translates into impacts on health care. The book and other educational materials were developed for a \$200K joint project between the School of Social Work and the LSU Hurricane Center, coordinated by LSMS, and funded by The Physicians' Foundation for Health Systems Excellence.

CEE Graduate Students and Engineers Without Borders

CEE Graduate Students Kimberly Bowman and Martin Chorkey, through the BR Chapter of Engineers Without Borders, worked in The Cambia, West Africa this summer on a water contamination project.

In June, the group spent 10 days in Mbollet, a small village in West Africa, working on a project focused on improving the drinking water quality and sanitation practices. This multi-phase project began with the group spending time observing the village and its practices, taking measurements and documenting their observations. The group hopes that with their effort to improve and expand on the current water supply, that the overall quality of life for this village will greatly improve.

The top corporate sponsors of this project include ABMB Engineers, CDM and C-K Associates. The group also held fundraisers for the project. But the 10 day trip this summer de-



pleted much of their raised funds and therefore more must be raised to send the team of eight people back to the village for the next step of the process.

Engineers Without Borders (EWB) is a non-profit organization dedicated to working with developing communities throughout the world on sustainable engineering projects. For more about the Baton Rouge Chapter of EWB and this project, please visit their website at www.ewb-brp.org.

On September 26, 2009, the LSU student chapter of ASCE volunteered for a Habitat for Humanity Build Day. The project was located at the Chinn Street build, near Southern University. First, participating members cut siding to fit the front and sides of the house. The next step was to nail the siding to the house. All who attended were very enthusiastic about the project and enjoyed working on such a practical

Kimberly Bowman and Martin Chorkey meeting with one of the two main leaders of the village, the Village Chief.



Kimberly Bowman using a hand pump to draw water from the only capped well in the village.

General Tid Bits

The Baton Rouge Branch of the ASCE held their annual Recognition Luncheon in June. At this luncheon, Professor Emeritus **Roger K. Seals** was presented with the Educator of the Year Award. Also, CEE Hall of Distinction member, the late **Gordon P. Boutwell**, was honored with the Wall of Fame Award. The Department congratulates both gentleman on these worthy recognitions.

BS in Civil Engineering

Jeffrey Cole Hastings

MS in Civil Engineering

Meisam Akbarzadeh

Prathima Alla

Sukanta Chakraborty

Ryan Anthony Hearn

Murat Korkut

Dhaval Shirish Shah

Xiaonan Wang

PhD in Civil Engineering

Alsidqi Hasan

Wakeel Ishola Anthony Idewu

Marilou M. Nabatilan

Abhijit A. Patil

Dr. Voyiadjis To Participate In a WCU Project, the Largest Grant in Korean History

Dr. Voyiadjis to participate in a World Class University (WCU) Project from KOSEF (Korea), one of the largest grants in the history of Korea. Dr. Voyiadjis will be an honorary visiting professor in Hanyang University during the term of this project.

This is the only WCU project that was funded by Korean government in the area of civil and architectural engineering. This project addresses the challenge of the topic of nano-fusion in civil engineering. He was one of only two individuals who were selected as the only foreign scholars working on this project. This project clearly shows that the international colleagues also regard nanotechnology as an important future direction

in engineering, and Dr. Voyiadjis was already recognized as one of the leaders of his generation in that area.

This proposal is a five year project for \$3.5 million and is on the "Development of multiscale simulation methods for nano fusion technologies in construction materials for sustainable infrastructures." The funding agency is the Korean Science Engineering Foundation (KOSEF) and is the only proposal funded in Korea in Civil and Architectural Engineering. It is a unique opportunity for LSU to create ties with Hanyang University and Korea in general.

PROJECT GOAL Currently, many scientists have studied nano-technology and tried to extensively apply nano-fusion technology to construction materials and civil-infrastructure because of a variety of advantages in terms of economic efficiency, energy reduction, saving cost, and sustainable maintenance. In spite of these challengeable researches performed in the advanced countries, there is little experience and trial to introduce this promising nano-technology in domestic civil engineering fields. In addition, one faces a situation that researches for the multi-scale simulation in association with nano-micro-macro structure are severely insufficient. Therefore, one takes advantage of this human resources and foreign networks which are able to perform and develop these research topics related to the application of nano fusion technology. Through the project supported by the world class university (WCU), this research group dedicates to developing R&D nano-technology in the civil engineering field, distributing the research bases, and raising human resource with high-quality retrain



Top: Dr. Michael V. Martin, LSU Chancellor; Dr. George Z. Voyiadjis, LSU Boyd Professor and CEE Department Chair; Dr. Astrid Merget, LSU Executive Vice Chancellor and Provost; Mr. Garret



Hamilton, Vice President of Construction for Walmart and a 1984 LSU Civil Engineering Alumnus

Pollution Control and Environmental Sustainability Laboratories

The LSU College of Engineering is committed to transforming lives through research and education in the areas of environmental sustainability and pollution control. To partner in this effort, Walmart has chosen a philanthropic investment opportunity through the LSU Forever LSU Campaign to sponsor two LSU Department of Civil & Environmental Engineering (CEE) laboratories and physically improve these laboratories, giving LSU students and faculty the tools they need to excel.

