

CCEE News

A NEWSLETTER FOR ALUMNI AND FRIENDS OF THE DEPARTMENT OF
CIVIL, CONSTRUCTION, AND ENVIRONMENTAL ENGINEERING at NORTH CAROLINA STATE UNIVERSITY



*Wave technology
developed by NC State
alumnus spurs company's
growth...6*

FROM THE DEPARTMENT HEAD



George List

Greetings from NC State! As I am sure you are aware, the world continues to change and evolve. Civil, construction, and environmental engineering is no exception, and we are as busy as ever educating students and conducting research.

Perhaps our biggest news is that design funding for our new building has been approved by the General Assembly. Design teams were interviewed in November, and by the time you receive this newsletter, the selection may have been made. Engineering Building V, as it is known, will be a LEED Silver,

205,000-square-foot building shared with the Department of Nuclear Engineering on Centennial Campus. Consistent with our overarching sustainability theme, it will showcase what our program is about. It is exciting to think that in just a few years our department will have a new home with new labs, classrooms and offices.

David Johnston, whose career has been highlighted elsewhere in this newsletter, will be leading the process of determining how much space we need and how the building should be configured. EB V will be your new home as well as ours, and it needs to be a showcase facility that will serve

the department for the next 25 to 50 years. Please feel free to send your thoughts to David or me and keep watching for more news about the building's development. You can examine the master plan and aerial views of the campus at centennial.ncsu.edu.

Two new faculty members joined us this year. Joe DeCarolis comes to us from Carnegie Mellon University by way of the EPA in Research Triangle Park and is a specialist in energy systems and sustainability. Chris Bobko comes to us from MIT and focuses on advanced materials and the use of nano-indenters for material characterization.

Our enrollments are increasing significantly. Three years ago, we had 750 undergraduates; today, we are pushing 1,100. We are now among the largest undergraduate CCEE programs nationwide. This growth has provided some challenges, especially with faculty teaching loads. Our graduate program is growing as well; it is up from 240 students three years ago to about 300 today. Moreover, our growing distance education program is now among the largest such programs on campus. Of course, our main objective is quality, not quantity, and we continue to work hard to provide the best educational and research environments possible.

One more important note: we have a new website. Check it out at www.ce.ncsu.edu. It will continue to grow and expand, but it presents an engaging image of who we are and the exciting things we are doing.

– George F. List
Professor and Department Head

Departmental Advisory Board

The Departmental Advisory Board is a group of leading professionals committed to academic excellence in undergraduate and graduate education. Its members volunteer to provide critical advice, guidance and support on a variety of matters related to the Department's goals and mission, strategic planning and external support.

The board's spring meeting was held on April 14–15, 2008, on the NC State campus. The board discussed many issues including:

- Collaborations with the Coastal Studies Institute
- Hiring goals and objectives for new faculty
- Build out plans for the Centennial Campus, including EB V
- Reports on student trips
- Engineers Without Borders
- ABET objectives

Professors T. Matthew Evans and Sankar Arumugam gave overviews of their research and Professor and Department Head George List

reported on the March visit by department heads from the University of Illinois, Purdue University and Carnegie Mellon University.

Board members expressed a desire to have more interaction with students, including observing them in the classroom and inviting them to attend dinner events and advisory board meetings.

Board members are appointed to three-year terms on a rotating basis. Of those due for rotation in fall 2008, all but one agreed to reappointment. Barbara Mulkey, President and CEO of Mulkey Engineers & Consultants, regrettably declined reappointment citing her professional commitments as well as her responsibilities on the University's Board of Trustees. Her appointment was due to expire at the conclusion of the fall meeting.

The board's fall meeting occurred on Sept. 30 at Georgia Tech. Board members felt that such a visit would provide an excellent opportunity to learn about another top program.

