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Message from the Chair



Greetings Gator Nation! I am once again overjoyed to have the privilege to update you on the new and exciting developments in the Department of Civil and Coastal Engineering (CCE) as we begin the 2006-2007 academic year. I am very proud of the high standard of excellence exhibited by our student body and our faculty, and I relish the opportunity afforded me by the CCE Newsletter to report to you on their activities.

Our academic and research programs continue to experience robust growth. Undergraduate enrollment for the Fall 2006 Semester has exceeded 650 students, with nearly 140 BS degrees conferred over the course of the 2005-2006 AY. Full-time graduate enrollment for the Fall 2006 Semester is nearly 210,

with approximately equal numbers of MS and Ph.D. students. As a testament to the ever improving quality of our graduate program, the recently released *U.S. News & World Report* 2006 Guide to America's Best Graduate Schools has ranked the University of Florida CCE Department No. 16 in the nation among all civil engineering graduate programs at public institutions, and No. 24 overall (among 233 public and private institutions). GO GATORS!

Our research enterprise continues to grow at a dizzying pace. Research expenditures for 2005-2006 FY were \$15.6 million and new external research awards were \$13.1 million, placing the CCE Department 2nd in the College of Engineering (among 11 departments) in both categories. The CCE Department currently administers 157 active research projects totaling nearly \$30 million. These projects are sponsored by a wide variety of state, local and federal agencies and support cutting edge research in five areas of societal need, including extreme load events, high performance infrastructure and materials, water resource preservation, beach and estuarine preservation, and transportation infrastructure systems.

To meet the challenge of our rapidly expanding academic and research programs, the CCE Department is proud to announce the appointment of two new tenure track faculty for the 2006-2007 academic year (see pgs. 2 and 7 for details). Forrest Masters, who joins us from Florida International University, will augment a strong team of CCE hurricane researchers. Theodor Krauthammer from Pennsylvania State University also joined the CCE faculty this Fall. Dr. Krauthammer, who is internationally renowned for his innovative research in structural protective technology, will hold the Goldsby Chair in Civil Engineering and serve as Director of the recently established Center for Infrastructure Protection and Physical Security (CIPPS). Under Dr. Krauthammer's leadership, CIPPS will position the University of Florida at the forefront of academic institutions engaged in homeland security research.

Finally, the CCE Department is privileged to provide a home to the Progress Energy Water Institute. The University of Florida has more than 250 faculty members in more than 50 departments across the campus conducting research in water-related topics. The primary mission of the Institute is to establish interdisciplinary teams to address challenging research and education issues associated with water. Dr. Wendy Graham, former Chair of the UF Department of Agricultural and Biological Engineering, will serve as the inaugural director of the Institute.

In closing, I would like to express my heartfelt thanks and appreciation to our many loyal alumni and friends for their continuous and generous support of our program. We are great only because you are great to us..... It's so great to be a Florida Gator!

Joseph W. Tedesco
Professor and Chair

Faculty Activities – Fall 2006



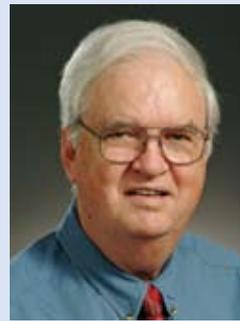
Trey Hamilton



Byron E. Ruth



Ralph Ellis



Duane S. Ellifritt



Ronald A. Cook

David K. Hale, Assistant-In-Engineering at the McTrans Center, was recently named transportation software subcommittee chairman for the national committee on Intelligent Traffic Signal Operations.

Trey Hamilton, Associate Professor, was notified that he has been granted tenure in the Department of Civil and Coastal Engineering. Congratulations, Trey!

James H. Schaub and **Byron E. Ruth**, Emeritus Professors, were inducted into The Academy of Civil Engineers at West Virginia University earlier this year. The Academy was established to recognize those graduates who have had distinguished professional careers or who have given outstanding service to the State of West Virginia.

Dr. Schaub was inducted as an Honorary Member in recognition of his outstanding leadership and service as Chairman of the Department of Civil Engineering. Dr. Ruth obtained his PhD from West Virginia University in 1967 and was inducted as an Academy Member. The Civil Engineering Academy, established by the Department and the College of Engineering and Mineral Resources, recognizes graduates who have distinguished themselves nationally and/or

internationally through their contributions and service to the profession, contributions to education, and professional achievement.

Ralph Ellis, Professor, was appointed to the Industry Advisory Panel (IAP) of the US Department of State, Bureau of Overseas Building Operations (OBO). The IAP provides OBO with technical advice on available methods to provide safe, secure and functional facilities supporting US Diplomatic Missions worldwide.

Duane S. Ellifritt, Professor Emeritus of Civil Engineering, was awarded the 2006 George Winter Award by the American Society of Civil Engineers in recognition of his service to the structural engineering profession.

The award is named for the late George Winter, world-renowned teacher and researcher at Cornell University. The George Winter Award is intended as a recognition of the achievements of an active structural engineering researcher, educator or practitioner who best typifies the late Dr. George Winter's humanistic approach to his profession, including an equal concern for matters technical and social, for art as well as science, for soul as well as intellect.

Ellifritt's award citation reads "For his contributions through both educational and

artistic endeavors to the role of aesthetics in structural engineering, including the development of the steel connection sculpture now present on almost 200 campuses nationwide." Previous winners of this award include such renowned structural engineers as Mario Salvadori, David Billington, and William LeMessurier.

