
Ben White and IH-35, Austin, Texas

William Garbade, 2005 Academy of Distinguished Alumni Inductee, oversaw the expansion of three major roadways during his 38-year career with the Texas Highway Department.

Izmir Hilton, Izmir, Turkey

2005 Academy of Distinguished Alumni Inductee, Ugur Ersoy, has been involved with the behavior of reinforced and precast concrete structures, concentrating on seismic behavior and rehabilitation.

Combined Effluent Treatment Plant in Vatva Estates, Ahmedabad, India

Carl Adams, Jr., 2005 Academy of Distinguished Alumni Inductee, has developed and patented industrial wastewater treatment technologies that are installed worldwide.

Chevron’s Ninian Southern Platform, North Sea

In this edition of UT CAEE we highlight the 2005 inductees into the Civil, Architectural and Environmental Engineering Academy of Distinguished Alumni. These inductees are an inspiration to all in demonstrating the many ways that engineers contribute to the welfare and economic vitality of people worldwide. I invite you to participate in nominating alumni for our 2006 class of inductees; details are below. In addition, we annually recognize an Outstanding Young Alumnus, and I solicit your suggestions for this award as well.

We are also pleased to report on the many accomplishments of our students and faculty, as well as highlight two new initiatives in the department. To strengthen our undergraduate and graduate programs in Architectural Engineering, we have built a significant capability in building environmental systems by hiring two new faculty members in the past few years. Jeff Siegel’s work on indoor air purification devices represents part of our effort in this area. The Ferguson Structural Engineering Laboratory, one of the leading structural engineering research facilities in the country, is being enhanced to provide a unique capability to study the impact of fire on building structural components. In these and other ways, the department is moving forward to address the current and future challenges in engineering education and research.

Gerald E. Speitel Jr., Ph.D., P.E.
John J. McKetta Professor in Engineering and Chairman

Alumni are strongly encouraged to nominate a deserving colleague who graduated from the UT CAEE Department for these annual awards. Please download a nomination form on our website (more information below) or request one from alumni coordinator, Laura Klopfenstein, at (512) 471-1279 or klopfenstein@mail.utexas.edu. Criteria and deadlines for the awards are as follows:

**CAEE Outstanding Young Alumnus (Feb. 22, 2006 deadline)**
Established in 2003, the Outstanding Young Alumnus recognizes an alumnus of the Civil, Architectural and Environmental Engineering Department under the age of 40 who has distinguished him or herself with outstanding service and contributions to the engineering profession. The nominee must have received a B.S., M.S. or Ph.D. from the University of Texas at Austin CAEE Department and must be 39 years of age or younger on February 22, 2006. To view previous award recipients or to download a nomination form, please visit: www.ce.utexas.edu/outstanding.cfm

**Academy of Distinguished Alumni (Mar. 1, 2006 deadline)**
The Civil, Architectural and Environmental Engineering Academy of Distinguished Alumni was established in 2003 to recognize the professional achievements and contributions of graduates of this department, and to serve as leaders and role models among alumni and current students. Each Active Member holds a B.S., M.S. 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.ce.utexas.edu/distAlumni.cfm

We are fortunate to have so many distinguished graduates and look forward to honoring you and your colleagues.
Profiles:
Three New Faculty Members Enhance Department

Todd A. Helwig
Assistant Professor, Structural Engineering
Ph.D., Structural Engineering, University of Texas at Austin, 1994

A Longhorn through and through, Todd Helwig received three degrees at the University of Texas at Austin. After graduating with his Ph.D., he spent ten years as a professor at the University of Houston. His ongoing research studies are focused toward the design and behavior of steel structures, namely I-shaped girders and trapezoidal box girders. The Texas Department of Transportation (TxDOT) is currently implementing recommendations from his studies on cross-frames as well as permanent metal deck form systems in the design of six bridges. He was recently awarded a Top Research Innovation award from TxDOT. In addition to research and teaching, he is actively involved in continuing education courses and has co-developed a short course on stability bracing that has been presented in more than 30 cities throughout North America.

