



THE UNIVERSITY OF TEXAS AT AUSTIN

Civil, Architectural and Environmental Engineering

CAEE alumni news and features

www.caee.utexas.edu

FALL 2009



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CAEE Professors Lead Meaningful Dialogue about Green Engineering

Lymon Reese
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Continuing Progress:

A letter from Department Chair Sharon Wood



October 20th marks my first anniversary as department chair and I say without hesitation that it has been an extraordinary year. Despite the economic challenges, I believe that we have improved in our core mission: educating the civil, architectural and environmental engineering leaders of the future.

One could argue that the current economic climate makes our mission even more important, as it will be these exceptional individuals who “engineer” the U.S. out of the economic downturn and develop innovative engineering solutions to serve society for decades to come. The department is proud of the 143 B.S., 114 M.S. and 40 Ph.D. students who graduated from CAEE in 2008-09.

One of the highlights of last year was the introduction of a professionalism course for the undergraduate students. The one-hour course is service based, and many of students worked with the City of Austin to do preliminary planning on pedestrian and bicycle projects around town. The students were excited about working on real engineering projects and they had the opportunity to present their designs to the public during community meetings at the end of the semester. The City has developed a new list of projects for this academic year, and members from the local chapter of ASCE will be serving as mentors for the student teams.

One of the best surprises that I have discovered as Chair was the wide base of alumni support. Over the summer, we held our third annual CAEE Ethics Seminar Series in four cities across Texas. More than 500 alumni attended the lectures, which is an overwhelming show of commitment to the program. Many thanks to David Maidment for his thought-provoking talk on flood mapping in Texas. I would also like to thank Bill Espey for pinch hitting at the Austin event and CPYI in Dallas, TxDOT in Austin, and Pape-Dawson in San Antonio, for serving as hosts for these events.

Sadly, the year has also been marked by some lows. Today, after writing this letter I will be attending the funeral of our distinguished colleague, Lymon Reese. His passing leaves a marked hole in our department and in the field of geotechnical engineering. We also lost two legendary water resources engineers this year. Walter L. Moore and Leo Beard passed away in March. All three were outstanding engineers and they influenced the lives of thousands of students in our department. They will be sincerely missed.

As always, thank you on behalf of the department for the continued support from our alumni, friends, and corporate partners. Wishing you the best for 2009-2010.

A handwritten signature in black ink, appearing to read "R. L. Parker".

Robert L. Parker, Sr. Centennial Professor in Engineering and Department Chair

CAEE Alumni Survey

In July, we issued an email survey to our alumni, asking them to share their thoughts about our undergraduate programs. We were thrilled to receive more than 500 responses. We will use your comments to enhance the educational experience that we provide for today's students and to prepare for our ABET visit next fall. Some of the survey results are reported below:

86% felt that they were very well prepared or well prepared to act professionally and ethically.

90% felt that they were very well prepared or well prepared to apply knowledge, strong reasoning, and quantitative skills to design and implement creative and sustainable solutions.

62% are licensed professional engineers, and **14%** plan to take the exam as soon as they are eligible.

83% felt that they were very well prepared or well prepared to engage in life-long learning and to meet the challenges facing the profession.

75% felt that they were very well prepared or well prepared to exhibit strong communications, interpersonal, and resource-management skills as leaders in the civil or architectural engineering profession.

62% are licensed professional engineers, and **14%** plan to take the exam as soon as they are eligible.

Thanks to everyone who completed the survey. If you did not receive an email about the alumni survey this summer, please visit our website at www.caee.utexas.edu and click the link to the “Alumni Survey”. You may also update your contact information by following the “Stay in Touch” link.

In Remembrance of Lymon C. Reese

1917 - 2009

Lymon C. Reese, Nasser I. Al-Rashid Chair Emeritus in Civil Engineering, passed away on September 14, 2009 at the age of 92.

He spent most of his early life in Arkansas and moved to Abilene, Texas while in high school. His first exposure to engineering came when he worked as a land surveyor for the Civil Service and was sent to the Rio Grande Valley to set surveying stakes for levees.

During World War II, he served in the U.S. Navy and attended college on the GI Bill. He earned his B.S. and M.S. degrees from UT in 1949 and 1950. He earned his Ph.D. from the University of California, Berkeley in 1955, and soon after, joined the faculty at the University of Texas at Austin.

He married Eva Lee Jett, a fellow student at UT, in 1948 and they had three children: Sally Elizabeth Reese Melant, John Blake Reese, and Nancy Gay Reese.

Dr. Reese served as Chair of the Department of Civil Engineering from 1965 to 1972 and as Associate Dean for Program Planning in the College of Engineering from 1972 to 1979. He continued to teach classes in the Department until 1993 and supervised more than 70 graduate students during his career.

