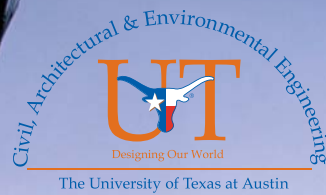


# UT CAEE

WINTER 2009

civil, architectural & environmental engineering newsletter

[www.caee.utexas.edu](http://www.caee.utexas.edu)



*During her career, alumna Susan Mullen and her team at Bechtel Corporation helped incorporate a delayed coking unit into a large, established refinery at ExxonMobil's Baytown facility. She was inducted into the Academy of Distinguished Alumni last fall.*



# Continuing Progress:

A letter from Department Chair Sharon Wood



Sharon L. Wood

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

The past six months have been a period of change and excitement within the Department of Civil, Architectural and Environmental Engineering (CAEE). In September, the new Dean of the Cockrell School of Engineering, Greg Fenves, appointed Jerry Speitel as the Associate Dean of Academic Affairs. I was subsequently named Chair of CAEE in October.

CAEE benefitted greatly from Jerry's leadership during his seven years as chair. We celebrated our centennial, the size of our faculty increased by nearly 10%, and we implemented a variety of new initiatives for our undergraduate and graduate students. Most importantly, Jerry had a vision for sustained excellence within CAEE. As we move forward, our faculty and students are poised to address some of the most challenging problems of the 21st century, including providing sustainable supplies of clean water, recovering viable building materials from industrial and construction waste, developing methods for maximizing the service life of existing infrastructure systems, and reducing the risks to the built environment due to earthquakes, hurricanes, floods, and other extreme events.

As in every newsletter, our goal is to tell you about our ongoing research and teaching activities. Carlos Caldas' efforts in Construction Engineering and Project Management to RFID tags to enhance efficiency at the construction site are featured in this issue. We are also proud to introduce you to three new faculty members, as well as two recent graduates who are making a difference. In addition, profiles of the newest members of our Academy of Distinguished Alumni are presented. They are engineering leaders who have accomplished inspiring achievements within their civil, architectural and environmental engineering fields. We look forward to continued progress in our teaching, research, and public service missions during 2009 and greatly appreciate the support of our alumni and friends. I hope to meet many of you at our annual Alumni Ethics Presentations in Austin, San Antonio, Houston and Dallas this summer.

## Named Endowments

The following Endowments were established for the benefit of the Department of Civil, Architectural and Environmental Engineering since January 2007:

*Academy of Distinguished Alumni Endowed Scholarship in Civil, Architectural and Environmental Engineering*  
Donors: Members of the CAEE Academy of Distinguished Alumni

*American Constructors Endowed Excellence Fund*  
Donor: Bill Heine, on behalf of ACI, Inc.

*Dr. Carl E. Adams, Jr. Endowed Excellence Fund for EWRE*  
Donor: Carl E. Adams, Jr., PhD 1969

*EWRE Analytical Instrumentation Center Endowment*  
Donors: Alumni and Faculty of EWRE

*Rosemary and Daniel D. Zabcik Endowed Excellence Fund in Civil Engineering*  
Donors: Rosemary and Daniel D. Zabcik, BSCE 1950

*John E. Breen Endowed Presidential Fellowship in Structural Engineering*  
Donors: Alumni, friends and family of Jack Breen in celebration of his 70th birthday

*Louis P. Randall Endowed Scholarship in Engineering*  
Donors: Beverly and Jack P. Randall, BSCE 1972, MSCE 1975, in memory of Louis P. Randall, BSCE 1946

*Tucker Hudson Kumar Endowed Presidential Fellowship in Construction Engineering and Project Management*  
Donors: Hema and Sam Kumar, MSCE 1992

*Michael R. Voich Endowed Presidential Scholarship in Architectural Engineering*  
Donors: Michael R. Voich, BSARE 1953 and daughter Patricia Ann Hiett

*CAEE External Advisory Committee Endowed Excellence Fund*  
Donors: Members of the CAEE External Advisory Committee in support of the Department Chair

*Transportation Engineering Endowed Excellence Fund*  
Donors: Alumni and faculty of Transportation Engineering

*Rogelio Cruz Garza Memorial Endowed Scholarship in Civil Engineering*  
Donors: Sylvia Garza and family, in memory of Rogelio Cruz Garza, BSCE 1972

# Profiles:

## New Faculty Members

### Amit Bhasin

Assistant Professor,  
Transportation Engineering



Amit Bhasin joins the faculty from Texas A&M University, where was an Associate Research Scientist at the Texas Transportation Institute and a Visiting Assistant Professor in the Zachary Department of Civil Engineering.

His research and teaching interests are in the area of infrastructure materials. He performs research that relates fundamental properties of constituent materials to the engineering performance of composites such as asphalt concrete mixtures.