Dr. Ronald A. Cook, Professor, was honored with the Delmar L. Bloem Distinguished Service Award from the American Concrete Institute (ACI) in recognition of outstanding leadership of ACI Committee 355, Anchorage to Concrete. Dr. Cook, a Fellow of ACI, has served as Chairman of ACI 355 for the past six years and has presented seminars throughout the country on the design of connections to concrete. Currently, Dr. Cook is working with the Massachusetts Attorney General's Office in the investigation of the anchorage failure in the Boston "Big-Dig" Tunnel. In the area of wind engineering, Dr. Cook has accepted the position of Chairman of the ASCE 7 Wind Load Committee. This committee is responsible for developing building code requirements for the wind loads used in the design of buildings constructed in the US.



The Department of Civil & Coastal Engineering is pleased to announce the appointment of **Dr. Forrest Masters** as Assistant Professor. Dr. Masters joined Florida International University as an assistant professor in 2004 after receiving his Ph.D. from our department, where he developed research interests that include field measurement of surface-level tropical cyclone winds, wind effects on structures and stochastic simulation of natural hazard events. At FIU, he also directed the Laboratory for Wind Engineering Research at the International Hurricane Research Center.

Since 1999, Dr. Masters has deployed for 19 named tropical cyclones, including all of the major hurricanes in 2004 and 2005. During landfall, he and his colleagues deploy mobile weather stations to capture ground-level wind speeds and instrument single-family homes to measure wind pressure loading. After the storm, damage assessments are conducted to evaluate the performance of the building stock and the codes and standards that guided their construction. Currently, he is developing a new testing apparatus to recreate the wind and wind-driven rain dynamics of a major hurricane at sufficient scale to test building components and cladding systems.

Importance of exchange flow patterns in coastal inlets

The coastline of Florida is ubiquitously broken up by coastal inlets. These inlets are delimited by at least two headlands or points that represent the transition between an embayment and the coastal ocean. Coastal inlets are responsible for the health of coastal lagoons and estuaries as they allow the exchange of water and materials between semiencllosed bodies of water and their adjacent ocean. The transport of materials through these inlets has therefore tremendous ecological and commercial consequences as it determines the recruitment success of a given species, the pollution levels in a basin and the supply or removal of sediment to and from adjacent beaches, among many other examples.

Despite the importance of coastal inlets, little is known about patterns of water exchange at these sites. It has customarily been assumed that because of their relative narrow width (typically <1 km), the patterns of net flow through inlets may be represented with measurements at one location. It is well known that in wide (several km wide) estuaries, the shape of the bottom plays a crucial role in determining regions of net inflow and outflow and that these patterns can change over short (few tens of meters) distances. Coastal inlets indeed may show marked variations in bottom shape from one headland to the other. This characteristic of inlets suggests that their net flow must also exhibit appreciable variations. Development of flow variations means that sediment or fish larvae might be imported into an embayment over certain portions of the inlet but exported over other portions. Such an idea motivates recent studies in Florida inlets by Arnoldo Valle-Levinson, who came to the University of Florida in August 2005.

As part of a class on Estuarine and Coastal Hydrodynamics that Arnoldo taught in the spring of 2006, graduate students Jeff King, Bret Webb, Bilge Turak, Justin Marin and Hande Caliskan made measurements at St Augustine inlet (Figure 1). The field trip consisted of measuring underway currents and water temperature and salinity during nearly a full tidal cycle under the able technical expertise of Vik Adams and Sidney Schofield. An important finding of those measurements was that the net flow pattern was greatly influenced by the shape of the bottom (Figure 1). Net inflows appeared restricted to the deepest part of the inlet cross-section, in the middle, whereas net outflows developed over the shallowest parts, i.e., next to the inlet headlands. So, depending on what part of an inlet you examine, you might find net import or export of materials from or to the ocean.

Analogous findings to those at St. Augustine inlet were obtained in a similar tidal-cycle study in Jupiter Inlet (Figure 2). This was part of a project funded by the Jupiter Inlet District to Dr. Ashish Mehta. The measurements were obtained again under the technical assistance of Vik Adams and Sidney Schofield, and with the help of graduate student Hande Caliskan. The very narrow (<100 m) Jupiter Inlet showed weak bathymetric variations. But once more

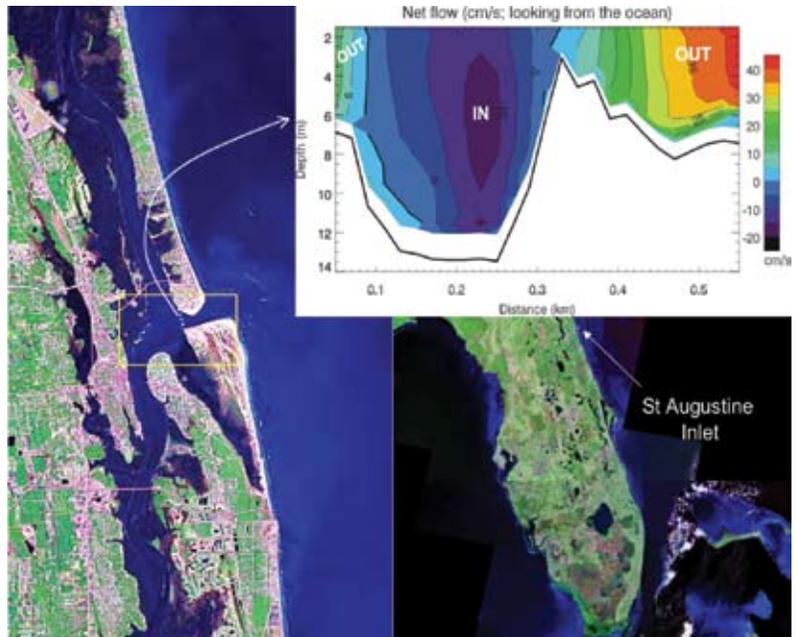


Figure 1. St. Augustine Inlet location and cross-section of net exchange flow pattern. Red and yellow shades indicate regions of net outflow while blue shades denote regions of inflow.

