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CIVIL REMARKS

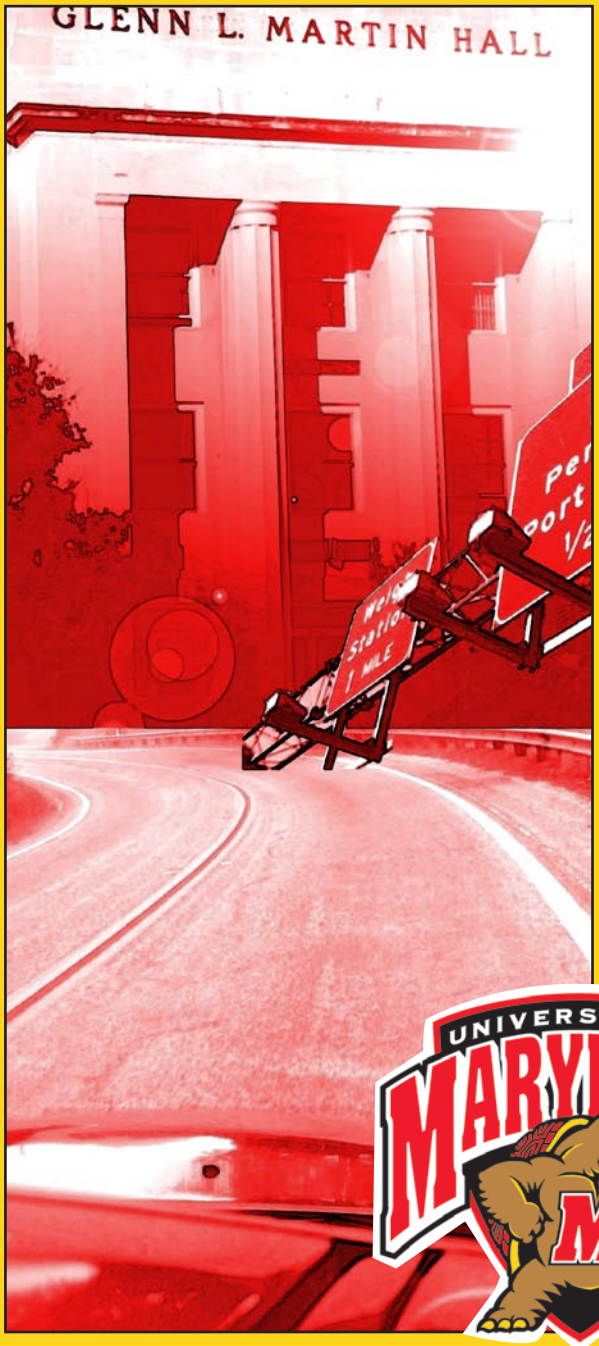
CIVIL AND ENVIRONMENTAL ENGINEERING

A newsletter for the alumni and friends of the Department of Civil & Environmental Engineering

SPRING 2007
Vol. 6, No. 2

INSIDE

NEW CENTER FOR INTEGRATED TRANSPORTATION SYSTEMS MANAGEMENT ESTABLISHED



The University of Maryland has been selected to receive a Tier I University Transportation Center (UTC) grant from the Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation (US DOT). The new center will be named the Center for Integrated Transportation Systems Management (CITSM).

A team of faculty and staff from CEE led by Ali Haghani, department chair, submitted a proposal to the competition designed to establish and maintain 10 Tier I University Transportation Centers. "We are elated," says Haghani of being chosen. "Competing successfully for one of these major centers is very gratifying."

A total of 36 applications were submitted to RITA, with several of the winning applications being renewals of existing UTCs. The university's application, however, was one of the few that were successful for establishing a new center. The purpose of the centers is to advance U.S. technology and expertise in the many disciplines comprising transportation through research, education and technology transfer. RITA will provide up to $1 million per center per year in 2007, 2008 and 2009. This funding has to be matched from non-federal sources in an amount at least equal to the US DOT grant amount.

"The success of the University of Maryland team in this competition," says Haghani, "attests to the outstanding successful records of CEE's transportation group and Center for Advanced Transportation Technology as well as RITA's recognition of the broad range of ongoing research and educational activities in transportation in CEE and the Clark School."