EWB at NC State aims to stop water contamination in Bolivia through fundraisers, research



The drinking water in a tiny Bolivian community is making people sick. CCEE students and faculty with Engineers Without Borders at NC State are making sure that stops happening.

EWB at NC State has been looking for simple, sustainable ways to prevent and eliminate contamination

of the water in Asanquiri, Bolivia. The group has determined from an assessment trip in December 2006 and January 2007 that *E. coli* is the primary coliform affecting the quality of the water. In addition to the contamination problem, the current water source for the community's Capacitation Center, where several dozen residents live throughout the year, is a spring from a nearby mountain that runs dry during the eight-month dry season. EWB has realized that a secondary water source for the center is necessary, so the engineers have designed a rainwater harvesting system as a solution to this problem.

And since the Capacitation Center's purpose is to educate young adults about agriculture and hygiene, the students from the assessment trip suggested that it would be the best place to implement the project. The young adults can take what they learn back to their communities.

EWB plans to implement the project later this year, raising money for it by holding a Guitar Hero tournament and other events. The project exemplifies the mission of Engineers Without Borders: encouraging students to use their engineering skills in a practical manner, in this case to help the people in Bolivia. EWB is fortunate to have the help of professors such as Dr. Detlef Knappe, associate professor of civil engineering, who has guided the group through the project.

Without the help of the CCEE staff and facilities, the group would not have been able to progress as much as it has this year. The group contacted various engineering groups in Bolivia and collected topography maps to better understand the area. Students have also been conducting water quality experiments in the labs of Mann Hall to better understand the process for finding contaminants in water.

To decontaminate the water in Asanquiri, students have been studying a simple water treatment method called SODIS, or solar disinfection, in which water is poured into plastic bottles and left outside so that the contaminants can be deactivated by the UV rays from the sun. From the SODIS experiments, the group has seen the effectiveness of the process and is looking for ways to improve it. EWB

is also working on slow-sand and charcoal filtration, since those methods eliminate more contaminants from the water.

CCEE students have been driving the rainwater-harvesting portion of the project. Students have been communicating with people of Asanquiri frequently via email and phone to stay current on the situation and to get specific information for the design. EWB has continued to keep hygiene education in mind as part of its goal of insuring sustainability.

To raise money for the project, students have hosted benefit dinners, held a Guitar Hero Tournament, planned golf tournaments, and applied for grants. The group is also raising money for a project in Sierra Leone.

EWB has done all this with one goal in mind: helping people.



Students donned wigs and wailed away during a Guitar Hero competition to raise money for EWB.



Joseph Hummer's research on road signs, systems and markings helps keep drivers safe.

Road researcher driven to keep motorists safe

"I think the first traffic fatality in this country was in 1902, shortly after the invention of the automobile," said Dr. Joseph E. Hummer, professor of civil, construction, and environmental engineering at NC State. "We've been killing people on the roads for over 100 years now, and we don't have to."

Hummer has built his career around improving road systems and motorist safety, from his current research into road signs and pavement markings to his best-known research into the use of what he calls the unconventional intersections and interchanges, which he considers his niche in the field.

"People look at me like I'm nuts when I say I can improve intersections and interchanges," he said, "because we've been doing intersections over 100 years and interchanges for 80. What's left to learn? But there are always different and better ways to do even the most dry and mundane things."

Every year, Hummer said, 40,000 to 45,000 people die on our roads.

"The number of fatalities in the U.S. has remained steady, and the number of fatalities worldwide has gotten worse," he said. "So really, we're further from solving the problem."

Through his work, Hummer has been finding solutions. His reward is seeing innovative designs gain some traction and get put to use.

Just one of the project designs picking up popularity is the super-street, where dangerous left turns are eliminated at

DEVELOPMENT

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intersections so that traffic on a main road flows in conventional lanes and left-turning traffic from side streets use median U-turns. It's a design that came to his attention back in 1992 when he did his first project at NC State, and he's been pushing it ever since. He's finally seeing results. Now there are five or six functioning super-streets in North Carolina, he said.