Throughout his career, Dr. Reese studied the behavior of

deep foundations. His pioneering work on field studies of instrumented piles led to the development of analytical methods for the design of deep foundations that have been used to design major structures around the world.

Among his many honors, Dr. Reese was elected into the National Academy of Engineering in 1975 and received the Karl Terzaghi Award from the American Society of Civil Engineers in 1983. He was a Distinguished Graduate of the College of Engineering at the University of Texas and a member of the Academy of Distinguished Alumni in the Department of Civil, Architectural and Environmental Engineering.

Dr. Reese influenced the lives of thousands of students over the course of his career. A proud family man, lifelong teacher, and friend to many, he will be sincerely missed.

Gifts in honor of Dr. Reese may be made in support of the *Lymon and Eva Lee Reese Endowed Excellence Fund in Geotechnical Engineering*. Please mail gifts to the address on the back page or visit www.caee.utexas.edu/news-events/news-stories/lymon-reese.html



Lymon C. Reese, Nasser I. Al-Rashid Chair Emeritus in Civil Engineering

Lymon C. Reese Distinguished Lecture

Since 2006, industry leaders in geotechnical engineering have come to campus each spring to share their expertise during the Lymon C. Reese Distinguished Lecture. The lecture series celebrates Dr. Reese's many contributions to the field and gives students, faculty, alumni, and industry the opportunity to learn from an esteemed guest speaker.

The 2009 speaker was Charles C. Ladd, professor emeritus at the Massachusetts Institute of Technology. His talk "Recommended Practice for Soft Ground Site Characterization" focused on a general methodology for site characterization, including in situ testing with the field vane and piezocone, and laboratory consolidation and strength testing.

Since the inception of the lecture series four years ago, Fugro Consultants, Inc. has sponsored the event. The International Association of Foundation Drilling (ADSC) was also a supporter this year, honoring their involvement with Dr. Reese's early research on drilled shafts.



Alumni, students, industry representatives and CAEE faculty talk shop during the reception in April 2009.

Speaker Charles Ladd is presented with a gift of gratitude from Lymon Reese.



In addition to the lecture, a job fair was held and for the undergraduate and graduate students.

Dr. Reese has influenced many generations of geotechnical engineering students.

Sustainability in the CAEE Classroom

Rarely does a day go by when we don't hear the word "sustainability". While it is a topic worthy of national and global dialogue, what does it mean to civil engineers? Professor Danny Reible recently developed a course on sustainability, taught by CAEE faculty, so that students could gain deeper understanding of the concept and explore career paths where innovation and a more holistic approach are paramount.

"Selected Topics in Sustainability", was structured around the idea that it will serve as a foundation for more advanced courses. Students were introduced to topics such as Transportation and Urban Planning, Green Construction Practices, Green Chemistry, Building Energy Efficiency and Energy Systems, Biofuels, Grey Water Reuse, and Sustainable Water Resources. The cross-disciplinary activities of our faculty are also more perceptible in this class - for example, students learn how energy production systems such as wind energy are integrated into a building.

"The structure of the course, with many faculty contributing, provided broad exposure to the concept of sustainability as well as how it is applied in specific areas," said Reible. "We expect to follow up with courses examining individual topic areas in more detail, although there may be a continued need for broader treatment as well."

What follows are some highlights from a couple of course topics. In Professor Lynn Katz' lecture series, students were given an in-depth overview of grey water and water reuse. They gained an understanding of why there is potential for more extensive reuse of water since a large gap exists between the amount of water that is extracted versus what is actually consumed (the final use of water that cannot be used again). Katz illustrated that it is up to engineers to improve water reuse applications in the agricultural, domestic and industrial sectors.

While the benefits of water reuse are evident, she also discussed the challenges involved and the driving forces behind water reuse such as increasing water demands; water scarcity and droughts; environmental protection and enhancement; economics; public health protection and perceptions; and regulations. Students were shown examples of typical plant schematics and existing water reuse operations in the U.S. and abroad. The class was



A new CAEE course creates meaningful dialogue about sustainability and recognizes activities within the department that support "green" engineering and designing for resiliency. It is our hope to continue innovation while conserving resources.

also able to learn about a local project that is currently in the design phase. The City of Austin is expanding an existing wastewater reclamation project by installing a new main pipe to provide reclaimed water service to the UT campus area for use in watering lawns, chilling plants, and other non-potable water uses.