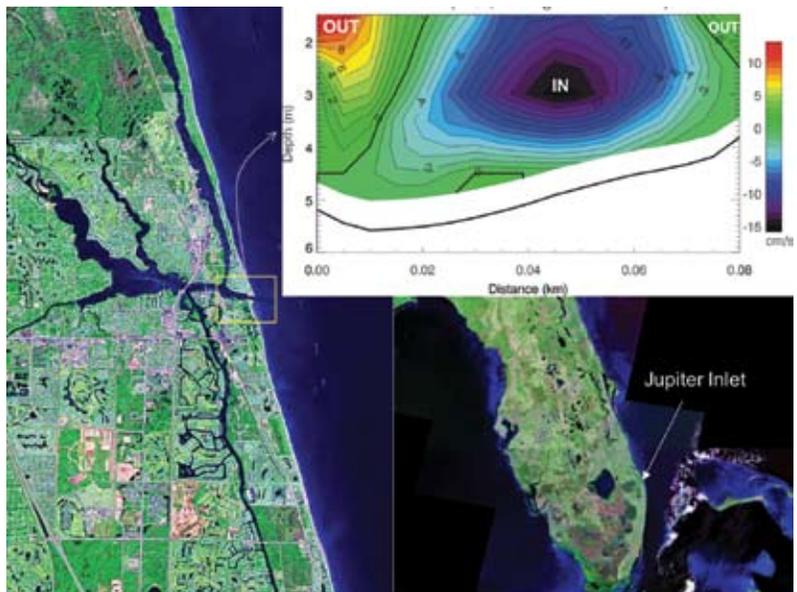


Figure 2. Jupiter Inlet location and cross-section of net exchange flow pattern. Red and yellow shades indicate regions of net outflow while blue shades denote regions of inflow.

it displayed net inflow in the middle of the cross section and net outflows adjacent to the inlet headlands. The results shown here are only isolated cases and the fact that they are similar may be fortuitous. It remains to be seen how persistent these exchange patterns are. So, future research efforts with colleagues at the CCE Department will focus on generalities that can be drawn from different systems under various conditions of tidal, wind and freshwater influences. In the long run, the finding from these studies will undoubtedly help in the management of inlet systems.

Interdisciplinary Water Institute established at UF

By Kathleen A. McKee and Robin Snyder

Water touches our lives in many ways. It sustains and cleanses us, hydrates our crops and livestock, provides power and protection, and is the daily lifeblood of our planet. Without clean, plentiful water, life as we know it could not exist. So it stands to reason that protecting and preserving our water supply is uppermost in the minds of those who are immersed in water-related fields of research and study.

In 2001, the National Academy of Sciences concluded that because water plays an important role in so many research disciplines, novel ways of pursuing research in traditional fields were needed and researchers were called on to engage in novel collaborations. It is also increasingly recognized that water problems relevant to society integrate physical, chemical, biological, and social sciences while affecting concerns of law, economics and policy. These facts spawned the idea at UF to create an institute for developing interdisciplinary approaches to water-related research. Five years later that idea has become a reality with the establishment of the UF Water Institute, approved by UF President Bernie Machen, and sponsored by a \$1.2 million endowment donated by the Progress Energy Foundation.

The University has more than 250 faculty members conducting water-related studies in more the 50 departments and centers. Faculty from the Colleges of Agricultural and Life Sciences, Business, Design Construction and Planning, Engineering, Health and Human Performance, Law, and Liberal Arts and Sciences and Veterinary Medicine actively participate in the Water Institute. The main mission of the Institute is to establish cross-campus and external linkages to conduct truly interdisciplinary water-related research and education programs.

Heading the Institute is its inaugural director, Wendy Graham (B.S. from UF in Environmental Engineering, Ph. D. from MIT in Civil Engineering, and former Chair of the UF Department of Agricultural & Biological Engineering). Graham

knows that there are great challenges ahead but is looking forward to the opportunity to coalesce the vast resources at UF and around the state in pursuit of a common goal.

“With the world’s largest ecosystem restoration project, the world’s most productive aquifer, the country’s largest desalination plant, a burgeoning human population and vulnerability to both climate and anthropogenic changes in the water cycle, Florida provides a unique living laboratory to develop new knowledge and test solutions to water problems” says Graham. “New knowledge and new engineering, policy and legal solutions developed in Florida should provide a model for others to follow both nationally and internationally. Thus we envision an Institute committed to addressing Florida issues, but recognized nationally and internationally as providing global solutions to water resource problems.”

Since taking the Director position on May 15th, 2006, Graham has been busy meeting with both internal and external stakeholders to begin developing a strategic plan for the Water Institute. A survey is currently being developed to gather input from UF faculty on preferred forms of affiliation, collaboration and communication. A one-day strategic planning retreat is scheduled for Fall 2006 to provide faculty a chance to define the Institute’s program focus areas and a chance for Graham to make sure the Water Institute’s programs align with the vision and goals of the University’s faculty. In Spring 2007, a similar survey and one-day forum will be conducted with external stakeholders. According to Graham, “effective communication amongst faculty of differing disciplines, and between faculty and external stakeholders is key to the success of the Water Institute.”