Bhasin's expertise is concentrated in the following areas: 1) characterizing physical and chemical properties of asphalt binders and aggregates including fillers, 2) developing models that relate fundamental material properties to performance of asphalt mixtures, 3) evaluating the impact of additives on the performance of asphalt mixtures including additives used to produce energy efficient warm asphalt mixtures, and 4) developing comprehensive models for fatigue cracking and moisture sensitivity in asphalt mixtures.

Bhasin has conducted research sponsored by state departments of transportation, National Cooperative Highway Research Program, Federal Highway Administration (FHWA), and private corporations. In the classroom, he hopes to create and maintain an active learning environment where critical thinking flourishes.

### Chadi El Mohtar

Assistant Professor,  
Geotechnical Engineering



In Fall 2008, Chadi El Mohtar became part of the faculty at CAEE. He earned his PhD at Purdue University, where he studied the effects of introducing a thixotropic pore fluid on shear strength and cyclic resistance of a sand medium while working on an NSF-funded project. He also worked on a project for the Physics and Earth and Atmospheric Sciences Departments on a data acquisition system for controlling and monitoring seismic acquisition array.

After graduation El Mohtar worked for three months as a post-doc at Purdue University before joining the CAEE.

El Mohtar's research focuses on auto-adaptive solutions for mitigating soil problems. His work involves engineering soils and pore fluids to adapt to adverse and unforeseen loading conditions, with minimal compromise of response under normal working load conditions. Other interests include non-aqueous flow through porous media, earthquake engineering, liquefaction, fatigue life and behavior of asphalt concrete. He plans to work with other materials/pavement faculty to research the road subgrade interaction and how to better incorporate soil parameters into pavement design.

As a teacher, he plans to combine state-of-the-art field applications with academics so that students are prepared for the workplace. He has developed models and computer programs to simulate soil behavior so students can better visualize geotechnical phenomena.

### Raissa Ferron

Assistant Professor,  
Structural/Materials Engineering



Raissa Ferron completed her PhD in civil engineering at Northwestern University. As a graduate research assistant, she studied the fresh state and hardened state properties of self-consolidating concrete (SCC). She focused on the mechanisms controlling flocculation and rheology of cementitious materials during the early stages of hydration. Ferron has also co-authored related papers published in conference proceedings and journals and has made presentations on an international level.

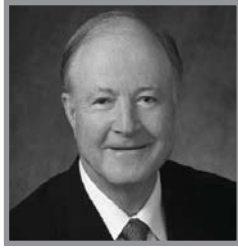
Ferron's primary research interests are rheology and processing of concentrated suspensions, characterization of fresh concrete micro/nano-structure, self-consolidating concrete, and affordable sustainable housing materials for developing countries. She believes a better and longer life-cycle will result from a holistic approach that takes into account the interaction among processing, structure, properties and performance of infrastructure materials and pavements.

Ferron would like to help students develop their skills and teach them how to apply science and math to create useful entities. She is currently teaching a graduate course that she introduced into the curriculum on the flow and viscoelasticity of cement-based materials and is developing teaching modules on concrete and sustainability with the Ann Richards School for Young Women Leaders in Austin.

# Civil, Architectural and Environmental Engineering Academy of Distinguished Alumni

## 2008 Inductees

Upon graduation from UT in 1965, **Berry Grubbs** worked for Dr. Lymon Reese (Reese & Cox Engrs) conducting research on laterally loaded piles in sand and stiff clay. He later gained offshore oil



**Berry R. Grubbs,**  
**M.S. 1965**

and gas experience monitoring a Conoco Oil platform's structural response to wind and wave forces and conducting marine investigations in the Gulf of Mexico, South and Central America. He also conducted field tests for Aleyeska's marine terminal at Valdez, Alaska, numerous power plants, and, Brown & Root's marine fabrication yards in Houston and Port Arkansas. Grubbs then joined the Houston startup of Fugro Gulf as Vice President, working on projects such as Saudi Arabia's marine terminal at Yanbu and characterizing sediments along Venezuela's coast and offshore Brazil. In 1981, he established Terra-Mar Consulting Engineers, environmental, geotechnical, construction materials inspection and testing services. The firm worked on many large notable projects including the \$2.6 Billion dollar expansion of DFW Airport, the Ranger's Ballpark at Arlington, Dallas Rapid Transit's light rail line and Texas Motor Speedway.

With more than forty-eight years of experience as a geotechnical and materials engineer, **Bill Harper** has managed numerous major projects such as the construction of Minute Maid Park, Hardy Toll Road, Jesse Jones Bridge



**William J. Harper,**  
**B.S. 1960**

and numerous high rise buildings in Houston. In 1967, he joined Southwestern Laboratories as a geotechnical engineer and succeeded to President and CEO. Harper formed HBC

Engineering in 1994 with ten employees in three offices and grew the company to more than 250 before merging the company with Terracon Consultants in 1998. He has been active

professionally as President of the Texas Society of Professional Engineers and was named the TSPE Engineer of the Year in 1991. He has also been the President of the Texas Council of Engineering Laboratories and the American Council of Independent Laboratories. He continues to serve as a trustee for the Texas Engineering Foundation and for the National Society of Professional Engineers Education Foundation.