Fulvio Tonon
Assistant Professor, Geotechnical Engineering
Ph.D., University of Colorado at Boulder, Civil Engineering, 2000

Fulvio Tonon comes to the University of Texas at Austin with over 10 years of experience in the areas of geomechanics with an emphasis in rock mechanics and engineering, underground excavations, and information sciences. His research has gradually embraced several activities, from rock mass characterization to analysis, design and maintenance of geotechnical systems. Dr. Tonon appreciates being able to apply the findings of his research in the classroom. His teaching and research interests are shaped by considering the challenges that confront the engineers of this century as our infrastructure inevitably deteriorates. In addition to his time spent in the classroom and conducting research, he has accumulated over nine years of professional experience with projects completed in the Americas, Europe, and Africa.

Atila Novoselac
Assistant Professor, Architectural Engineering
Ph.D., Architectural Engineering, Mechanical Engineering Option, Pennsylvania State University, November 2004

Atila Novoselac received his Ph.D. from Penn State University in Architectural Engineering. His area of expertise includes conservation of energy and improvement of indoor air quality. His current research encompasses modeling of pollutant transport, assessing human exposure to pollutants, and the experimental validation of models for building thermal and airflow analyses. In addition to his academic experience, he gained significant hands-on knowledge while working as a designer and consultant for the Energy Institute at the Mechanical Engineering Department, University of Belgrade. He worked on the design and restoration of HVAC systems in residential, commercial, industrial and sports facilities. His wife is currently finishing her Ph.D. in Computer Science at Penn State and will join Dr. Novoselac in Austin in January. “We like the quality of life that Austin is providing to young people and are very happy that we both managed to find jobs in Austin.”

Recognition: Student Accolades

- Salome Balderama, ArchE Senior, received a $5,000 scholarship from the Hispanic Engineer National Achievement Awards Corporation.

- Laura Greenlee and Alda P. Villanueva, CAEE doctoral candidates, won fellowships from the National Science Foundation’s Graduate Research Fellowship Program.

- CAEE graduate students Li-Jung “Lily” Chen, Soondong Kwon and Elaine Darby gained valuable field experience in McGrath, New Mexico. They evaluated the feasibility of a process for degrading chemicals from water used in oil and natural gas extraction and then were able to test the process while collaborating on the project with Los Alamos National Laboratories and New Mexico Tech.

- Gabriel Carrera, Guillermo Gonzalez, Thang Le, Luis Orozco and Sonia Solt took third place in the national championship and first place in Zone 2 of Precast/Prestressed Concrete Institute’s “Big Beam Contest”. David Birrcher, Erin Hlasta, Himanshu Khurana, Carrie Marr, Geoff Mitchell, Travis Richards and Robin Tuchscherer won second place in the Zone 2 Competition.
On Friday, October 21, 2005, over 100 CAEE alumni, faculty, staff and students spent the evening at the Campus Club catching up and honoring the success of our graduates. Over 8,000 Civil, Architectural and Environmental Engineering alumni were invited back to campus to reunite with classmates and faculty members during the College of Engineering’s Homecoming weekend.

The evening began with a cocktail reception at the Campus Club where alumni of all ages and current students swapped stories and professional news. Alumni traveled from as far as Turkey and as near as West Austin to reunite with old friends and faculty members, and to collectively acknowledge their educational, social and professional experiences that began at the University of Texas’ nationally recognized Department of Civil, Architectural and Environmental Engineering.

In conjunction with the Alumni Banquet, the Academy of Distinguished Alumni, established in 2003 to mark the Department’s Centennial Celebration, inducted nine outstanding alumni. Dr. Jack Breen, Chair of the Membership Committee for the Academy, Jose Guerra, President of the Academy for 2004-2005, and CAEE Department Chair, Dr. Gerald Speitel Jr., congratulated each new member and presented them with a certificate “In recognition of a distinguished professional career and lifelong dedication to the support and advancement of engineering education.”

The new inductees all received a bachelor’s, master’s or doctoral degree from the department. Dr. Speitel said “each serves as an excellent role model for our students of the great things that are being accomplished by our alumni throughout the world.”