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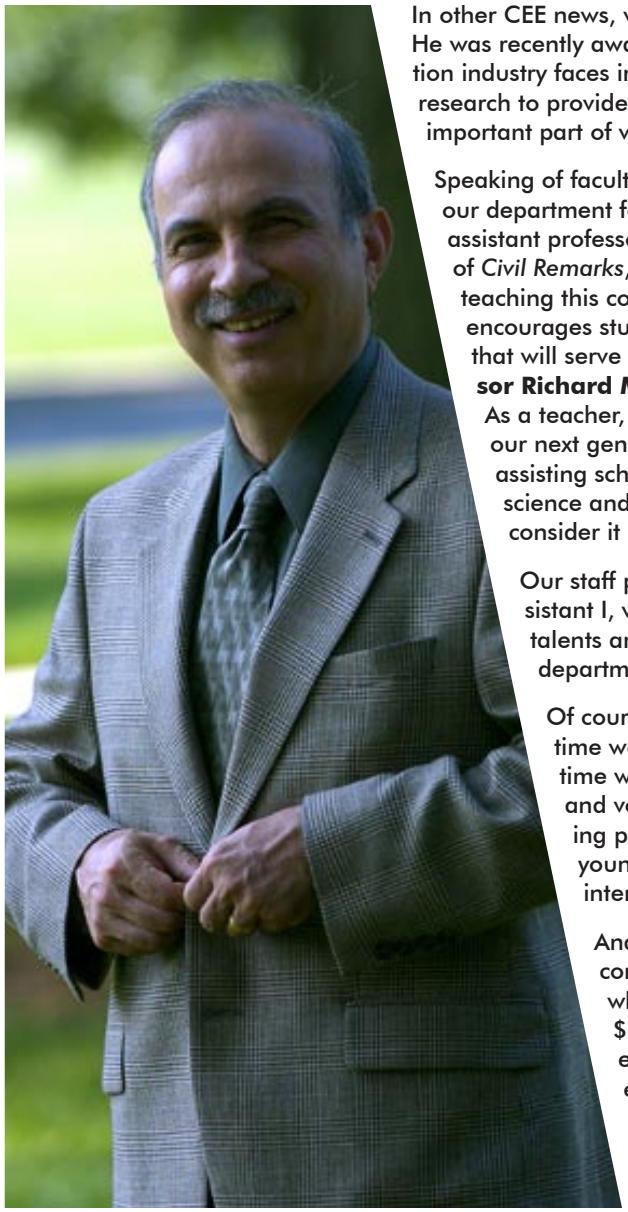
CHAIR'S MESSAGE

Welcome to the latest issue of Civil Remarks. In this issue, as always, we have exciting and interesting news to share with our readers.

First, I am pleased to announce that we have been chosen for a Tier I University Transportation Center grant from the Research and Innovative Technology Administration of the U.S. Department of Transportation. The new center will be named the **Center for Integrated Transportation Systems Management (CITSM)**. A proposal prepared by CEE's faculty and staff was selected for this honor. It is especially an honor since there were only 10 Tier I University Transportation Centers chosen to receive funding. Through CITSM we will be working with other departments within the engineering school as well as with faculty from the university's schools of business and public policy. We look forward to keeping our readers informed as the new center continues to develop and our research begins.





In other CEE news, we introduce our readers to the research of **Professor Dimitrious Goulias**. He was recently awarded two research grants that address the issues and limitations the construction industry faces in using concrete and cement-based mortars. Goulias is hoping through his research to provide answers and solutions in an effort to better assist the industry. His work is an important part of what we do as a research institution.

Speaking of faculty, we profile two faculty members, one relatively new and the other a part of our department for over three decades, and their commitment to teaching. Ricardo Medina, an assistant professor, was recently honored by the department for his teaching, and in this issue of *Civil Remarks*, we profile his **ENCE 353: Introduction to Structural Analysis** course. In teaching this course, Medina, who consistently receives high marks on student evaluations, encourages students to think for themselves and express themselves with clarity. Lessons that will serve them well now as students and later as engineering professionals. **Professor Richard McCuen** was also recently honored by the department for his faculty service. As a teacher, he has stepped outside the boundaries of the university and reached out to our next generation of engineers. McCuen has devoted time to helping train teachers and assisting school systems in implementing classes that integrate engineering with math, science and technology. He hopes to get young people exited about engineering and consider it as a career choice.