"And they're working," Hummer said, "they're working like we predicted 15 years ago."

Next to designing creative solutions for these "mundane" traffic problems, Hummer hopes to pass on his love of his profession and his drive for improvement to his students.

"They enjoy working on designs like these in class," Hummer said. "I get comments like, 'this is why I decided to be a civil engineer.'"

Hummer is currently researching the wear patterns of pavement markings—the painted lines, arrows and messages that note lanes, directions and warnings—in order to advise transportation authorities on when and how to best replace them. He recently finished conducting similar research on road signs as part of an ongoing and multi-stage project with the North Carolina Department of Transportation.

Redesigning roads is a preventative measure, Hummer said. It's a lesson he picked up from Ezra Hauer, a professor at the University of Toronto and one of the world's foremost experts in highway safety.

"He has shown," Hummer said, "that improvement is always possible. That we don't have to settle for killing 40,000 people a year. In fact, it's the reverse—it's an outrage."

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Seismic testing of a typical Alaska bridge at the Constructed Facilities Laboratory.

CFL brings Alaskan earthquakes to NC

Alaska is prone to earthquakes. In fact, North America's largest earthquake was recorded there in 1964. Pair that with cold temperatures that can weaken steel, and what results is a dangerous area for motorists cruising on the state's bridges.

That's why NC State researchers are studying how bridges react during earthquakes in below-freezing temperatures. Associate professors Mervyn Kowalsky, Tasnim Hassan, along with Professor James Nau and three graduate students, all with the Department of Civil, Construction, and Environmental Engineering, have been using the department's state-of-the-art Constructed Facilities Laboratory (CFL) on Centennial Campus to perform the research.

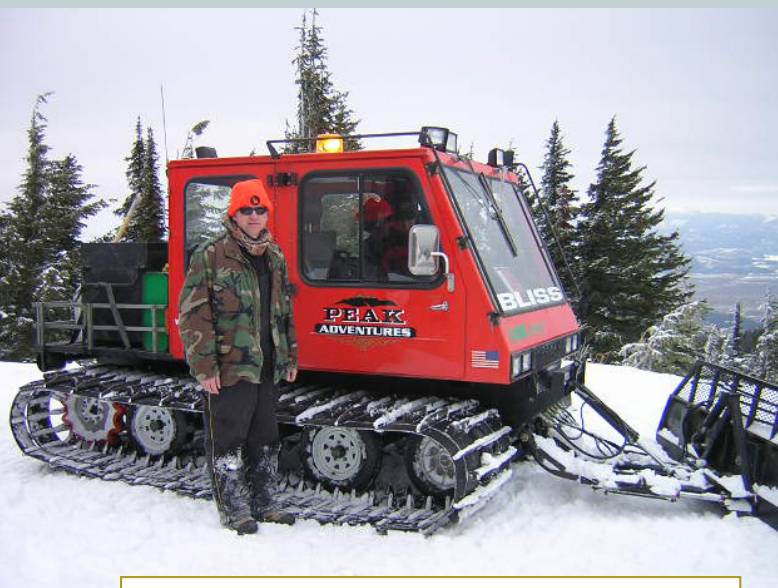
The CFL is a perfect fit for the work because it features a large environmental chamber where researchers can test the bridge columns at -40 degrees Celsius during a simulated earthquake.

This combination of capabilities is unique in the United States, which is why Alaska transportation officials have funded several research projects at NC State.

Six full-scale bridges will be tested at the CFL during 2008 and 2009.

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CCEE alum rides wave technology to business success



Above: Holt spent seven hours on this Idaho mountaintop working to get a downed 911 tower back on line.

Right: Holt performs a dispersive wave test in Oregon for the state's highway department.

The company uses a high-tech method developed by Holt to determine the size and depth of bridge, building and tower foundations—without digging them up.