In our continuing effort to recognize our outstanding alumni and provide opportunities to strengthen our alumni network, the Department of Civil, Architectural and Environmental Engineering has already begun planning the 2006 Alumni Banquet. We hope to see many alumni return for the event or participate for the first time.
Carl E. Adams, Jr.
Dr. Adams developed his own specialized engineering firm shortly after graduating with his Ph.D. The AWARE Corporation developed into the largest industrial wastewater management engineering organization in the United States. He has also been a consultant/director to more than 900 U.S. and foreign industrial wastewater projects, authored over 100 technical publications and has served as Visiting Adjunct Professor at Vanderbuilt University for Application of Advanced Wastewater Technology.

Ugur Ersoy
Dr. Ersoy joined the Middle East Technical University in Ankara in 1959 where he founded the first structural research laboratory and initiated experimental research in structural engineering in Turkey. He served as the Assistant President, Dean and Department Chair at METU. Over the past 50 years, he has been involved with the behavior of reinforced and prestressed concrete structures, concentrating on seismic behavior and rehabilitation. Dr. Ersoy’s research has aided in the rehabilitation of hundreds of earthquake damaged buildings in Turkey.

Richard W. Furlong
After a six-year apprenticeship designing bridges and building structures in St. Louis, Dr. Richard Furlong joined the UT-Austin faculty. Dedicated to improving design practice, he has given more than 200 seminars while creating numerous design aids for structural engineers. His studies of inverted T-beam bent caps earned the Ray Reese Award from the American Concrete Institute. Dr. Furlong’s research has led to improvements in design specifications for steel and concrete structures. He is currently Professor Emeritus in Structural Engineering here at UT.

Fred N. Pfeiffer
As an engineer and lawyer, Fred Pfeiffer melded his professions on local, state and national levels. In 1963, he was employed by the San Antonio River Authority (SARA) and quickly promoted to General Manager, a position he held for 31 years. Under his leadership, SARA projects received three Chief of Engineers Merit Awards as well as other distinctions. In addition, he also served as president of both the Texas Water Conservation Association and National Water Resources Association and served over 22 years on the Western States Water Council.

Ned H. Burns
After completing his Ph.D. at University of Illinois-Urbana, Dr. Burns returned to UT-Austin to teach and direct structural engineering research. He received 11 awards for outstanding teaching and advising while at UT. In 1963, he began prestressed concrete analysis and design at the university and was elected to membership in the National Academy of Engineering for his contribution to education and research. He is the CAEE Zarrow Centennial Professor Emeritus in Engineering.

Larry E. Farmer
Throughout the years, Dr. Farmer has been a teacher, researcher, entrepreneur, designer, project manager and engineering/construction executive. Until his retirement, he spent 25 years with Brown & Root focused on the engineering and construction of offshore platforms and pipelines. Under his leadership, the size of the company increased five-fold. He has won awards for his teaching, research and applications. He is currently director of two British companies, Invensys plc and Digital Steps Limited.

William C. Garbade
Mr. Garbade began his 38-year career with the Texas Highway Department after graduating from the university and has played a major role in some of the most monumental improvements in the Central Texas transportation infrastructure. As the Austin District Engineer, he was responsible for guiding the development of a comprehensive transportation system for the 11-county Central Texas area and oversaw major expansions to area roadways such as US 290/ Texas 71, US 183 and IH-35.

Robert E. (Bob) Smith
For over 30 years, Dr. Smith worked in various engineering positions at Atlantic Richfield Co. He was lead Civil Engineer during development of the Alaskan Cook Inlet and Prudhoe Bay Fields and advised executive management during the design of the Trans-Alaska Pipeline System. He developed many solutions to unique design problems in these frontier areas. Dr. Smith’s leadership in seafloor stability studies also enabled installation of seven conventional platforms on the modern Mississippi Delta.
G. Edward Gibson, Jr. and Hans Van Winkle were elected to membership to the National Academy of Construction. Every year only 10 new members are invited to join this organization. Gibson and Van Winkle were commended for their “significant contributions to the effectiveness of the engineering and construction industry” over time and were recognized for excelling in their field.

Desmond F. Lawler recently won the Association of Environmental Engineering and Science Professor’s Outstanding Paper Award along with Ph.D. graduate, Mooyoung Han. Their paper, “The (Relative) Insignificance of G in Flocculation” suggests a better way to design flocculation tanks which are key in removing particles from drinking water.