Our staff profile this issue is on **Janet Alessandrini**, an executive administrative assistant I, who is one among many family members working on campus. Yet, through her talents and skills, she has made a name for herself at the university and within our own department.

Of course, we are excited to focus on one of our students this issue. As always. This time we spotlight **Reneé Marshall**, a brand new graduate who made the most of her time while a student, including serving as president of the student chapter of ASCE and volunteering with KEYS to Empowering Youth, a science and technology mentoring program for 11-13 year old girls. She was especially committed to working with young women who like her wanted to become engineers. I think you will find our interview with her interesting and inspiring.

And, an alum of CEE is making sure that outstanding students such as Reneé continue to make an impact here at the university and beyond. **Richard Reed**, who graduated from the university in 1950, recently gave our department $100,000 to establish an undergraduate student scholarship. An accomplished engineer himself and long-devoted alum, he says he is investing in the future of engineering. And, we are very grateful to him that he is doing so. With support like his, the future looks bright indeed.

Ali Haghani

ENCE 353: INTRODUCTION TO STRUCTURAL ANALYSIS

TEACHING COMMON SENSE AND CLARITY

Ricardo Medina is a favorite teacher among the students in CEE and among his favorite courses to teach is *ENCE 353: Introduction to Structural Analysis*. Medina, an assistant professor who received the department's teaching award this past year, hopes that students come away from the course with an understanding of structural behavior. And something more.

ENCE 353 is designed to help students learn to carry out the structural analysis of elements and systems, a fundamental component of the design and evaluation process for buildings and designs. Topics covered include design loads, static of structures, truss analysis, shear and moment diagrams, influence lines, deflections of beams, frames and trusses, analysis of indeterminate structures, approximate analysis of indeterminate structures, and introduction to the direct stiffness method.

> "EVERY TIME WE SOLVE A PROBLEM IN CLASS, I GO BACK AND ASK STUDENTS, DOES THE ANSWER MAKE SENSE? IN OTHER WORDS, IS THE ANSWER REASONABLE? I TELL THEM NOT TO BELIEVE WHAT A COMPUTER GIVES YOU JUST BECAUSE THE CALCULATION IS PERFORMED BY THE COMPUTER. INTERPRETING THOSE RESULTS IS WHAT REALLY MATTERS."
> *– Ricardo Medina, assistant professor and instructor for ENCE 353*

"I was amazed to learn how there is so much inner workings with a structure that keeps it in equilibrium and causes it to act as it does," says student Rob Peck.

A key part of the course is also an introduction to computer-aided structural analysis. But, even as students are being exposed to the benefits of this computer technology, Medina is making sure they come away with what he refers to as "engineering common sense."

"This is the ability for students to question results and think for themselves," he says. Medina calls these exercises "sanity checks." They are an important part of his teaching process in ENCE 353.

"Every time we solve a problem in class, I go back and ask students, does the answer make sense? In other words, is the answer reasonable?" explains Medina. "I tell them not to believe what a computer gives you just because the calculation is performed by the computer. Interpreting those results is what really matters."

"You learn that if a final value seems to not make sense according to the conditions of the problem, then the analysis should be checked or performed again to determine what was done incorrectly," says Peck. "This was a valuable process to learn because it is important to not only know how to calculate a value, but also how to interpret whether the results make sense, so that if does not, associated analysis errors can be more readily detected and corrected."

Adds fellow student Swapna Sharma, "Students need to realize that as future engineers they are responsible for learning not only the technical aspect of the problems they will face, but also the engineering common sense that is an integral part of the solution."

Or, as another student, Woody Wickliffe puts it, "You can't blindly trust results."

Medina stresses in his class not only the need to think for oneself, but to communicate those thoughts clearly. His syllabus for ENCE 353 states that students will lose points if they fail to do so with assignments. Students also receive additional credit for

not only answering questions correctly, but clearly and concisely.

"I tell my students it doesn't matter how good the analysis and methods are, if others can't understand them," he says. "I'm doing them a favor whether they realize it or not now."

It is yet another life-outside-of- the-classroom lesson that Medina provides. And, students like Sharma appreciate it. "Several concepts from this course are fundamental and over-arching in nature," she says. "They can be applied to problems students face in all of their courses, as well as in everyday life."