Dr. Graham, along with research coordinators Kathleen McKee (MS from UF in Soil and Water Science) and Mark Newman (Ph.D. from UF in Civil and Coastal Engineering), have begun



coordinating faculty groups to pursue funding opportunities on a wide range of research topics. A two-year National Science Foundation (NSF) planning grant has been awarded to Water Institute affiliated faculty to develop the Suwannee River Basin as one in a national network of Hydrologic Observatories. The research focus of the planning grant will be on understanding the sources, fate and transport of nitrate in the Santa Fe watershed.

The Florida Department of Environmental Protection has also awarded a grant to UF to host, manage, and expand the operations and functions of Conserve Florida, the state’s water conservation clearinghouse. Additional proposals have been submitted to the National Science Foundation, the US Department of Agriculture and the National Oceanic and Atmospheric Administration as well as a variety of state agencies since the Water Institute was formed in May.

The Water Institute is grateful to the Civil and Coastal Engineering Department for generously providing space for the Water Institute offices. As of August 21st the Water Institute will be located in 570 Weil Hall.

For more information see our website at <http://waterinstitute.ufl.edu>, and drop by if you are visiting campus. You can contact us at 352-392-5893 after August 21st!

Mobile Terrestrial Laser Scanning (M-TLS) System

By Juan Fernandez and Ramesh Shrestha

The Geosensing Engineering and Mapping (GEM) Research Center, Civil & Coastal Engineering (CCE) Department is one of the leading facilities in Research and Development of active remote sensing and mapping technologies in the nation. One of the current R&D projects is the development of a Mobile Terrestrial Laser Scanner (M-TLS) system. The core of the M-TLS is a commercial 2-axis ground based laser scanner. The scanner is mounted on a computer controlled tilt-scan mount, which in turn is attached to a telescoping lift, rigidly attached to a 4-wheel drive crew cab pickup truck. The laser scanner has an integral bore sighted 6 mega pixel digital camera for still imaging, and a digital video camera has been added to provide wide moving imaging capability. At the final stage of development the M-TLS positioning and navigation system will include a differential GPS array, tilt sensors and an inertial measuring unit which will allow data collection and geo-referencing in both static and dynamic modes.

The laser scanner used in the M-TLS is an Optech ILRIS-36D, which is capable of generating XYZ coordinates with laser intensity or RGB textured point clouds in a range from 3m to 1500m for a target with an 80% reflectivity or 3m to 350m to targets with a 4% reflectivity. The laser operates at a wavelength of 1535 nm, with a pulse width of less than 10 ns and energy of less than 10 microjoules. The angular laser fire separation can be adjusted as low as 0.00115°, and the laser pulse frequency is 2,000 pulses per second.

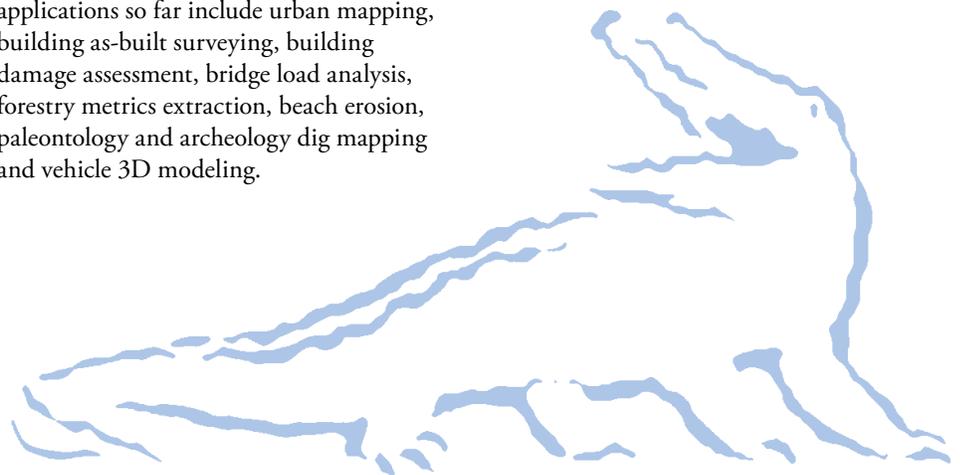
The M-TLS is a unique tool that enables GEM researchers to inexpensively acquire closely spaced and highly precise coordinates on surfaces that are difficult to obtain in any other manner, and nested sets of M-TLS and airborne laser scanning (ALS) data sets are highly complementary—the ALS providing broad area coverage with lower spatial resolution and precision, and the M-TLS data providing high resolution and precision coverage over limited areas. Currently the M-TLS observations are collected in static mode.

Input parameters for data acquisition, such as the selection of the scanning geometry and GPS control points, allow each data scan to be referenced to a particular datum rather than the local XYZ reference frame of the sensor. Multiple scanned point clouds can then be rotated and merged into a uniform and coherent data set. In order to geo-reference to a particular geodetic datum, a conformal 3D transformation is applied to the entire data set using information from the GPS control point network. The accuracy of the geo-referencing depends primarily on the quality of the GPS observations and the vertical and horizontal strength of the control points network, both of which are controlled during the design and data collection phase to obtain the accuracy required for a particular project. The final product deliverables are point clouds that include 3D and texture (intensity or RGB) data, 2D Images and 3D gridded surface models.

The M-TLS system produces range point clouds in XYZ coordinates accurate to sub-centimeter with point spacings of a few centimeters. The applications of the M-TLS data sets are numerous in both the fields of science and engineering. Tested applications so far include urban mapping, building as-built surveying, building damage assessment, bridge load analysis, forestry metrics extraction, beach erosion, paleontology and archeology dig mapping and vehicle 3D modeling.