Raymond C. Loehr, the H.M. Alharthy Centennial Chair Emeritus, received the inaugural Frederick G. Pohland Award from two professional service organizations, the Association of Environmental Engineering and Science Professors and the American Academy of Environmental Engineers. This national award recognizes the contributions made by Loehr in the areas of research, education and the practice of environmental engineering.

Lance Manuel received a $400K CAREER award from the National Science Foundation to conduct research over the next five years on the safe design of wind turbines. Manuel’s team will study wind patterns at onshore and offshore turbine sites while seeking to improve turbine design criteria.

Daene C. McKinney received a $750K grant from the Environmental Protection Agency to help relieve the stressed Rio Grande water system. McKinney received this grant to further develop an electronic directory that documents the past and present water characteristics in the Rio Grande basin. Both the U.S. and Mexican federal governments expect this database to better identify management options and improve decision making so that all who depend on this water system will benefit.

James T. O’Connor was selected by the Construction Industry Institute as Outstanding Researcher for 2005 for his contributions to the engineering and construction industry. The award’s citation recognizes O’Connor’s research efforts in industrial project constructability, planning for startup, work process automation and integration and schedule compression for highway projects.

Ellen M. Rathje has been selected for the 2005 Young Member Award from the International Society for Soil Mechanics and Geotechnical Engineering in acknowledgement of her outstanding scientific and technical contributions in geotechnical engineering. Rathje studies geotechnical hazards associated with earthquakes.

Lymon C. Reese, Nasser I. Al-Rashid Chair Emeritus in Civil Engineering, will have two research papers inducted into the American Society of Civil Engineers’ Hall of Fame. He will be honored at the Offshore Technology Conference in May 2006.

S. Travis Waller is the recipient of the Council of University Transportation Center’s 2005 New Faculty Member award. This award is given annually to a tenure-track faculty member in transportation who has made outstanding teaching and research contributions in his/her field. Waller’s research focuses on modeling and large-scale optimization of transportation systems.

Eric B. Williamson won a $950K grant from the National Cooperative Highway Research Program to formulate design guidelines for making bridges more resistant to terrorist attacks. Williamson will collaborate with the U.S. Army Corps of Engineers and private consultants with expertise in bridge design and structural response to blast loads.

Jorge G. Zornberg was elected chair of GeoAmericas 2008, the first Pan American geosynthetics conference and exhibition. The conference, which will take place in Cancun, Mexico, will offer educational sessions, promote new applications for geosynthetics, exhibit new products and bring together cohorts involved in this field.
Encouraging Innovation in the Air-cleaning Industry

Dr. Jeffery Siegel, Architectural Engineering Assistant Professor, recently presented the most comprehensive review to date of five commercially available air cleaners. Siegel revealed his findings in September 2005 at the 10th Annual International Conference on Indoor Air Quality and Climate in Beijing, China. The air purification devices he studied are a small, but growing part of the portable-air-cleaning industry that makes $500M in sales annually. According to Siegel’s study, devices that make particles electrically charged to remove them from circulating air are not very effective and can generate substantial amounts of ozone. Siegel feels his results prove that the technology in the devices needs improving.

On average, the five air cleaners that he tested in the stainless steel rooms of the laboratory emitted 2.9 milligrams of ozone per hour, which is an increase in outdoor concentration of ozone between 4 and 20 parts per billion. These results alarmed Siegel because there is substantial evidence that ground-level ozone is harmful and through the use of air-cleaning devices, people could unwittingly be generating ozone. He learned that the high-voltage wire used to ionize the air particles converts oxygen in the air into ozone, which can irritate the lungs and produce harmful by-products because it is a highly reactive molecule.

Siegel remains hopeful that manufacturers will continue to make advances based on inquiry and further scientific findings. His research is partly supported through the International Society of Exposure Analysis with funding from the American Chemistry Council.

Read more about Jeffery Siegel and his research at:
http://www.engr.utexas.edu/news/articles/20050915903/index.cfm

Improving Design Through Change of Focus

In the fall of 2005, UT civil and mechanical engineers received a $817K grant to create the first university center to study the impact of fire on the integrity of building components. The Phil M. Ferguson Structural Engineering Lab received the National Science Foundation grant as a result of the increased need for research in this area. Dr. Karl Frank, Director of the Ferguson Lab, believes that the destruction of the World Trade Center was a “wake-up call” for American structural engineers to shift their focus toward high-temperature scenarios. The steel columns in the core of the Twin Towers and the joists supporting their floors lost strength as the temperature increased due to raging fires. Once the columns and joists gave way, the weight of a falling floor overloaded those beneath it causing the structural collapse of 110-story buildings.