In classes led by Professor Richard Klingner, students were introduced to Leadership in Energy and Environmental Design (LEED) and Green Globes rating systems for new construction in the U.S. and studied examples of how they are used. Both rating systems were created from the need to compare design options systematically and to have standards for environmentally sustainable construction. Economic, social, and ecological longevity is at the core of this type of construction. Because these criteria are often in conflict, Klingner explained that established standards are essential.

Both LEED and Green Globes emphasize energy use, water and resource efficiency, site ecology, indoor air quality and pollution, since these are widely accepted characteristics of "green building." The systems are similar in that both are points-based; both tie those points to certified performance ratings and both include four roughly comparable rating levels.

The systems differ in that LEED has more evaluation categories, assigns points to each category manually, and involves an arguably more complex accreditation process that rates buildings over their life cycle. It is also currently more widely

accepted and recognized in the U.S. In contrast, Green Globes is web-based, broader in scope, designed for widespread appeal, and considered easy to use for those with limited environmental design experience. After leading the class in an in-depth discussion of the similarities and differences between LEED and Green Globes, the class was divided into small groups and assigned the task of applying both rating systems to improve our building, Ernest J. Cockrell Hall (ECJ). Then each group was asked to summarize the steps they took to improve ECJ by one performance category, and to discuss implications of their findings.

"The group reports showed a good understanding of the issues involved with numerical rating systems in sustainability", said Klingner.

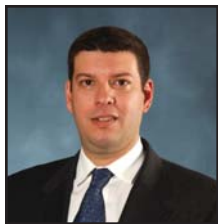
Recent Faculty Achievements



L-R: Michael E. Kreger (Purdue University), Juan Jose Icaza (BSCE '02, MSCE '04), Tanya Luthi (MSCE 2005), John E. Breen (Nasser I. A-Rashid Chair in Engineering, also a CAEE graduate, PhD. '62), and Jeffrey R. Diephuis (MSCE '04).

John Breen received the ASCE T.Y. Lin Award for original and significant contributions to the development of post-tensioned construction described in "Effects of Duct Types and Emulsifiable Oils on Bond and Friction Losses in Post-tensioned Concrete"

in the *Journal of Bridge Engineering*. All of the authors are pictured.



Carlos Caldas was recognized as the 2008 CETI Award recipient in the Outstanding Early Career Researcher category. FIATECH established the CETI Awards in 2006 to celebrate engineering and technology innovations by recognizing significant achievements in technology

research, development and implementation in the capital projects industry. Caldas was awarded in April 2009 at the CETI Gala.

Richard Corsi was awarded the Otto Monsted Visiting Professorship at the Technical University of Denmark (DTU). The award allowed him to visit the university over a three-year period, and the opportunity to work with other international leaders in the field of indoor air quality. He collaborated with faculty members and graduate students on a project related to near-body chemistry and its relationship to human perceptions and work productivity.



Mary Jo Kirtis received a Faculty Early Career Development (CAREER) award from the National Science Foundation, an honor which recognizes promising young faculty and supports their research with five years of funding. Her work will focus on the inadvertent adverse effects that engineered

nanomaterials may have on microorganisms, with a special focus on bacteria in engineered water system, biofilm bacteria and beneficial versus pathogens.

Eric Williamson (BSArE '90) received the Walter L. Huber Civil Engineering Research Prize, which is awarded to members of the ASCE for notable achievements in research related to civil engineering. Preference is given to younger members (generally under 40 years of age) of early accomplishment who can be expected to continue fruitful careers in research. Williamson is recognized for his research in the fields of blast-resistant structural design and progressive collapse. Results of his work have led to the first-ever AASHTO LRFD specifications for the design of bridge components subjected to a blast.



Michael Walton, was selected as a member of the inaugural class of the Intelligent Transportation Society of America's Hall of Fame for his lifelong dedication to organizational leadership in the field and his contribution to the vision of intelligent transportation systems. Walton researches intelligent transportation systems, intermodal freight logistics, planning, operations, and policy analysis.



Lynn Katz and **Kerry Kinney** were selected as two of this year's Women in Engineering Advocate Award recipients. This



award recognizes an outstanding faculty member viewed by both students and the Cockrell School of Engineering's Women in Engineering Program (WEP) as helping advance women in the field of engineering. The program connects pre-college and college students to the creative and innovative field of engineering.

Joseph Yura, was awarded the Geerhard Haaier Educator Award from the American Institute of Steel Construction. He received the award in recognition of pre-eminent contributions in education and research in the field of structural design. This award is not given on an annual basis, but only on rare occasions to recognize contributions of truly outstanding individuals whose teaching and research have made an indelible mark on the structural engineering profession. Yura is only the fifth individual to have received this award.