**Saburo Matsui**  
**Ph.D. 1972**

**Saburo Matsui**, Emeritus Professor of Kyoto University has conducted research on micropollutants in water for more than 30 years and is a distinguished scholar, engineer and scientist. His research field

in water pollution control included industrial waste water treatment, sewage treatment, ecological sanitation, eutrophication of lakes and micropollutants of heavy metals, DNA damaging and endocrine disturbance.

While at Kyoto University, he developed a world-renown, environmental engineering and environmental research facility. Matsui was also a long time contributor to the International Water Association and was a

member of Scientific and Technical Panel of Global Environmental Facility, United Nations from 2004-2008. He is recognized as an award-winning international contributor to environmental science and environmental engineering and has received the Academic Prize from the Japan Society on Water Environment and the Vollenweider Lectureship in Aquatic Sciences from the Canadian National Water Research Institute, which is granted annually to an eminent freshwater scientist for global contribution to advancement of aquatic sciences.



**Susan E. Mullen**  
**M.S. 1986**

**Susan Mullen**, Project Manager at Bechtel Corporation, Oil, Gas & Chemicals, has accomplished a great deal in her career. She led the implementation of an automated, integrated steel design work process at Bechtel, reducing the cycle for structural steel design, fabrication and delivery. She has successfully completed projects in the U.S. and abroad during her 20 years of Project and Functional Management and Structural Engineering. Mullen also doubled Bechtel's civil-structural-architectural discipline from 50 people to more than 150, instituted training programs and mentoring within the discipline and lead Bechtel chiefs in the development and use of automation tools across the globe. She manages the CSA discipline in Houston and coordinates other activities of OG&C offices, including London, New Delhi and Shanghai and is currently responsible for the site work and building contracts of a

Brass LNG plant in the Niger River delta region of Nigeria valued at \$8 billion. Mullen leads and participates in a program to introduce middle and high school students to careers in engineering and served as a member of the CAEE External Advisory Committee from 2004-2008.



**Sara Nall Ortwein**  
**B.S. 1980**

**Sara Ortwein**, Vice President of Engineering for the ExxonMobil Upstream Development Company, is engaged in the integral role of ensuring the technical quality of the engineering work that supports all of the company's projects around the world. In this position, she recruits, develops and deploys engineers across the Development Company. Ortwein joined Exxon out of college as a drilling engineer. and over her career, has had numerous technical, operations and planning assignments. She held a variety of positions within U.S. Production operations working in New Orleans, Midland and Houston and was the Reservoir Evaluation and Planning Manager for Exxon Ventures, CIS, where she worked on new venture capture in Russia, Azerbaijan and Kazakhstan. Following the ExxonMobil merger in 1999, Ortwein was responsible for production reservoir engineering worldwide as Reservoir Engineering Manager and ran production operations in the United States. Active in several corporate initiatives, she is also involved in a program that encourages education of women and girls, primarily in developing countries. Additionally, Ortwein has raised \$1.6 million as a United Way campaign leader.

# Civil, Architectural and Environmental Engineering Academy of Distinguished Alumni

## 2008 Inductees

Principal engineer and co-founder of WDP & Associates, **Randy Poston** is a structural engineering consultant who has taken part in the evaluation, repair, strengthening and design of over 500 structures. After receiving his B.S. and M.S., he worked for two years at



**Randall W. Poston,**  
B.S. 1978, M.S. 1980,  
Ph.D. 1984

Exxon Production Research Company in Houston. Upon receiving the Phil M. Ferguson Endowed Presidential Fellowship, he continued his graduate studies at CAEE where he received his Ph.D. in Structural Engineering. A decade later, he and two partners founded WDP & Associates, Inc., which is headquartered in Manassas, Virginia. Poston heads the WDP office in Austin and has made significant contributions in structural engineering research and practice. His numerous, internationally-recognized published papers have received awards from ASCE, ACI, and ASTM and the International Ash Utilization Symposium. Poston is also the recipient of three national awards for consulting projects including the International Concrete Repair Institute (ICRI) Project of the Year for the repair and seismic strengthening of the 7.5-mile Marina del Rey Seawall in Los Angeles.

strategies. After earning his B.S. degree in civil engineering, Saenz joined TxDOT's Pharr District as an engineering laboratory assistant and progressed through various engineering positions. He was named district

engineer in the Pharr District in October 1993 and was a key developer of the department's NAFTA and hurricane evacuation route construction programs, and under his leadership, the Pharr District letting volume increased from \$20 million per year to over \$200 million per year. Major projects initiated or completed during his tenure were the reconstruction expansion of the US 77/83 expressway and the reconstruction of the Queen Isabella Causeway. In November 2001, he was appointed Assistant Executive Director for Engineering Operations, where he implemented and managed TxDOT's engineering operations policies, programs and operating strategies. Saenz is a member of the Texas Good Roads and Transportation Association and is very involved with the American Association of State Highway and Transportation Officials.