Mobile Terrestrial Laser Scanner (M-TLS) for mapping closely spaced and highly precise surfaces





Istanbul, Turkey 2003



Buenos Aires, Argentina 1994



London, United Kingdom 1994

Center for Infrastructure Protection and Physical Security Opens

One of the basic needs of all living creatures is to have safe and secure habitation. Throughout history, humans have demonstrated a remarkable ability to address this need. They have developed capabilities to protect themselves against both natural disasters and escalating hazards associated with human activities. In 1989, the world viewed a watershed event with the end of the Cold War. Nations across the globe began reducing their armed forces in response to the perceived increase in world stability. Unfortunately, the euphoria did not last for long, and international terrorism became a concern in many parts of the world. Prior to 1993, the United States had been relatively unaffected by terrorism within its borders. Then, in February 1993, the U.S. was attacked by externally supported terrorists who targeted the World Trade Center. In April 1995, the U.S. was shocked by the devastating homegrown terrorist attack against the Alfred P. Murrah Federal Building in Oklahoma City. The events of September 11, 2001 demonstrated the ability of terrorists to cause civilian deaths and property damage in levels not seen since the waning days of World War II. These recent horrific terrorist attacks changed forever the way various federal, state and local government agencies in the U.S., and many other organizations around the world, would look at national security and the need for protection from terrorism.

Clearly, in today's geopolitical environment, the need to protect both military facilities and civilian populations from enemy attack has not diminished. Furthermore, we noted an increasing need to protect civilian populations against terrorism and social/subversive unrest. This situation is true for many parts of the world, and it

may exceed the previous reasons for the development of protective technologies (i.e., related to military-sponsored work on fortifications). Unlike the global politically and ideologically motivated conflicts of the past, dominated by well-organized military forces, most of the armed conflicts in the last two decades have been localized and dominated by social, religious, economic, and/or ethnic causes. Such activities are carried out by determined individuals or small groups that have a wide range of backgrounds and capabilities. They are directed against well-selected targets, and they are aimed at inflicting considerable economic damage and loss of lives. Such activities, despite involving a few individuals or small groups, can have devastating consequences. They can adversely affect national and international stability, and cause worldwide serious economic, social and political damage.

Defending society against this form of rapidly evolving warfare will remain a challenge, at least through the first half of the 21st century. Any successful response will require a well-planned multilayered approach that strikes a fine balance between assuring a nation's security and maintaining the freedoms that a modern society enjoys. The causes for terrorism are related to a broad range of important areas (e.g., culture, history, sociology, politics, economics, religion, life sciences and medicine, psychology, etc.). Therefore, besides the serious need for innovative developments in these areas, society must invest in the development of effective capabilities in intelligence, law enforcement, and military application to counter such threats. Technology can and will play a major role in this effort, and society must develop innovative protective technologies.

Furthermore, one must not employ only empirical approaches to address these issues (e.g., using tests to observe consequences). The free world must develop innovative theoretical, numerical and experimental approaches to protect from terrorism and weapons of mass destruction (WMD), and must conduct these activities in a well-coordinated collaboration among governments, academic, and private organizations. Such technologies are vital for ensuring the safety of people and the preservation of valuable national assets.

In response to these challenges, the Department of Civil & Coastal Engineering is pleased to announce the establishment of the Center for Infrastructure Protection and Physical Security (CIPPS), under the direction of Dr. Ted Krauthammer, Goldsby Professor of Civil Engineering. The Center kicks off with an initial contract from the US Army Research and Development Center (ERDC).

Other current and future sponsored programs in the College of Engineering (COE) on related topics by various sponsors in the US and abroad will also be carried out at CIPPS. Center researchers will perform collaborative R&D with their sponsors on the development of innovative technologies for the protection of critical infrastructure systems, and transfer the knowledge through various engineering education and training programs. CIPPS will be housed at the UF Eastside Campus Gainesville, where it will occupy a 16,000 sq. ft office building and 10,500 sq. ft. of the new Powell Structures Laboratory.

Information about CIPPS can be obtained from either Prof. Ted Krauthammer or Prof. Joseph Tedesco, Chairman of the Department of Civil & Coastal Engineering.

CCE Announces CIPPS Director



Dr. Ted Krauthammer

Civil and Coastal Engineering is pleased to welcome **Ted Krauthammer** as the new Director of the Center for Infrastructure Protection and Physical Security (CIPPS) and recipient of the Goldsby Chair in Civil Engineering.

Prior to his appointment at the University of Florida, Krauthammer was the Director of the Protective Technology Center (PTC), and a Professor of Civil Engineering at Penn State University. In cooperation with PTC's