Dr. Frank noted how this catastrophe especially shocked structural engineers who didn’t expect those buildings to fall.

With the grant, Frank and other researchers will be able to test how steel and other materials respond to increasingly high temperatures. Digitally controlled test frames will apply loads to the specimens while they simultaneously undergo the intense heat caused by a fire.

One of the test frames purchased with the grant is able to apply 22,000 pounds of force on test material; another, with a 20-foot height, can apply up to 550,000 pounds of force. Other components include two high-temperature furnaces (reaching up to 2000 degrees Fahrenheit), a digital control system and hydraulic power supply.

The grant funding enhances the educational capabilities within the Civil, Architectural & Environmental and Mechanical Engineering Departments by providing the opportunity to develop multidisciplinary research in fire-structure interaction, an area that clearly warrants the attention of engineers.

Read more about this research at:
http://www.engr.utexas.edu/news/articles/20050909000/index.cfm
Alumni Updates

CAEE alumni go on to varied professions and interesting careers. Faculty, current students, and fellow alumni are always interested in learning about where a UT degree can take a person, and the lives alumni lead after they leave. If you have any update you’d like to share—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.cfm.

50’s
Norm Cooper, BSCE ’59 recently served his 500th expert witness case and his 100th testimony in deposition or trial. He is included in Who's Who in American Law, and national/international editions of Who's Who in Engineering.

60’s
David Fowler, BSAE ’60, MSAE ’62 was honored as a 2005 COE Distinguished Graduate for his numerous contributions to his profession and the educational development of young engineers.

70’s
David E. Daniel, BSCE ’72, MSCE ’73, Ph.D.’80, was named chairman of the American Society of Civil Engineers External Review Panel that will review the New Orleans levees breached during Hurricane Katrina. David is also the President of UT Dallas.

80’s
Tracy Dour Atkins, P.E., BSAE ’87 is on the staff of Herndon, Stauch & Associates, an Austin based project management firm, and is also on the Mueller Airport Redevelopment Plan Implementation Commission.

90’s
Jaime Aguilar, BSCE ’95 is the proud parent of Iliana Grace, born in August 2005. He is a Project Manager at Chiang, Patel & Yerby, Inc. in San Antonio.

Neil Glaser P.E., MSCE ’94, provides structural engineering services as a Principal for Structural Design Dynamics, Inc. (SDDI) in Austin, Texas.

Kenneth Grajek, P.E, BSAE ’93, MSCE ’95. and his wife Susan are the parents of Sydney Erin Grajek, born in March 2005. Kenneth Grajek is Manager of Project Risk Management for KBR’s worldwide Energy and Chemicals Division.

Warren J (“Joe”) Hahn, MSEE ’91 received a Ph.D. in Management Science and Information Systems from the UT McCombs School of Business in Spring 2005 and is a Planning and Economics Advisor with BP in Houston.

David Miller, P.E., BSCE ’94 recently returned to Austin from Denver, Colorado and joined Bury & Partners, Inc. as a Senior Project Manager. He is a registered engineer in Colorado and Texas.

Karim Naraghi, BSCE ’98 is now pursuing his MBA from the MIT Sloan School of Management after working in New York City for five years as a consultant in the environmental engineering field.

Lilah Turk Ramey, BSCE ’95 and Thomas Ramey welcomed their second child, Nathaniel Adnan, in July 2005. Lilah is currently Vice President with the civil engineering firm, Lina T. Ramey and Associates, Inc. in Dallas, Texas.

Lissa M. Shepard, P.E., C.F.M., MSCE ’94 is working as a Civil Engineer for the City of McKinney, focusing on roadway design and storm water and floodplain management.

00’s
Jacob Pena, BSAE ’00 married his high school sweetheart Liana Smith (TAMU ’99) in October 2005 in Houston, TX.

Steve Waalkes, MSCE ’00 is the proud father of Jack Steven Waalkes, born in December 2004. He is the Managing Director of the American Concrete Pavement Association.