After completing many years of technically demanding work for Taiwan's Keelung Harbor Bureau and the Taichung Harbor Planning and Construction Office, **Ching-Peng Shen**



**Ching-Peng Shen**  
M.S. 1977

pursued advanced study in geotechnical engineering at CAEE and received his M.S. in 1977. He returned to Taiwan to assist in the completion of the first stage construction work of the new Taichung Harbor and

later transferred to the Retired Serviceman Engineering Agency (RSEA), then the biggest construction organization in the country. During his 25 year career with RSEA, rapid transits, tunnels, hydraulic power plants, highways, bridges, and buildings were completed. Among them were the 508-meter high Taipei 101 Tower, the highest in the world until 2007, and the 12.9-kilometer long, double-tube, two-way Hsuehshan highway tunnel, the longest in South East Asia. Shen served as the first chairman of this company until his retirement in 2007 and was president of the Chinese Institute of Engineers, the biggest engineering institute in Taiwan, from 2002-2004. He is now the chief advisor of the Radium Life Technology Corporation, one of the major developers in Taiwan.



**Jim D. Wiethorn**  
B.S. 1973, M.S. 1975

**Jim Wiethorn** has been involved in the design, construction, and evaluation of residential,

commercial and industrial buildings since 1973. His experience has included evaluation and assessment of damage and failure of all construction types and systems, in particular, crane accidents. His construction background includes involvement as a third generation general contractor in the family business as owner and operator of various cranes, as well as Certificate of Competency as a General Contractor in Florida, by exam. Mr. Wiethorn is currently a member of the National Commission for Certification of

Crane Operators (NCCCO), Tower Crane Committee and Rigger Task Force Committee and American Society of Mechanical Engineers ASME B30.29 – Self-Erecting Tower Cranes, development committee. Wiethorn has completed analysis of over 350 crane-related accidents, both nationally and internationally and is currently Principal Engineer and Chairman of the Board of Haag Engineering Company, as well as a Principal Engineer in the Houston, Texas office. He is a licensed engineer in almost 30 states.

### *Nominations invited*

Alumni are encouraged to nominate a deserving colleague who graduated from the CAEE Department for membership to the Academy of Distinguished. Nomination forms are available on our website or you may request one from our Alumni Coordinator, Laura Klopfenstein, at (512) 471-1279 or [klopfenstein@mail.utexas.edu](mailto:klopfenstein@mail.utexas.edu)

### **Academy of Distinguished Alumni**

The CAEE Academy of Distinguished Alumni serve as leaders and role models among alumni and current students. Each Active Member holds a B.S., M.S. and/or Ph.D. from UT CAEE and is outstanding in their field, a leader in community affairs and worthy of emulation. To view current Academy of Distinguished Alumni members or to download a nomination form, please visit:

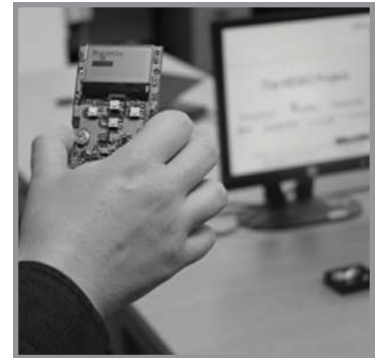
[www.cae.utexas.edu/dist/Alumni.cfm](http://www.cae.utexas.edu/dist/Alumni.cfm)



**Amadeo Saenz, Jr.**  
B.S. 1977

**Amadeo Saenz, Jr.** is executive director of the Texas Department of Transportation (TxDOT). Under Texas Transportation Commission direction, he manages, directs, and implements TxDOT policies, programs, and operating

# Construction Engineering & Project Management Improving Tracking Technology



Graduate students David Grau Torrent and Jie Gong (center photo) explored how automated materials tracking affected job site productivity.

**B**oosting productivity and making construction areas safer are common goals when applying advanced computer technology to civil and construction engineering projects. Because of this, emerging construction technologies are frequently explored in the classroom and in research labs. CAEE Construction Engineering and Project Management (CEPM) professors are continuously seeking ways to advance the capital projects industry and prepare their students to do the same once they arrive in the workplace.

Carlos Caldas, Assistant Professor in CEPM, and his research group at the UT Field System and Construction Automation Laboratory (FSCAL) focus on the development of sensing, information, and automation technology for the construction industry. Their two-year study on radio-frequency identification (RFID) tags has received industry recognition and has illustrated that there is great potential for project resource tracking technologies. During this study, the research group was responsible for developing the main algorithms and computer systems used to track construction materials and they also conducted field trials.