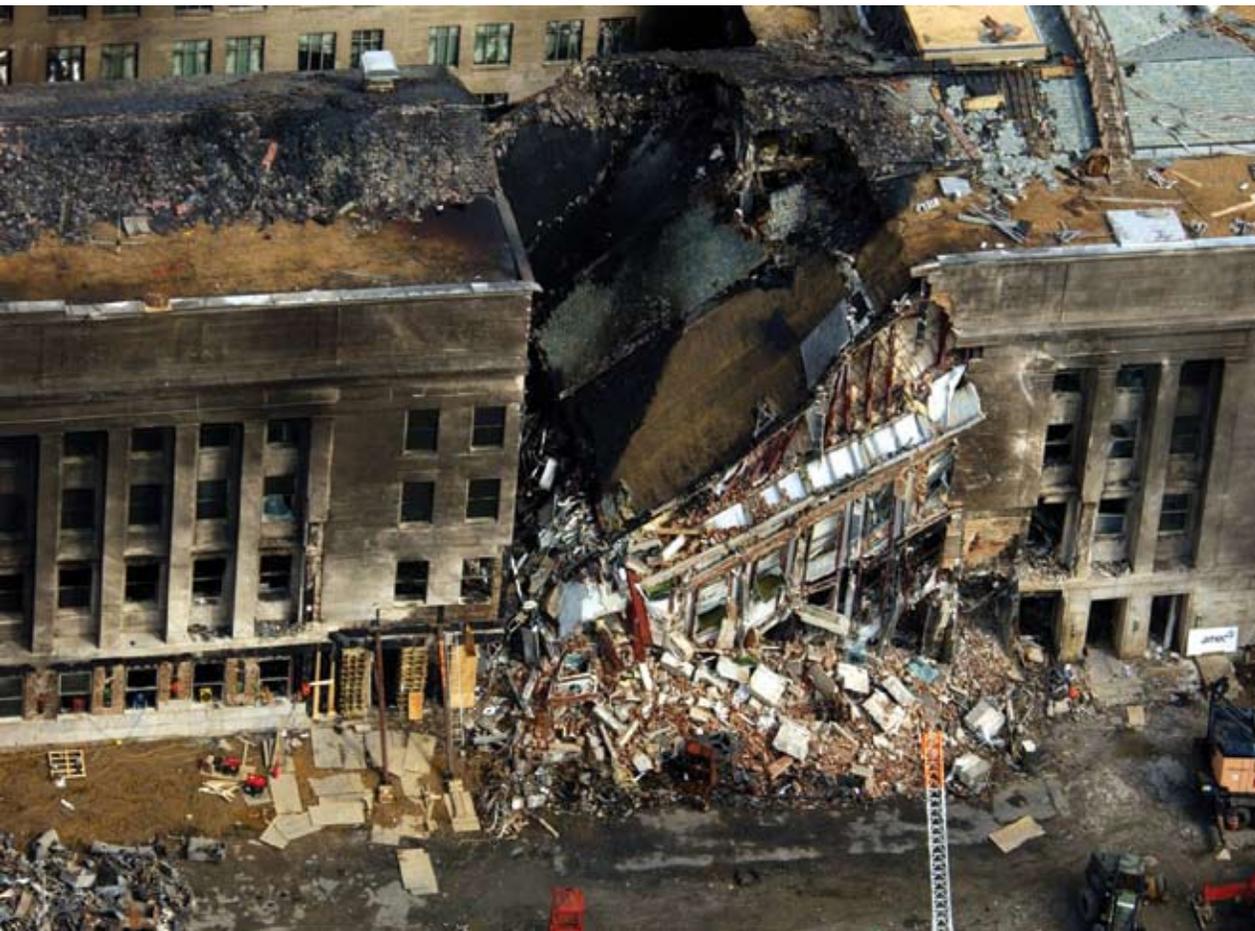
sponsors, the PTC will move from Penn State to the University of Florida, and will become the Protective Technology Division of CIPPS. His main research and technical activities are directed at structural behavior under severe dynamic loads, including considerations of both survivability and fragility aspects of critical facilities subjected to blast, shock, impact, and vibrations. He received his Ph.D. from the University of Illinois at Urbana-Champaign.

Dr. Krauthammer received the U.S. Army ERDC Award for Outstanding Team Effort for valuable contribution to the Pentagon Rebuild Retrofit Program Study, 2002. He is a Fellow of the American Concrete Institute (ACI), a member of the American Society of Civil Engineers (ASCE), and a member of the American Institute of Steel Construction (AISC). He serves on ten technical committees of ASCE, ACI, and AISC. Dr. Krauthammer is chair of the ASCE Task Committee on Structural Design for Physical Security, of the ASCE/SEI Committee on Blast Shock and Vibratory Effects, and of the Joint



Dahran, Saudi Arabia 1996

ACI-ASCE Committee 421 on Design of Reinforced Concrete Slabs. He has written more than 350 research publications, he has been invited to lecture internationally, and is a consultant to industry and government agencies in the USA and abroad.



**U.S. Pentagon,
September 11, 2001**

NSF Workshop on Nanomodification of Cementitious Materials a Huge Success

The Department of Civil and Coastal Engineering hosted a National Science Foundation Workshop on Nanomodification of Cementitious Materials on August 8-11, 2006. The workshop was chaired by professor Bjorn Birgisson. The objective of the workshop was to bring together national and international researchers and practitioners with an interest in nanomodification of cementitious construction materials to develop a national roadmap for research in this emerging area. The workshop had 65 attendees from the United States, Canada, Mexico, and Europe. The attendees represented academia, the cement industry, the oil industry, state and federal transportation agencies, the military, as well as research organizations such as the Western Research Institute and the National Institute for Standards and Technology.

Besides the National Science Foundation, the workshop was co-sponsored by the University of Florida, Defense Threat Reduction Agency, the U.S. Army Corps of Engineers, the Portland Cement Association, the Florida Concrete and Products Association, and RILEM. The Florida Department of Transportation and the Federal Highway Administration are

two agencies that are also affiliated with the workshop.

During the workshop, 30 presentations were given on topics related to uses and potential of nanotechnology in cement, concrete, and asphalt. These presentations highlighted how nano-modification of cementitious materials has the potential to open up whole new uses and classes of construction materials, with wide-ranging implications for society. The use of nanotechnology brings the ability to target changes at the nano-structural level to optimize material behavior and performance in an economical manner. In spite of the fact that cementitious construction materials are mainly used on a large scale and in huge quantities, the mechanical behavior of these materials depends to a great extent on structural elements and phenomena which are effective on a micro- and nano-scale.