Dr. Darrin Holt, the president of FDH Engineering, was about to sit down to lunch in Raleigh one winter Monday when he got a phone call.

It was a client who owned a bunch of telecommunications towers, and one of its mountaintop towers in Idaho was down. Holt asked the client to send an email describing the problem, but since the tower supported a 911 system, the client needed help immediately.

“You’ve got to be sleeping in northern Idaho tonight,” the client said.

Holt always kept an overnight bag in his truck for these types of emergencies, so he immediately drove to the airport, jumped on a plane and flew west. That type of dedication has helped Holt, who earned three CCEE degrees from NC State, grow his company, FDH Engineering, from a graduate school idea to 65-employee firm that does business in 49 states and two U.S. territories.

“It’s blossomed,” Holt said of his company. “We’re very lucky.”

FDH, based in Raleigh, occupies a niche within civil engineering. The company uses a high-tech method developed by Holt to determine the size and depth of bridge, building

and tower foundations—without digging them up. Most of the company’s “nondestructive testing” is on older structures whose foundation records have been lost over time. Nearly 100,000 of the nation’s bridges were built so long ago that accurate records of their foundations do not exist, Holt said.

The idea for the company came from a research project Holt conducted during his doctoral work at NC State. He had received some government funding to determine the depth of timber piles beneath bridges, so he teamed with a professor to study the mathematics of stress wave mechanics. Their solution was a method called “dispersive wave propagation.”

Holt explained the technology by likening it to the ripples that form when a pebble is dropped in a puddle of water. The ripples get further apart as they travel outward from the center, and the same thing occurs in solid materials. When someone strikes a foundation with a hammer, for example, FDH can record the resulting waves and analyze them to determine their wavelengths, travel-times and velocities upon reaching the end of the foundation and returning, thus yielding the information needed for an accurate assessment.

“So far as we know, we’re the only ones who have developed a production-level, working software model to handle these types of applications,” Holt said.

Using the technology FDH can tell its client how deep the foundation is, and its qualitative condition, which can help the client decide if a structure is capable of enduring a longer service life or is in need of repair or replacement. Since many of the nation's bridges, for example, are older structures subjected to lots of erosion and flooding, FDH keeps busy. The company's work includes contracts to inspect the foundations of more than 450 bridges annually in multiple states.

Holt has enlisted the help of other NC State engineering alumni to help the company grow. Two of his original founding partners are retired NC State professors, and one of his current partners, Chris Murphy, received his master's degree in civil engineering from NC State. Some of his division directors are NC State grads as well.

So what happened during that winter night in Idaho? Holt's plane landed in Spokane, Wash., which had just been blanketed by more than three feet of snow. A little later, he was completing a four-hour slog up the mountain in a snow cat, chauffeured by a guy he'd never met before. He was at the summit for seven hours working to get the downed tower back on line.

"That was the one project that was so different and unusual that it caught me by surprise," Holt said, laughing. "I enjoy coming to work in the morning."

About the Cover

Bridge (centerpiece): A bridge off of U.S. Highway 70 near Kinston, N.C. FDH utilized its non-destructive testing methods to obtain the length of the structure's piles.

Bridge (lower left): A bridge over the Catawba River in Newton, N.C. Hanging anchors supporting a water main were detaching from the bridge superstructure. Through a vibration analysis, FDH identified forces interacting with the anchors that may have contributed to their failure.

Belmont station (lower center): FDH performed the structural design for Belmont Station, a multi-use commercial office building in Pittsboro, N.C. that houses the second location of the Carolina Brewery.

Towers (lower right): A tower farm at sunset in rural Arizona. FDH performed a foundation mapping and analysis on one of the towers.



Willy E. Stewart

Alumnus Stays Close and Gives Back

Willy E. Stewart, who received two CCEE degrees at NC State, continues to give back to his alma mater and its students.