Recently approved by the LSU Board of Supervisors, the Walmart Laboratory for the Study of Pollution Control and the Sam's Club Laboratory for Environmental Sustainability will be used for instruction and research in the designated areas of environmental sustainability and pollution control.

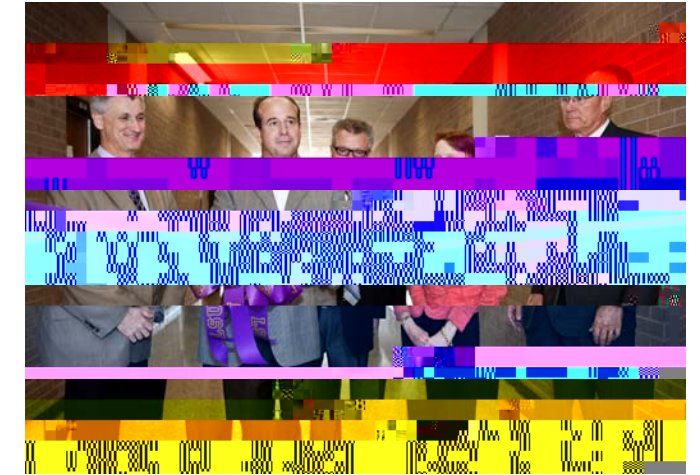
"These laboratories offer the College of Engineering the mechanism to engage students and faculty in discovering new approaches toward environmental protection and preservation of natural resources," said College of Engineering Dean Richard Koubek. "In addition, LSU engineering students will have an opportunity to investigate more options for renewable energy and zero waste capabilities."

Mr. Patrick Hamilton, a 1984 LSU Civil Engineering alumnus and Vice President of Construction for Walmart is responsible for the construction of Walmart and Sam's Club facilities throughout the United States. Hamilton is a staunch advocate of LSU and particularly the CEE Department.

According to Hamilton, "The Walmart Construction and Stormwater Compliance Divisions have recently made several donations to organizations and projects related to the improvement of water quality. In evaluating opportunities to donate, we consider the project's impact on such things as education, diversity, water quality and benefit to the communities that we serve through our Wal-Mart stores and Sam's Clubs. We were excited about the opportunity to work with LSU on these projects as they satisfied several of these criteria. We look forward to hearing about the learning experiences of LSU students in the Walmart Laboratory for the Study of Pollution Control and the Sam's Club Laboratory for Environmental Sustainability."

George Z. Voyiadjis, Boyd Professor and CEE Department Chair explained the importance of this gift, "The 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 used for classes, the laboratory will be used for stu-

Below: Maj. Gen. William Bowdon, USMC (retired), President and CEO LSU Foundation; Patrick Hamilton, Vice President of Construction for Walmart and a 1984 LSU Civil Engineering Alumnus; Dr. George Z. Voyiadjis, LSU Boyd Professor and CEE Department Chair; and Dr. Richard Koubek, Dean of the LSU College of Engineering



Above: Dr. Richard Koubek, Dean of the LSU College of Engineering; Patrick Hamilton, Vice President of Construction for Walmart and a 1984 LSU Civil Engineering Alumnus; Dr. George Z. Voyiadjis, LSU Boyd Professor and CEE Department Chair; Dr. Astrid Merget, LSU Executive Vice Chancellor and Provost; and Maj. Gen. William Bowdon, USMC (retired), President and CEO LSU Foundation

dent and faculty research involving control of environmental pollutants. The equipment will markedly expand the Department's capacity for students to perform hands-on experiments as an important part of their formal coursework. The infrastructure will also allow students and faculty to perform meaningful research in the area of pollution control and environmental sustainability."

In 2008, Walmart and its Foundation gave more than \$66 million to fund continued support of students and opportunities in post-secondary education. Through its scholarship programs alone, the Walmart Foundation awarded more than \$8 million in scholarship funding in 2008. By supporting education, the Walmart Foundation ensures that the leaders of

The Department of Civil and Environmental Engineering would like to thank Fugro Consultants, Inc. for their recent contribution to the departmental campaign.

"LSU has a large and strong civil engineering program with an academic emphasis on Cone Penetration Testing (CPT). Our CPT services have provided significantly to Fugro Consultants' success," said Joseph Cibor, President of Fugro Consultants, Inc. "LSU has long been a source of technical talent and leadership

tomorrow have access to the quality education opportunities they need to be successful today.

Support for LSU CEE, like that shown by Walmart and Sam's Club, helps the College of Engineering move closer to its Forever LSU campaign goal of attaining \$100 million in support for the college. Forever LSU has an overall goal of attaining more than \$750 million for the university by the end of 2010. To find out how to become involved with the campaign for LSU's future, visit www.eng.lsu.edu/alumni/contribute.html or www.foreverlsu.org.

Article by Mimi LaValle, director of Communications, LSU College of Engineering, 225-578-5706, mlavall@lsu.edu

through top-flight academia and service. Many of our employees received their education at LSU and, we are honored to recognize the institution's heritage and to