For further information including the viewing of all presentations given at the workshop, please go to: www.ce.ufl.edu/nanoworkshop, or contact: Dr. Bjorn Birgisson at bbirg@ce.ufl.edu or at 352.392.9532, ext. 1462.

Nanotechnology is the engineering of functional systems at the molecular scale.

Experts Meet to Share Technology Transfer Methods in St. Pete Beach

To remain technologically savvy, post graduates must stay abreast of changes and innovations to assure viability in today's job market. One such resource that provides a continual flow of up-to-date information is technology transfer (T2) experts. In St. Pete Beach on July 30 – August 3, 2006, T2 experts met with global counterparts to share knowledge and best practices at the Second International Symposium on Transportation Technology Transfer.

The meeting drew about 400 national and international participants representing nearly 20 nations and dozens of groups who have technology transfer as part of their mission. Experts met to address the impacts of technology sharing on the transportation infrastructure and its workforce as well as share information aligned with the conference theme: "The Business of Technology Transfer—Tomorrow's Answers Today." The meeting was hosted by the Florida Transportation Technology Transfer (T2) Center, a service center of the Civil and Coastal Engineering Department. The Florida T2 Center also hosted the first symposium in 2001.

A DVD set containing all plenary sessions from the Symposium is being produced and should be ready for distribution in late October of this year. To request a set, please contact the Florida T2 Center at 352.392.2371 x 227.

McTrans Celebrates 20 Years!

It was May 1986, when the University of Florida was awarded a grant to establish the McTrans Center to facilitate software distribution and support to the transportation engineering and planning community.

As you may or may not know, the grant that created McTrans only lasted two years by design. Since May 1988, McTrans has been totally self-supporting, relying on revenues from software, support and training to run the operations of the center and pay salaries. This is quite a success story within the realm of the public sector and government grants. McTrans has provided a wide variety of services and grown tremendously over the last 18 years to serve over 30,000 users without any public funding.

Thanks to you our users, we have just turned 20 years old, still growing and going strong. Please accept our deepest appreciation for your support over the years.

Visit us at <http://mctrans.ce.ufl.edu>

CCE Proudly Announces the Second Annual Career and Resume Workshop

Many companies and organizations have requested information about the upcoming Career and Resume Workshop and we have finally set the date! The 2nd Annual Civil and Coastal Engineering Career and Resume Workshop will be held on Wednesday, January 17, 2007 from 6:00-9:00pm. We are anticipating an overwhelming response from employer participants to the event but space is limited. We had over three hundred students participate in this event last January and anticipate an even better response this year. The workshop is an excellent opportunity to showcase your organization via internship opportunities, employment opportunities and networking with our future graduates – from entering freshman to Ph.D. students.

Contact Nancy Been at 352.392.9537 x1419 or e-mail nbeen@ce.ufl.edu if you want further details about the event.



One Innovative Gator...

Frank A. Nicotera, BSCE, 1996, is the President and CEO of DTSystems, Inc. in Tampa. In 2000, after working as a project manager on several different heavy highway projects he realized that there had to be a better way of tracking loads of fill during excavation and construction.

He developed the Data Track System which links accounting software, truck-mounted chips, portable laser bar-code scanners and bar-coded tickets to automate the process of tracking and the accounting for the fill. DTSystems, Inc. provides services to heavy highway contractors, The Departments of Transportation, trucking companies, FEMA and other associated contractors in organizing and monitoring their hauling activities.

This unique system received a registered patent in March 2002 and Frank was awarded ENR Magazine's Top 25 Newsmakers Award in 2002. Since then he developed a Quarry Module and a Debris Monitoring Module. This year DTSystems exhibited for the first time at the World of Concrete in Las Vegas and World of Asphalt in Orlando and is now entering into its 6th year of growth and profitability. To quote Frank, "I am and always will be proud to let my clients know that I am a University of Florida graduate."

UF is proud of you too!

Contact Information
 DTSystems, Inc.
 813.632.3456
 www.keepontracking.com



A Top Gator

Jamie Padgett, BSCE, 2003, is a graduate student at Georgia Institute of Technology School of Civil & Environmental Engineering and was selected as the 2006-2007 recipient of the EERI/FEMA NEHRP Graduate Fellowship.

Jamie was chosen from a group of extremely well-qualified doctoral candidates from throughout the US. The award is given annually to a top student in the field of earthquake hazard mitigation. Jamie's research focuses on assessing the seismic vulnerability of retrofitted bridges and mitigating the seismic risk to transportation networks. Jamie is a past recipient of the National Science Foundation Graduate Fellowship, and plans to complete her doctoral studies in the summer of 2007. Congratulations, Jamie!

To find out more, go to:
http://mae.ce.uiuc.edu/news/jpadgett_fellowship_2006.html

Calling CCE Alumni!

Fall is upon us once again and we are finalizing plans for our 15th Annual Civil and Coastal Engineering Alumni BBQ gathering to be held on Saturday, October 7, 2006 (Homecoming). The reunion will be hosted in the Weil Hall Structures Lab (the pit) commencing two hours prior to kick-off time (TBA) when the Gators tame the LSU Tigers. Please R.S.V.P. via email to JoAnna Priest ccesecretary@ce.ufl.edu as soon as possible.

Hope to see you there!