Stewart, a native of Colombia, recently established the Stewart Engineering SHPE Student Fund

to help support the NC State Society of Hispanic Professional Engineers (SHPE) student chapter. The funds will be used for student activities, awards and travel. Stewart intends to serve as a mentor to the group by speaking to students, connecting members to the local and national SHPE organization and helping with the group's accounting practices. The \$50,000 contribution will be made over five years.

Stewart's company, Stewart Engineering, Inc., recently established the Stewart Engineering Scholarship with a separate gift of \$50,000. These need-based scholarships, which will provide \$2,500 to four students annually for five years, will emphasize diversity among the recipients and will give first preference to CCEE students. Stewart received a bachelor's degree in civil engineering-construction in 1981 and his master's degree in civil engineering in 1984.

The gifts continue Stewart's longstanding relationship with the University. He is a member of the Board of Directors of the NC State Engineering Foundation and has been a member of NC State's Historically Underutilized Businesses Advisory Board, which looks out for minority business owners. In addition, Stewart Engineering provided structural and civil engineering services for the development of the Wolf Village Apartments, now housing up to 1,200 students.

Stewart Engineering has also been selected to be the lead design consultant on the Greek Village project, a redevelopment of the existing Greek Court that will include 20 new customized fraternity and sorority houses. The company will also serve as a lead structural design consultant on the James B. Hunt Jr. Library scheduled for construction on Centennial Campus.

Stewart founded the company in 1994, and it has since grown to more than 140 employees with headquarters in downtown Raleigh and offices in Wilmington and Charlotte. The company has been named one of the "Best Places to Work" by the Triangle Business Journal and has been awarded the Pinnacle Award by the Greater Raleigh Chamber of Commerce for its steady growth and profitability. The Hispanic Business, a national magazine, has named Stewart Engineering one of the top 500 Hispanic-owned companies in the United States.

Students get bird's-eye view on world-famous bridge



Students and faculty found breathtaking views when they visited the George Washington Bridge last fall.

An early morning. A long flight. An unforgettable tour. And a spectacular view.

NC State engineering students saw things few people ever see when they toured the George Washington Bridge last fall. The whirlwind, one-day trip was made possible by a generous alumnus.

"Who gets to go to the top of the tower of the George Washington Bridge?" said Dr. Vernon Matzen, the professor of civil, construction, and environmental engineering who led the trip. "It was a once-in-a-lifetime experience."

The two-level suspension bridge connects upper Manhattan with New Jersey and forms part of Interstate 95, which runs from Maine to Florida. One level opened to traffic in 1931, and the second opened in 1962. The bridge is nearly a mile long between anchorages and towers 212 feet above the Hudson River at mid-span.

Nearly 109 million vehicles crossed the bridge in 2006, but few people ever see it up close. So when an engineer at the Port Authority of NY & NJ offered to show students around, it was a no-brainer. The engineer had been a student of Dr. George List, who heads the CCEE department.

Funding for the trip was supplied by Otis Crowder, president of Charlotte-based Crowder Construction Co., who graduated with a civil engineering degree from NC State in 1970. One graduate student, two professors and 15 undergrads decided to go.

The students weathered a long day to get to the bridge, congregating at Mann Hall at 4:45 a.m. Some brushed up on homework at the airport and on the flight; the group arrived at the bridge around midday.

Once there, they got an insider's look at the legendary structure. They saw how it unfurled its famous free-flying American flag, the world's largest. They gaped at the dazzling transportation center, which uses sensors to track ice buildup and traffic patterns. They took in one of the anchorages, or bases, which dates to the 1930s.

And they heard all about the bridge from its lead engineer.

"He was talking about how they repaired it and about security," Matzen said. "It was just fascinating to get the insight."

And perhaps most memorably, students rode an elevator to the top of the bridge, where they posed for photos and looked out over the city. The tower looms more than 600 feet over the water.

The group eventually headed back to the airport, returning to North Carolina at about 9 p.m. It had been a long day, but sometimes the long ones are the most memorable.