Caldas and graduate students David Grau Torrent and Jie Gong looked at how automated materials tracking affected productivity of engineered components on industrial sites. The team used RFID technology to track the precise location of tagged materials on job sites. The tags were battery-powered and emitted constant signals. An extensive field trial was conducted on a 565-megawatt coal plant in Rockdale, Texas. Bechtel Corporation hosted the field trial and was in the process of building two identical boiler structures for this new plant. Over a three-month period, one crew used RFID tags to track the location of 400 steel components for one of the boiler structures while the other crew manually managed the same number of components for the other structure. Data were collected from both the proposed automated process and the traditional tracking method. By considering the traditional tracking method as the baseline for

comparison, this study quantified and assessed the positive impact of the automated tracking processes.

The field trial results demonstrated significant benefits associated with the automation of site materials tracking practices. The amount of labor time spent on tracking each component on the lay down yard was decreased by a factor of 8 to 1. The number of components not immediately found was also significantly reduced by 18 to 1. As a result of this ability to retrieve components required for installation ahead of time, it was estimated that the steel erection productivity, calculated based on the weight of installed steel per labor work hour, improved by approximately 4.2%. In addition, the overall feedback from the site project team was positive.

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**C**aldas and CEPM Assistant Professor William J. O'Brien are also co-chairing the 2009 International Symposium on Automation and Robotics in Construction (ISARC 2009) and the 2009 ASCE International Workshop on Computing in Civil Engineering this June in Austin. Both the workshop and the symposium will present leading research and implementation studies of advanced computing technologies such as sensing and BIM. Civil and construction engineering challenges will also be a focus.

Technical Committee members for both events include R. Raymond Issa of the University of Florida; Amr Kandil of Iowa State University; UT alumnus Hyoungkwan Kim (Ph.D., 2002) of Yonsei University, Korea; and UT alumnus Jochen Teizer (Ph.D., 2006) of the Georgia Institute of Technology.

The local organizing committee for both events includes University of Texas Ph.D. graduate students Seokho Chi, Jie Gong, Xiaowei Luo, Marcelo Azambuja, and Tiendung Le.

To learn more about the symposium, please visit: [www.cae.utexas.edu/isarc2009](http://www.cae.utexas.edu/isarc2009). More information about the workshop can be found at: [www.cae.utexas.edu/asceIT2009](http://www.cae.utexas.edu/asceIT2009)

# Recent Faculty Achievements



**Chandra Bhat** received the 2008 Texas Institute of Transportation Engineers Student Chapter Advisor Award. The award recognizes Bhat's dedication and hard work guiding the future generation of transportation engineers in the state of Texas.

**Richard L. Corsi** was elected a fellow of the International Society of Indoor Air Quality and Climate. The election recognizes Corsi's work to understand sources of indoor air pollution, pollutant interactions with indoor materials and innovative control strategies to reduce exposure to indoor air pollution. He was recognized at the 11th International Conference on Indoor Air Quality in Copenhagen, Denmark.



**Kevin Folliard** has been appointed Chair of the International Alkali-Aggregate Reaction Committee, a committee composed of 25 members from throughout the world, with membership limited to one delegate per country. In addition, Folliard also submitted, on behalf of UT, the winning bid to host the 14th International Conference on Alkali-Aggregate Reaction in Austin, TX in 2012.



**James Jirsa** was named an Honorary Member of the American Concrete Institute for his outstanding accomplishments in the research areas of design, behavior, and durability of concrete structures including repair and strengthening of structures, and for his leadership in improving the institute's international relationships.



**Maria Juenger** received the 2009 Walter P. Moore, Jr. Faculty Achievement Award from the American Concrete Institute in recognition of her contributions to teaching the fundamental materials science of cement. Along with Irvin Chen, a graduate student in Materials Science and Engineering, Juenger also

received one of seven 2008 Portland Cement Association Education Foundation Fellowships. The fellowship supports their work, entitled "Synthesis and Properties of Calcium Sulfoaluminate-Belite Cement from Reagent-Grade Chemicals". These "green" cements require less energy and produce and generate less carbon dioxide than traditional portland cement.



**Lance Manuel** and former graduate student Patrick Ragan received a Best Journal Paper Award from the American Society of Mechanical Engineer's Technical Committee on Wind Energy for their paper, "Statistical Extrapolation Methods for Estimating Wind Turbine Extreme Loads." The paper proposed design standards to allow turbines to safely, efficiently, and economically produce electricity over their planned service lives. Their work is being used to support changes to a wind turbine design standard issued by the International Electrotechnical Commission.



**Danny Reible** was elected a fellow of the American Association for the Advancement of Science (AAAS) for his research in the assessment and management of environmental pollution, particularly the science and technology of contaminated sediment assessment and remediation. AAAS fellows are chosen annually by their peers to recognize their scientifically or socially distinguished efforts to advance science or its applications.

**Travis Waller** and graduate student Jennifer Duthie received the Transportation Research Board's Fred Burggraf Award for excellence in transportation research. They were recognized for their paper, "Incorporating Environmental Justice Measures into Equilibrium-Based Network Design", published by the Transportation Research Board's Planning and Environment Group.