STUDENT NEWS

William McGill received the **2006 Student Merit Award** from the Economics and Benefits Analysis Specialty Group of the Society for Risk for his paper on "*Quantitative Methods for Terrorism Warnings Analysis*."

Students in Professor Glenn Moglen's class, **ENCE 301: Geo-Metrics and GIS in Civil Engineering**, completed their semester group projects this session. Each group took on a different project ranging from studying travel time impacts of the Inter-county Connector (ICC), to estimating rainfall across the state of Maryland, to optimally placing salt/sand facilities in Prince George's County, to merging GIS and GPS technology, to studying whether hurricanes in Florida selectively hit Republican voting counties from the 2000 national election. Please visit the web site below for more information:
http://www.cee.umd.edu/news/news_story.php?id=1074

In Spring 2007, the CEE is offering a review course for the **Civil Engineering PE (Professional Engineer) Examination**. The review course consists of 15 three-hour classes, running from 6-9 pm on Mondays and Wednesdays. All five components (Environmental, Geotechnical, Structural, Transportation, Water Resources) of the Civil Engineering PE exam are equally covered, with three classes each. Instructors are experienced faculty from CEE. For more information go to http://www.oaee.umd.edu/pd/pe-review.html

The University of Maryland will be "recycle central" over the next few months, as it takes part in a nation-wide competition with 199 other colleges and universities to see who can recycle the most. "**Recyclemania**" as it's called, runs from January 28 through April 1. The winner of Recyclemania takes home no prize other than bragging rights. Last year, Oregon State University took first place by recycling 91 pounds per person. The top ACC school was Miami, which recorded 80 pounds per person.

Undergraduate students in the engineering, science and technology disciplines are encouraged to create short (four-minute or less) videos describing their research to be entered in Sci/Terp, the first annual **University of Maryland Science/Engineering/Technology Video Competition**. Winning videos will be understandable to middle school-aged students and will demonstrate what the undergraduates are working on in an exciting way. The deadline for video entries is April 3. For more information, please visit http://www.environment.umd.edu/recycle.html

The Clark School's fall commencement ceremonies took place on December 21 in the Cole Student Activities Building. **Mark Ronald**, BAE Systems president and CEO, served as commencement speaker. Ronald compared a slide rule and modern technologies to describe the changes in engineering that graduates will experience in their futures. In what has become a tradition at the event, students modified their mortar boards to indicate their areas of interest, with three fire protection engineering students donning large and colorful fire helmets.

CATT CENTER DEVELOPING OPERATIONS ACADEMY SENIOR MANAGEMENT PROGRAM

The University of Maryland Center for Advanced Transportation Technology (CATT) recently completed a two-week, total immersion transportation management and operations Senior Management Program. The program was developed in response to the increasing demand for personnel with skills in these areas.

The Operations Academy has been modeled after successful leadership training programs offered in other fields. It uses a mix of classroom instruction, workshops and analysis of existing systems to ensure the retention of the principles presented. The academy will provide opportunities to practice and internalize the principles learned which is not possible in traditional classes and short courses.

The Operations Academy Senior Management Program is designed for mid-to-high level managers whose existing or future responsibilities include transportation management and operations. Acceptance for the program is competitive, and requires the nomination of a local, state or federal transportation agency. It also requires a commitment on the part of those attending the program to satisfy the self-study requirements, and to spend two uninterrupted weeks participating in the program activities. The rewards for participating include: national recognition of graduates, Continuing Education Units (CEUs) from UMD, recognition in their agency newsletter, and the involvement of supervisors from the participant's home organization.

A total of 25 participants would have been selected for the March 12-23, 2007 offering. All participants received their pre-study material in early January and are busily preparing for their two-week in-person program.

Participants will have four working field trips to include: the Port of Baltimore, the Montgomery County Transportation Management Center, the Maryland Statewide Operations Center, and a morning ride with a Maryland SHA service patrol.

Guest speakers include: "Welcome" by Neil Pederson, administrator, Maryland SHA; "Impact of Operations on Freight" by William McCurdy of DuPont Legal; "Mobility and Safety: The Growing Role of Technology" by Shelley Row, ITS Director/ITS Joint Program Office, RITA; "AASHTO and Its Role in Operations" by Valerie Briggs: program manager for transportation operations at AASHTO, "Benefits and Challenges of Outsourcing TMC Operations" by Cliff Conklin, director of traffic operations at Telvent Farradyne Inc; and "Managing and Incentivizing Public Sector Employees" by Jonette Crowley, senior vice president at Enlightened Leadership Solutions.