To hear an interview with Vernon Matzen and learn more about the trip, visit <http://pursuantgroup.com/ncstate/coe/0108a.htm>.

Chi Epsilon Inductees

Fall 2007 • David Allen Heath • Aaron Michael Heustess • Ashton Heather Jeffries • Samuel Holton Lee • Justin Matthew Miller • James Read Plott • Claire Pei Shigekawa • Jeffrey Cornwell Wilson •

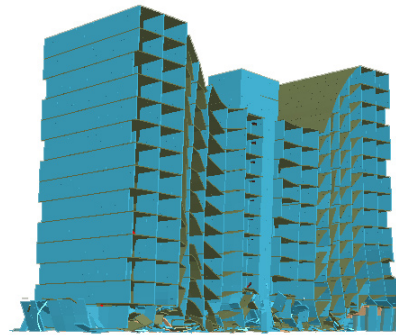
Spring 2008 • Taylor Craig Auten • Joseph James Bagwell • Christopher Scott Gray • Lina Kira Lawrence • Katelyn Blackmon Purnell • Courtney Jellinger Shepard • Danielle Elie Touma • Dustin Shane Tuttle • Margaret Katherine Williams •

Graduate Program Report

Total graduate enrollment in Fall 2007 was 247, equaling the previous year's record total. Structures and Mechanics attracted the most students, with Water Resources and Environmental Engineering and Transportation Systems and Materials also proving popular.

The research conducted by our faculty and graduate students resulted in 240 papers published in refereed journals or at conferences this year. About 120 students were supported by teaching or research assistantships, and several students were selected for university-supported positions in the Preparing the Professoriate program, which provides specialized seminars and mentored teaching experiences.

The Distance Education Track of the MCE degree continues to see expanded enrollment, with 66 CE distance students enrolled in Spring 2008. For the 2007-08 academic year, there were 360 individual student enrollments in distance classes that included students from 31 states.



NC State engineers used computer simulations (top) to accurately predict how the Stubbs Tower would fall. At bottom, the tower collapses.



Fellowships and Awards

College of Engineering Dean's Fellowships – Joshua Griffin, Hartley Grimes, Andrew Jerome, Dillon Lunn, Elliott Taylor, Beth Visintine, Meade Willis • **Eisenhower Fellowships, U.S. Department of Transportation** – Elizabeth Harris, Brent Robinson, Beth Visintine • **Emol A. Fails Graduate Fellowship** – Andrew Jerome, Michael Phil Lewis • **Daniel P. Jenny Research Fellowship** – Hartley Grimes • **Kimley-Horn Engineering Scholarship** – Serena Hendrix, Laurel Pierpont • **Mentored Teaching Assistantship** – Mina Dawood, Hari Krishnan Krishnankuttynair, Siddharth Savadatti • **Sean McGrath Memorial Fellowship** – Joe Godwin • **National Water Research Institute Fellowship** – Ana Carolina Baeza • **NC Airport Assn. Bruce Matthews Aviation Fellowship** – Nathaniel Harvey • **NC Alliance for Minority Participation Fellowship** – Lauren Hart • **Charles Smallwood Fellowship** – Ana Carolina Baeza, Ki Young Cha, Jeseung Oh • **Southeastern Transportation Consortium Fellowships** – Javon Adams, Elizabeth Harris, Hyejung Hu, Hari Krishnan Krishnankuttynair, Jisun Lee, Jae Pil Moon, Aditya Ramachandran, Maryam Sakhaiefar, Ting Yi • **Ed Vick Fellowship** – Andrew Lacroix

BOOM! Grad student helps predict tower implosion

The Stubbs Tower in Savannah, Ga., collapsed into a pile of rubble on the morning of Dec. 15, 2007, but thanks to the work of NC State engineers, the demolition contractors behind the implosion had a good idea how it would go down long before that.