# The Opportunities Ahead



**James W. Canning, BSCE 1979**

**External Advisory Committee Chair, Department of Civil, Architectural & Environmental Engineering**

**Business Development Manager - Sakhalin-1 Future Phases, ExxonMobil**

The practice of civil engineering is a vast one – across our globe UT CAEE Alumni are dedicated to helping solve the world's most critical problems surrounding infrastructure, clean water, transportation, oil & gas recovery and delivery, and the earth's changing topography and environment. These are not small challenges and as a UT civil engineer, I am constantly struck with pride for all that we are doing in so many corners of the world. As the outgoing Chair of the UT CAEE External Advisory Committee, a group of alumni and industry representatives who aim to advise the department on its strategic direction and serve as its ambassadors, I have been pleased with the decisions that UT CAEE is making and the direction it is going.

After almost eight years of thoughtful and creative leadership, Dr. Gerald Speitel stepped down as Chair to become Associate Dean for Academic Affairs of the Cockrell School, working directly with new the Dean of Engineering, Dr. Gregory L. Fenves. Speitel's leadership during the *We're Texas* Campaign, the CAEE Centennial Campaign, was second to none, and the faculty growth under his tenure was remarkable (17 terrific professors hired since 2001). Assuming the leadership position is Dr. Sharon Wood, a structural engineer by background, who brings a fresh and innovative new way of thinking. I will comment, too, that as an alumnus, I am particularly pleased that our new leader is a woman - I believe that her visibility among today's female engineering students, and prospective engineers, will further the mission of increasing the number of young women who go on to graduate school and into industry.

As an alumni body, we are more than 10,000 strong, and our successes in life have included creating a legacy of support for future engineers. In our lifetimes, we have given more than \$13 million to our University of Texas at Austin, \$6.3 million of which has directly supported engineering. I say this to illustrate the power of our collective generosity in the hopes that you will keep this in mind as you hear and learn more about the new Campaign for Texas: *We Change People. They Change the World*. CAEE alumni will be turned to for support and guidance and our philanthropy will have a huge impact on CAEE's future successes. Maintaining the excellence of the CAEE program at UT, currently ranked 4th in the nation by *U.S. News and World Report* will require our collective experience, expertise, and financial resources.

The University of Texas at Austin Department of Civil, Architectural and Environmental Engineering has enjoyed a long history of educating the engineers that have and are solving the world's problems. By recognizing the opportunities ahead of us and working together to achieve success, we will maintain that tradition of worldwide engineering excellence, contribution, and accomplishment.

## Industry Donor Profile: Hensel Phelps' Commitment to Success

In 1999, the Hensel Phelps Construction Company made a commitment of \$200,000 over five years to support the efforts of the Civil Engineering Department to educate leaders in the CE field. Five years later, after their support helped us attract many exceptional faculty, they came through again. In 2009, Hensel Phelps has re-pledged their \$40,000/year commitment for the next five years. These funds will help us recruit high caliber students and faculty, update labs and support CAEE students. In turn, Hensel Phelps recruits and employs



Faculty, students, the department Chair and Vice President of Hensel Phelps celebrate a dynamic partnership. (L-R) Professor Bill O'Brien, Chelsea Cohen, Tom Fisher (Vice President, Hensel Phelps), former Chair Jerry Speitel, Anna Tachau, and Professor Jim O'Connor

anywhere from 180 to 220 engineering graduates, many from the University of Texas - truly, a mutually beneficial relationship.

Our partnership with Hensel Phelps is a relationship of high value to us, and we pay honor to their continued support of engineering education. Their new commitment will count directly towards The University's \$3B Capital Campaign, *We Change People. They Change the World*. Their prolonged support is critical to our efforts to provide the best educational programs and opportunities possible for our students. Thank you!

# Alumni Profile: Robert L. "Bob" Reed

## Endowed Excellence Fund for Structural Engineering



Bob Reed at UT as an Apprentice Seaman



Reed influenced bridge design for half a century.

Friends, family, and professional colleagues of the late Bob Reed (BSCE, 1946) have established the Robert L. "Bob" Reed Endowed Excellence Fund for Structural Engineering. This endowment fund honors a man who devoted his engineering career to improving bridge design technique and helping establish a sustainable, economical design model used throughout Texas even today.

His dedicated career of public service began when he enrolled at the University of Texas in 1943 as a member of the Navy V-12 program, graduating in 1946 with a Bachelor of Science in Civil Engineering and a commission in the Navy. Reed's 43-year career with the Texas Highway Department (later TxDOT) began in 1947, interrupted temporarily in 1950 by a two-year term in the U.S. Navy. Upon returning to civilian service with the Highway Department in 1952, Bob served as Engineer of Bridge Design, overseeing all design and plan preparation in the Austin headquarters. His influence on bridge design spanned many years and impacted a period of unprecedented growth in Texas' interstate highway system. He was instrumental in developing innovative



Reed aided in the development of large scale reinforced and prestressed concrete structures.

techniques for maximizing efficiencies in prestressed concrete beam use in Texas and supervised the design of many steel highway and railroad structures throughout the state. Reed retired in 1985 and continued working as a consulting professional civil engineer up until his death in August 2006. Before his passing, he was happy to learn that he was elected into the department's Academy of Distinguished Alumni.