Outstanding Young Alumna: Susana M. Hildebrand, MSEHE '97

Established in 2003, the Outstanding Young Alumnus/Alumna Award recognizes a graduate of the Department of Civil, Architectural and Environmental Engineering under the age of 40 who has distinguished himself or herself with outstanding service and contributions to the engineering profession.



Susana M. Hildebrand, P.E., is Chief Engineer for the Texas Commission on Environmental Quality (TCEQ), Texas' environmental regulation agency. In this role, she scientifically assesses environmental conditions and risks as well as implements

programs that protect and restore air and water quality. She oversees a budget of \$243 million and supervises over 300 staff, including engineers, toxicologists and scientists.

Hildebrand previously served as Director of Air Quality for TCEQ and was instrumental in the development of a first-of-its-kind cap and trade program in Houston for highly reactive volatile organic compounds. This program is a cornerstone of Texas' plan to improve air quality in Houston. She also oversaw state-of-the-art photochemical modeling, making Texas a nationally-recognized leader in

the science of air quality improvement. In addition, she directed research efforts to better understand ozone formation and emissions calculations, attracting world class researchers and scientists to address the state's air quality challenges.



In the summer of 2007, the TCEQ contracted United Kingdom-based National Physical Laboratory (NPL) to perform differential absorption lidar (DIAL) measurements on industrial emissions sources in a Houston-area refinery and storage terminal. This was the first use of this technology in the United States by a government agency to measure emissions from industrial sources, which can be difficult to measure using conventional resources.

In her private life, Hildebrand also gives back to the community. As Chair of the Governing Council for NYOS, a K-12 public charter school whose mission is to build leaders to serve and succeed in global society.

Hildebrand was recognized in October 2009 at the Alumni Banquet.

ALUMNI PROFILE: Sam Kumar, MSCE 1992

Many students credit their UT education as a key factor in the launch of their careers. Sam Kumar, MSCE 1992, is no exception - he gained the confidence and skills needed to start one of the top construction firms in central Texas during his time as a graduate student in the Construction Engineering and Project Management Program.

Kumar, President of Journeyman Construction, grew up in Southern India and was the first in his family to come to the U.S. for a graduate degree. He chose UT-Austin because it was one of the top three programs in the country. Once here, he fell in love with Austin and developed lasting relationships with his professors.

Professors Emeritus Richard L. Tucker and W. Ronald Hudson lit a spark in Kumar and pushed him to be a better engineer. He remembers that both professors were great leaders, hard workers and dedicated to students' welfare and



L-R: Richard and Shirley Tucker, Sam and Hema Kumar, and Dean Gregory Fenves celebrate Kumar's legacy at the 2009 EPS Dinner.

needs. He also recalls that he had many opportunities to improve his written communication skills after his thesis was returned three times by Dr. Hudson!

After graduation, he worked at Landmark Organization until 1999. In 2000, he founded Journeyman Construction, with just himself and an assistant. Today, the company employs 72 people, has construction revenues over \$85 million, and is ranked the 77th largest

in the state of Texas.

In 2008, Kumar made his first gift towards establishing the *Tucker Hudson Kumar Endowed Presidential Fellowship in Construction Engineering*. This was his way of honoring former professors and the education that opened doors. He is also hopeful that his gift will inspire others to support the construction engineering program and create opportunities for future students. For information on honoring your professor or to explore gift options, contact Kelsey Evans at 512-471-6151.

Alumni Updates

CAEE alumni go on to varied professions and interesting careers. Faculty, current students, and fellow alumni are always interested in learning about the lives alumni lead after they leave. If you have an update you'd like to share - a career change, promotion, retirement, marriage or baby, please email Laura Klopfenstein at klopfenstein@mail.utexas.edu, or visit our website at www.caee.utexas.edu/alumni

Maximus Iskander Porter, son of **Vivian Iskander Porter** (BSCE '99) and Rudy Porter was born on November 4, 2008.



Let us know about your future engineer and we'll send a **free t-shirt** compliments of the Friends of Alec Annual Giving Program.

60's



William H. Epsey, Jr. (BSCE '60, MSCE '63, PhD '65) is the 2009 ASCE-Austin Branch and Texas Society of Professional Engineers (TSPE) Engineer of the Year. His pioneering work in urban hydrology is well documented and

has been used in various parts of the country in terms design and floodplain delineation.

70's

Larry Griffis (BSCE '70, MSCE '72), was recently honored with the J. Lloyd Kimbrough Award by the American Institute of Steel Construction (AISC). The award is the highest honor bestowed by the organization and is given to engineers and architects whose outstanding design work has contributed to the structural steel industry.