To receive a free t-shirt for your future engineer, send us a photo and all the details—baby’s name, birth date, etc. We’ll include it in the CAEE newsletter and mail you a t-shirt compliments of the College’s Friends of Alec Annual Giving Program.
For two UT Civil Engineers, a generation apart, time spent at the University of Texas at Austin has been their “foundation and crutch for life”. Eugene H. Dawson, BSCE ’57 and his son, Samuel G. Dawson, BSCE ’83, are many things to one another, including father and son, boss and employee, colleagues and through it all, Longhorn athletic die-hards.

Attending UT Austin in the mid-50’s, Gene Dawson recalls that most of his college experience involved attending engineering classes, playing a bit of Ping Pong at Gregory Gym and driving to see his wife, Mary Duane, who attended Southwest Texas State. In turn, his son, Sam, remembers best how his engineering education was influenced by other students and faculty who bent over backwards to help him understand tricky calculus and physics problems.

Both Gene and Sam were certain they wanted to be civil engineers. Gene wanted to be able to support his new family. Sam grew up around his father’s CE firm and family trips revolved around visits to feats like the Hoover Dam or ASCE meetings. After Gene graduated, he briefly worked for Humble Oil, and then for R. Marvin Shipman & Co. where he and boss, Gus Pape, became fast friends. That friendship grew into a partnership when they started Pape-Dawson in 1965 with enough cash to last six months. When their first contract came in 5 ½ months later, they knew they were in business.

Now Pape-Dawson employs 325 people and was selected by CE News as one of the Best Civil Engineering Firms to Work For in 2004. The company provides civil and environmental engineering services to the public and private sectors. Gene, now retired, serves as Chairman of the Board, with Sam at the helm as CEO, a position he assumed in 2000 after working his way up from an EIT “grunt” position out of college.

Some of Gene’s proudest moments have been the satisfaction he has gotten out of a job well done, and in knowing that he helped start a company that has allowed more than 300 people to support their families. Sam agrees and insists that the successes in life have not been the “big” projects, but the people involved. They both believe that if you have the right people, the large and small jobs will get done right.

Gene, Mary Duane, Sam and his wife, Laura (BS Comm ’84), have been giving back to the College and to UT Athletics, for years. When Gene retired, the company donated funds to establish the Gene and Mary Duane Dawson Endowed Presidential Scholarship in Civil Engineering. Since then, both Gene and Sam enjoy making additional gifts and watching them grow in value. Currently, four civil engineering students hold the Dawson EPS. Gene says that “whatever little success I’ve had is due to UT and Civil Engineering.” Sam concurs and also finds it rewarding to receive thank you letters from the Dawson scholarship recipients every year, knowing that he is a “part of giving someone an opportunity to pursue an engineering degree.”

As donors to the CE Centennial Campaign, these two civil engineers know the importance of asking questions and learning from those around them. By helping to make people around them better, they too, have become outstanding individuals.

Centennial Campaign Update

What a year we celebrated! 2005 was a fabulous year for the CAEE Department, not only academically but also for the Centennial Campaign. With almost 500 donations to the campaign since its inception in Fall 2003, the Centennial Campaign has received “the mark of approval” from CAEE alumni across the globe. Donors to the campaign range in location from Austin to Japan, and in age from 21 to 95 - seven decades of alumni who believe in giving back. What a group!

There is still time to make a gift. We are $2M shy of our $5M goal. With 19 months left and more than 10,000 alumni, we can make it happen.

To make a gift to the Centennial Campaign, click on www.ce.utexas.edu/centennial. From there, you may download a pledge form or follow the link to make a gift online. Gifts and alumni updates may be returned in the envelope provided.

Thanks to all who have already made a gift to the Centennial Campaign. For more information, please contact Kelsey Evans at 512-471-6151.
Count Me In!

Name: ___________________________ Class Year: __________________
Address: ___________________________ City, ST Zip: __________________
Home Phone: ________________________ Work Phone: __________________
Employer: __________________________ Email: _______________________

_____ YES! I'd like to make a gift to the CE Centennial Campaign.

_____ Enclosed is my check for $______ / _____ Please charge my Visa/MC $______
Visa/MC Number: __________________________ Exp Date: __________

What’s New? Please use this space to share your personal or professional news.