Reed made many friends in the engineering community who held him in the highest regard during his 50+ year career. He worked closely with faculty from the University of Texas to conduct structural research at the Ferguson Structural Engineering Laboratory (FSEL) at Balcones Research Center (now Pickle Research Center). The endowment, spearheaded by alumna Mary Lou Ralls Newman (BSCE 1981, MSCE 1984), will be used to promote FSEL as a first-rate research facility, acquire equipment in support of the lab's work and recruit highly qualified graduate

students into the engineering program. An intimate gathering was held in November 2008 at Ferguson Laboratory to express thanks to the family for their generosity and support of FSEL. Ralls remembers Reed as "a gentleman, and those he encountered could tell he really cared about them - in his humble way, with his keen perceptions, his cheerful manner, his great sense of humor and his hearty laugh. Bob was an exceptional person and outstanding bridge design engineer who served the state of Texas with great distinction for half a century." To participate in Bob's legacy, please call Kelsey Evans, CAEE Development Office, at (512) 471-6151 or go to <http://fsel.engr.utexas.edu/news/2009/reedendowment.cfm>



The Reed family celebrates the life and career of their family member with faculty and friends at Ferguson Lab.

# Outstanding Young Alumna:

## Valerie A. Briggs, BSCE 1997, MSCE/MPA 2000

*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.*



Valerie Briggs

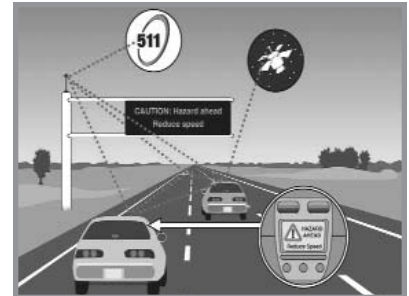
Valerie Briggs is Team Lead, IntelliDrive<sup>SM</sup>, Knowledge Transfer & Policy, for USDOT's Vehicle Infrastructure Integration (VII) Research Program. The VII program is a cooperative effort among the U.S. Department of Transportation (USDOT), State governments, the automotive industry and others to develop and test an information

infrastructure that uses advanced communications technologies to exchange real-time information between the roadside and vehicles and among vehicles to improve safety and mobility.

Valerie joined USDOT in August 2007 from the American Association of State Highway and Transportation Officials (AASHTO), where she led AASHTO's transportation operations group responsible for traffic operations, intelligent transportation systems, telecommunications, and transportation security programs. She has also consulted and conducted research in these areas. Valerie holds Bachelor's

and Master's degrees in Civil Engineering, and a Master of Public Affairs degree, all from the University of Texas at Austin.

She also believes in supporting her community and those in need. Valerie teaches adult English-as-a-Second-Language and has fundraised for the Big Brothers and Big Sisters of the National Capitol Area. Since 2003, she organized and ran a start-up non-profit organization that funds art education for disadvantaged youth in Africa and the U.S.



Briggs is helping to enable high speed communications with and among vehicles to improve safety and mobility.

Professor Mike Walton says, "Valerie is a driven young leader, with demonstrated commitment to her profession and community. She credits the Civil, Architectural, & Environmental Engineering Department and her mentors with setting her on course and giving her critical foundations to succeed."

## CAEE Student Receives Top Cockrell School Award

**A**t the Fall 2008 commencement ceremony, graduating senior and environmental engineering student Emily Underriner was presented with the Cockrell School of Engineering Outstanding Scholar/Leader Award. This award is given to one graduating student from the entire Cockrell School of Engineering for his or her outstanding contributions.

During her time at the University of Texas-Austin, Underriner excelled in academics and was a co-founder of the UT chapter of Engineers Without Borders, an organization that partners engineering students and professionals with developing countries to implement clean water, energy, sanitation and education projects. She also travelled to Panama for a unique, field-based development and conservation study abroad program and earned a minor in Spanish. Underriner also helped other students through a

number of tutoring and mentoring activities and worked as a research assistant for Professor Lynn Katz and focused on remediation of water contaminated by perchlorate. Katz says, "Emily is an outstanding student who recognizes the importance of a well-rounded education and has utilized her knowledge leadership skills to address local and global issues. While I was working with her, I learned how important it is to Emily to be able to apply her education to real world problems." Best wishes to all of our recent graduates!