Civil & Coastal Engineering Forms New Gator Club

UF Civil and Coastal Engineering is pleased to announce the formation of its own Gator Club (CCEGC) within the UF Alumni Association devoted solely to alumni and friends of CCE.

Gator Clubs are a great way for friends and alumni to connect back to UF. CCEGC will allow you to connect to the Civil and Coastal Department; and the best part is, your membership is free with your UFAA membership. UFAA has provided a vehicle for all of us to add CCEGC membership as an additional membership to our local Gator Club membership at no additional charge.

This is a new concept under UFAA that has only been used by a few other groups. We have a great opportunity to show other UF departments that Civil and Coastal has the

best base of Alumni and Friends on campus and create a model for future Clubs.

The CCEGC is created as the Gator Club for Civil Engineers. CCEGC will sponsor activities for our members, connect you with students and professors, provide recognition to distinguished alumni and friends and provide active support for our Civil and Coastal Department.

To make CCEGC a success, we need your active participation. Now is the time to join CCEGC. We are accepting members, electing officers and forming committees this fall.

Please indicate your interest in joining as a founding member of CCEGC by emailing ccesecretary@ce.ufl.edu. You can also visit our website, www.ce.ufl.edu/ for more information.



UF-ASCE Student Chapter Hosts ... And Wins! ... 2006 ASCE Regional Conference

Veni, Vidi, Vici.

The UF American Society of Civil Engineers (ASCE) Student Chapter hosted the 2006 ASCE Southeast Region Student Conference in Gainesville from March 29th through April 1st. Twenty-two universities and one invited high school competed in engineering competitions, including regional qualifying for the National Student Steel Bridge Competition and the National Concrete Canoe Competition. Demonstrating true Civil Engineering Fighting Gator spirit, the UF Student Chapter came away as the overall conference champion, the first time that the conference host has ever won the overall championship.

Over 800 students, faculty, family, and other invited guests enjoyed great Florida Gator hospitality over 4 exciting days as events were held at venues such as the UF O'Connell Center and Lake Wauburg. Comments from all attendees were positive and enthusiastic, noting that this was the best run regional conference ever held anywhere in the nation. All events went off as scheduled, and many events, including the Steel Bridge competition and the Concrete Canoe Races finished ahead of schedule, an unprecedented feat!

A new event this year was the "Canned Food Sculpture" competition, where competing schools constructed models of engineering structures out of non-perishable food items. After the competition, over 10,000 individual food items were collected and donated to Gainesville area food banks.

Organizing the 18-month planning effort as if it were an engineering project, Conference Director **Jessica Malich** and Assistant Conference Director **Laure Fluriach**, assisted by Faculty Advisor Thomas Sputo, directed a team of over 20 UF students to conduct the conference. When it comes to planning and performing, UF Civil Engineering Students are second to none! Our ASCE Student Chapter represented the department well.

If you would like to recruit a UF ASCE Student Member for employment or graduate study, or would like information on how you can assist the Chapter in its activities, please contact the chapter advisor, Dr. Thomas Sputo at sputo@ufl.edu.

More Accolades...

Our ASCE Student Chapter has been awarded a 2006 Certificate of Commendation from ASCE National for its outstanding activities. With this award ASCE also recognizes Faculty Advisor Tom Sputo for his personal contributions, enthusiasm and diligent efforts. Congratulations to the ASCE Chapter officers and members, Faculty Advisor Tom Sputo, and Practitioner Advisor Kathy Caldwell.



(L to R) Laure Fluriach, Albert, and Jessica Malich

GeoSensing Students Win Awards

Tristan Cossio, was awarded an internship with the US Naval Surface Warfare Center for summer 2006 and a prestigious NASA Graduate Student Research Program (GSRP) fellowship for fall 2006. Cossio is a PhD student under the direction of Dr. Clint Slatton.

Juan Fernandez, was recently accepted to spend a summer term at the International Space University in Strasbourg, France. Juan is a Fulbright Scholar from Honduras. He is a PhD student in the Geosensing area under the direction of Drs. Ramesh Shrestha and Clint Slatton. See his article on page 5.

ASCE Students Win Awards

Three UF ASCE Student Members have recently been awarded prestigious national and regional awards.

Kevin W. Beery, a 2006 BSCE graduate who will be beginning graduate study in structural engineering at UF this fall, was awarded the 2006 American Institute of Steel Construction/Southern Association of Steel Fabricators Graduate Fellowship in recognition of his work and continued interest in structural steel. Beery was the 2006 UF Steel Bridge Team captain, a position to which he returns for another year.

Alison A. Trachet, a 2006 BSCE graduate who will be attending the University of Texas in September to study structural engineering, placed 2nd nationally in the 2006 ASCE Daniel Mead Student Paper Competition. Her winning paper, "Risk Management in Engineering" studied methods which consulting engineers can use to limit risk in their practice.

Jessica Malich, 2006 BSCE graduate was the recipient of the 2006 Student Outstanding Service Award for Outstanding Scholarship and Service by the Florida Section of ASCE. The award and \$1,000 scholarship was presented to her at the awards luncheon during the 2006 ASCE FL Section Meeting in Ft. Lauderdale on August 25, 2006. Jessica was the 2006 ASCE Regional Student Conference Director and is now working on her Masters.

Congratulations Jessica and thanks for all of your hard work!



CCE Needs Your Support

In this time of receding support from the state government, we need the help of our loyal alumni and friends. Any donations you can make to the department will help to sustain the vitality and quality of our education programs. Thank you in advance.

Joseph W. Tedesco
Professor and Chair

Yes, I want to donate to the University of Florida Department of Civil & Coastal Engineering. My donation is:

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