Dr. Emmett Sumner, an assistant professor of civil, construction, and environmental engineering, and Joshua Griffin, a graduate student in structural engineering, created a computer simulation of the implosion using Extreme Loading for Structures, a program developed by Raleigh-based Applied Science International.

Demolition contractor D.H. Griffin, Inc. and explosives contractor Demolition Dynamics Company used the simulation to help them prepare for the implosion, Sumner said. The building fell largely as it did in the simulation.

The tower was formerly an apartment complex for low-income seniors. The Savannah Housing Authority plans to turn the site into a park for a housing development.

To watch the simulation and video of the actual implosion, please visit www.pursuantgroup.com/ncstate/coe/0208.htm.



John Hanson

John Hanson: A Career in Bridges

John Hanson has built a career in research and investigation of bridges.

"I guess I just naturally got interested in them," said Hanson, Distinguished Professor Emeritus of Structural Engineering and Mechanics at NC State. "I'm a civil and structural engineer, and bridges are a big part of this field."

Hanson's career began after college, when he worked for a bridge engineering firm in St. Louis. Later, he earned

a master's degree in structural engineering at Iowa State University and a doctoral degree in civil engineering at Lehigh University. Bridge structures and mechanics featured prominently in his studies.

Since then, much of his work has been with the engineering and materials science firm of Wiss, Janney, Elstner Associates, Inc. (WJE), where he took part in many bridge investigations and later served as president. Hanson retired from WJE in 1992 and now serves on the firm's board of directors, but his knowledge of bridge structures is still called

upon. Most recently, he was among the experts quoted by news media in the aftermath of the Minneapolis I-35W bridge collapse in August 2007. WJE was hired as a lead investigator and was responsible for the site investigation on the project, he said.

"They've been retained by firms for a number of high-profile cases," Hanson said. "Some that I've been involved in include the collapse of the 'sky bridges' of the Hyatt Regency Hotel in Kansas City in 1981, the collapse of the Schoharie Creek Bridge on the New York State Thruway in 1987, the collapse of the roof of the Hartford Civic Center Arena in 1978, and many others as well."

From 1993 to 2000 he taught several courses at NC State, including a class he developed on condition assessment and structural repair. He also taught advanced concrete and masonry design courses, along with undergraduate courses on statics and mechanics of materials.

In 1999, Hanson and some graduate students became the first NC State researchers to use the Constructed Facilities Laboratory on Centennial Campus for testing large-scale structures.

In recognition of his work in this field, Hanson was elected in 1993 to a four-year term as the first non-Swiss president of the International Association for Bridge and Structural Engineering. He was also elected to a one-year term as president of the American Concrete Institute in 1990. In 1992, he was elected to membership in the National Academy of Engineering.



David W. Johnston

Johnston named Weisiger chair

Dr. David W. Johnston has been selected as the Edward I. Weisiger Distinguished Professor in Construction Engineering and Management.

"This is a tremendous honor for one of our outstanding faculty members," said Dr. Louis A. Martin-Vega, dean of the College of Engineering. "We are so grateful to the Weisiger family for their generous and longstanding support of the College."

Johnston spent eight years working in the construction industry before returning to NC State in 1977 to join the faculty. His teaching and research interests include construction management, construction engineering, infrastructure management and structural construction.

Johnston is a fellow of the American Society of Civil Engineers and the American Concrete Institute. He is an honorary member of the Professional Construction Estimators Association.

The professorship was established in 2003 by Edward I. Weisiger Jr. in honor of his father, Edward I. Weisiger. Both men graduated from NC State with engineering degrees and have been longtime supporters of the College and University.

Awards and Honors

Francis de los Reyes (Associate Professor) was appointed Balik-Scientist by the Phillippine Government.

Chris Frey (Professor) was invited to serve on the Clean Air Scientific Committee Particulate Matter (PM) Review Panel, 2007.