Emily Underriner accepts the prestigious Engineering Outstanding Scholar/Leader Award from Dean Gregory Fenves

# 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](mailto:klopfenstein@mail.utexas.edu), or visit our website at [www.caee.utexas.edu/alumni](http://www.caee.utexas.edu/alumni)

Krisna Antonius is the daughter of Fanny (Tjahjadi) Putera (BSCE 1998) and Ary Putera, born in August 2008.



To receive a **free t-shirt** for your future engineer, send us a photo and your baby's name, birth date, etc. We'll include it in the CAEE Newsletter AND mail you a t-shirt compliments of the Friends of Alec Annual Giving Program.

## 70's

**Frank C. Brogan** (BSCE '74) assumed the role of Deputy Port Director-Engineering, Finance and Administration in August 2008. He will continue to oversee the engineering services department and will add the finance and administration departments to his oversight.



**Walter W. Chiang** (MSEHE '70) was recently recognized in *Leaders* magazine. He is Chairman of full service consulting firm, Chiang, Patel and Yerby, Inc.

**Glenn E. Grayson** (BSCE '74, MSCE '76) accepted the position of Director of FAST, a division of the Regional Transportation Commission of Southern Nevada. FAST is the area wide traffic management 'agency' in the Las Vegas region.

## 80's

**Andrew J. Willrodt** (BSCE '88) is an associate of the firm Hall & Foreman Inc (HFI) where he assists the firm's principals in the areas of management, strategic planning, and development of company policy and procedures. He is a Project Director and leads the firm's commercial/retail and sustainable design efforts.

## 90's

**Tarek Bashany** (MSCE '95, PhD '96) is pleased to announce the arrival of his son Youssef on November 14, 2008.



**Tak S. Chu**, (MSCE '95), **Erik J. (Rik) Haden** (BSArchE '97), and **Joshua (Josh) A. Bedre** (BSArchE '05) have been named Principals and owners of Architectural Engineers Collaborative, a structural engineering consultant firm headquartered in Austin.

**Paul DiGiovanni** (BSArchE '93) is the proud father of Joseph "Joey" DiGiovanni, born August 2007. His wife, Sherry, is a Texas Tech grad.



## 00's

**Jessica D. Baker**(BSCE '04) was recognized as the Young Engineer of the Year by the Texas Society of Professional Engineers. She is a civil engineer in the Water Resources Department of Half Associates in Richardson, Texas.

**Michael E. Rookstool** (BSCE '02) is a Design Engineer at Degenkolb Engineers in San Francisco and is a LEED Accredited Professional from the U.S. Green Building Council. He focuses on the new design and seismic evaluation and upgrade of existing building structures and non-structural components.

**Jennifer (Nicolas) Verhulst** (BSArchE '01 & MSCE '03) and **Stewart Verhulst** (MSCE '99) are proud to announce the birth of Isabella Grace Verhulst, born on May 22, 2008.



## Charles E. Kolodzey 1914 - 2009

**C**harles Edwin Kolodzey (MSCE '46) had a deep passion for engineering and education. He was born on January 28, 1914 in Yorktown, Texas. His graduate education at UT-Austin was interrupted by the outbreak of World War II. He served in the U.S. Navy and saw action in the Pacific before returning to complete his Master's in Civil Engineering. While at UT, he met Claire Swenson, a Home Economics student. They married in 1940 and had one son, William. Kolodzey worked as an engineer for Humble Oil (now



ExxonMobil) for 30 years and was involved in the design and construction of offshore oil platforms. He was also an outdoorsman, active church member and remarkable philanthropist. Our department benefited greatly from his generosity as he established an endowed presidential scholarship in 1992, and made a planned gift of \$750,000 in 2005 to establish the *Charles Kolodzey Civil Engineering Centennial Endowment*. Kolodzey provided a tangible legacy to CAEE and his life will be honored for many years to come.

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UT President Bill Powers recently hosted a reception honoring members of the National Academy of Engineering (NAE). Several members from our department attended. L-R: Kenneth Stokoe, James Jirsa, Michael Walton, Earnest Gloyna, Dean Gregory Fenves, Danny Reible and David Fowler. NAE members not pictured are: Leo Beard, John Breen, Ned Burns, Davis Ford, Raymond Loehr, Hudson Matlock, Roy Olson, Lymon Reese, Richard Tucker and Joseph Yura.



## 2009 Calendar

**March 16**  
UT Reception  
at San Antonio  
ACI Meeting

**April 30**  
Class of 1959 Reunion  
of Engineering Alumni

**June 1**  
Dallas Area  
Ethics Presentation

**July 20**  
Austin Area  
Ethics Presentation

**TBA Summer '09**  
Houston & San Antonio  
Ethics Presentations

**September 18-19**  
1986-1990  
20 Year Reunion

[caee.utexas.edu/reunions.cfm](http://caee.utexas.edu/reunions.cfm)

**October 9**  
Alumni Banquet &  
Academy Induction

 THE UNIVERSITY OF TEXAS AT AUSTIN  
**Cockrell School of Engineering**  
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](mailto:klopfenstein@mail.utexas.edu)  
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