90's

Tarek Bashandy (MSCE '95, PhD '96) is the proud father of Youssef, born on November 14, 2008.

Bashandy is an Assistant Professor at Helwan University in Cairo.



Irene Lo (MSCE '90, PhD '92) and CAEE Ph.D. student Keith C.K. Lai were awarded the ASCE 2009 Wesley W. Horner Award for the paper "Effects of Seepage Velocity and Temperature on the Dechlorination of Chlorinated Aliphatic Hydrocarbons".

Sanjeev Malhotra (MSCE '91) was awarded the Parsons Brinckerhoff Henry L. Michel Fellowship for 2008 for his work on offshore wind turbines. The fellowship aims to integrate forward-thinking corporate initiatives into its day-to-day operating practices

John Tauxe (MSCE '90, PhD '94) has been appointed to the Engineering Development Panel of the Integrated Ocean Drilling Program, advising on technological needs and engineering developments that meet the scientific objectives of the IODP. He is also Senior Environmental Engineer with Neptune and Company in Los Alamos, New Mexico.

00's

Cem Altuntas (MSCE '02) married Asena Bahce in July 2008. The couple married in Ankara, Turkey after an engagement party in New Jersey.

Mehmet Darendeli (MSCE '97, PhD '01) was recently elected principal of McKinsey & Company, a global management consulting firm in Dubai.

Cody J. Guins (BSArE '06) and his wife, Lauren, welcomed Ali Rose Guins in April 2009.



Yin Lu Julie Young (MSCE '99, PhD '02) joined the Department of Naval Architecture and Marine Engineering as an Associate Professor in August.

Leo Roy Beard

1917 - 2009



Leo Roy Beard, emeritus professor was a renowned hydrologic engineer, who enjoyed an illustrious career and "an abundant and happy life". Beard spent 33 years with the U.S. Army Corps of Engineers, retiring as the (founding)

Director of the Corps' Hydrologic Engineering Center. He then joined the CAEE faculty at UT-Austin. As Director of the Center for Research in Water Resources, he lectured worldwide and was also involved in many professional organizations. Beard was elected into the National Academy of Engineering in 1975 and received the ASCE Ven Te Chow Award in 2007.

Walter Leon Moore

1916 - 2009



Walter L. Moore, emeritus professor, was a specialist in hydraulics and a lifelong professor at UT-Austin. He is credited with developing UT's water resources program. He received degrees from California Institute of Technology and the University of Iowa before embarking on his 37-year career with the CAEE Department, serving as Chair from 1958-1965. He supported Habitat for Humanity, the Austin Lyric Opera and many scholarships, including the *Walter L. and Reta Mae Moore Graduate Fellowship in Civil Engineering* and *Walter L. and Reta Mae Moore Graduate Fellowship in Water Resources*.

2009 Student & Faculty Awards

The following awards were presented at the seventh annual Civil, Architectural and Environmental Engineering Spring Banquet in April 2009:

ARE Leadership Award

Cynthia Hua

Awarded to Architectural Engineering student who demonstrated outstanding leadership in campus and community activities

CE Leadership Award

Corey Franklin Meeks

Awarded to Civil Engineering student who demonstrated outstanding leadership in campus and community activities

Werner W. Dornberger Academic Excellence Award

Eleanor Cox Reynolds

Awarded to ARE student who started at UT Austin as a freshman, has the highest GPA in the class and is completing a degree in four years

John A. Focht Academic Excellence Award

Alix Robyn Broadfoot

Awarded to CE student who started at UT Austin as a freshman, has the highest GPA in class and is completing a degree in four years



L-R from top: Kevin Folliard receives student appreciation award from ASCE Student Chapter president Dong-Hyun Kim; Spyros Kinnas and wife Cynthia celebrate his teaching award; 2009 award recipients and student organization officers



Department Teaching Award

Spyros Kinnas

Presented to a CE or ARE faculty member who has excelled in teaching and has demonstrated exceptional motivation of students in the classroom

Ervin S. Perry Student Appreciation Award

Kevin Folliard

Presented to a faculty member who best meets the ideals of "an excellent teacher and a good friend"

Outstanding Teaching Assistant/Assistant Instructor Award

Charli Rust

Presented to a CE or ARE teaching assistant or assistant instructor who has shown exemplary dedication and motivation in their teaching

DEPARTMENT OF CIVIL, ARCHITECTURAL & ENVIRONMENTAL ENGINEERING

For more on the Department of Civil, Architectural & Environmental Engineering, or for information on ways to get involved with UT CAEE, please contact **Laura Klopfenstein** at **512-471-1279**, or by email at: klopfenstein@mail.utexas.edu
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