Chris Frey was appointed Fellow, Air & Waste Management (March 2008).

Chris Frey was recipient of the NCSU Alumni Outstanding Research Award (2008).

Mohammed A. Gabr (Professor) was recipient of the ASCE-GeoInstitute Outstanding Service Award as Chair of the ASCE Geosynthetics Committee.

Mohammed A. Gabr was recipient of the NCSU Outstanding Teacher Award, 2008.

Murthy N. Guddati, (Associate Professor) was selected as one of 45 invited participants worldwide for the 2008 Oberwolfach Workshop on Atomic Models of Materials: Mathematical Challenges (Germany).

Murthy N. Guddati's paper was selected as one of the 2007 Editorial Highlights by the Journal Inverse Problems.

Murthy N. Guddati was appointed Visiting Fellow of Applied and Computational Mathematics, Princeton University, Spring 2007.

Abhinav Gupta (Associate Professor) was awarded a Summer Faculty Position at the US Nuclear Regulatory Commission.

Abhinav Gupta was awarded a Gold Medal for professional recognition by the Bhabha Atomic Research Center (Department of Atomic Energy, Government of India).

Abhinav Gupta was appointed to the International Association of Structural Mechanics in Structural Mechanics (IASMiRT) Advisory Board.

Joseph E. Hummer, (Professor) received one of five Outstanding Paper Awards for the paper "Recent Super-street Implementation and Research," which was presented at the Third Urban Street Symposium, Transportation Research Board, Seattle, Wash., June 2007.

Mervyn Kowalsky (Associate Professor) with **Nigel Priestley**, was invited to present 1-1/2 day seminar on Displacement-Based Seismic Design during the 30th anniversary of the Dominican Society Earthquake Engineering (SODOSISMICA), August 2007, Santo Domingo, DR.

Staff News

Diana Lotito joined the Department in February 2007 as an Administrative Assistant working with Dr. Sami Rizkalla at the Constructed Facilities Laboratory (CFL). Diana relocated to North Carolina from Ithaca, N.Y., where she was employed at Ithaca College.

Darin (Jake) Rhoads joined the Department in September 2007 as Facilities Maintenance Technician. Originally from Lebanon, Penn., Jake worked in the Millwright Department at Hershey Chocolate for 17 years. The department was in charge of the installation of all processing and wrapping equipment from start to finish. He is a certified welder and sheet metal fabricator. Prior to that, he worked for 17 years in a steel fabrication shop.

Annette Maynard, Administrative Support Associate in the Department, received the College of Engineering 2008 Award for Excellence for her dedication, dependability, timeliness and positive attitude. She is committed to the University and represents it well, often acting as an excellent community ambassador.

Promotions

Dr. S. Ranji Ranjithan was promoted to Professor effective August 16, 2007. Ranjithan received his doctoral degree in environmental engineering from the University of Illinois at Urbana-Champaign in 1992. He earned his master's degree in industrial engineering and management in 1985 from the Asian Institute of Technology, and he received his bachelor's degree in mechanical engineering from the University of Peradeniya, Sri Lanka, in 1981. He joined the department in 1995.

Sami H. Rizkalla (Distinguished Professor of Civil Engineering and Construction, Director of the Constructed Facilities Laboratory) was awarded the Joe W. Kelly Award by the American Concrete Institute at the Spring Convention of the American Concrete Institute in Los Angeles, Calif., March 2008 in recognition of over 30 years of dedication to concrete education and research in concrete technology.

Sami H. Rizkalla presented the Keynote Address at the Japan Carbon Fiber Manufacturing Association's 21st Session of the Composite Material Seminar in Tokyo in February 2008.

Have a professional or personal update? We'd like to hear from you!

Please send us an update so we may include you in future issues. Send your contact information and news to **lora_bremer@ncsu.edu** or mail this form to the CCEE Department, Campus Box 7908, NC State University, Raleigh, NC 27695-7908.

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