The final day of the program will be filled with a course final exam, presentations by work groups on their second workshop problem and plenty of kudos for the 25 program participants. A congratulatory keynote closing speech will be presented by Jeff Paniati, associate administrator for operations at FHWA. Another special guest, John Horsley, executive director of AASHTO, will provide closing remarks regarding the significance of the training the participants received and the importance of operations to the profession. He will also be on hand to assist with the award of diplomas.

A second session of the program has been scheduled for November 5-16, 2007 and is already 25% prescribed.

The development of the Operations Academy has been funded by the I-95 Corridor Coalition. Other supporting organizations include: the National Transportation Operations Coalition (NTOC), the Federal Highway Administration (FHWA) and the Institute of Transportation Engineers (ITE). For additional information: www.operationsacademy.org or contact: Kathleen Frankle via e-mail at kfrankle@umd.edu or via phone at 410-414-2925.

STUDENT PROFILE

INSPIRING THE NEXT GENERATION OF WOMEN ENGINEERS

MEET RECENT UNDERGRADUATE STUDENT AND NEW ALUM RENEÉ MARSHALL

Reneé Marshall is a recent undergraduate student and brand new alum from CEE, having received her degree in December. During her time as a student, she was actively involved with various activities, including serving as president of the student chapter of ASCE and volunteering with KEYS to Empowering Youth, a science and technology mentoring program for 11-13 year old girls. She is also the recipient of the 2006 ASCE Outstanding Senior Award from the department. Recently, Marshall took some time out of her busy schedule as a project engineer with Whiting-Turner to talk about her experiences as a student and how her time here influenced her professionally and personally.

"IT HAS ALWAYS BEEN IMPORTANT TO ME TO ENCOURAGE YOUNG WOMEN TO CONSIDER ENGINEERING AS A PROFESSION. I FEEL THAT I HAVE A RESPONSIBILITY TO SHARE MY EXPERIENCES AND ADVICE TO THOSE WHO MIGHT FACE THE SAME CHALLENGES THAT I DID. IF BY SIMPLY SPEAKING TO THESE GIRLS IT MAKES THEIR ENGINEERING CAREER ANY EASIER, IT'S WORTH MY TIME AND EFFORT."

- Reneé Marshall, recent CEE graduate

How did you become interested in civil engineering? I was always interested and successful in math, and I was steered towards engineering. After being accepted into the engineering program at the University of Maryland, I became interested in civil engineering after taking a tour and being introduced to the faculty and courses. I also became interested because of the career opportunities available, specifically those in the construction field.

Why did you decide to attend the University of Maryland and the Clark School? I knew the engineering school at the University of Maryland was highly ranked and that I would receive an excellent education there. However, I was accepted into multiple schools with very good engineering programs, including Virginia Tech and Johns Hopkins. The reason I chose Maryland was the opportunities that were available to me both inside and outside of engineering.

How well do you think CEE prepared you for your professional life? I think CEE gave me the technical background that is necessary in order to understand the profession that I have chosen.

You seem to have been very involved with various activities while a student. Why? It was important for me to get the most out of my college education and take advantage of opportunities while they were given to me. It was also important for me to have an outlet from my academic studies. As I continue through my professional career I think that I will carry with me the importance of being well rounded and having the capability to manage my time well.

Are there any experiences that stand out for you during your time as a student? One of my favorite memories from college was the Concrete Canoe competition in spring of 2006. It was very rewarding to see our hard work come together. I had a wonderful time with some of my college friends, and it is an experience I will keep with me for a long time.

Why were you interested in serving as president of the ASCE student chapter? I mainly wanted to serve as ASCE president in order to encourage and increase student involvement within the civil engineering program. I was also hoping to strengthen the relationship and communication between the professors and the students. Although it was a lot of work and stressful at times, it was a great experience. Two accomplishments that stand out for me

were the volunteering activities that we were involved with as a student organization. We helped out at a soup kitchen in downtown D.C., and we also participated in Habitat for Humanity. It was really rewarding to see students helping out in the community.

You seem to have been committed to working with the next generation of women engineers–the KEYS program for middle school girls and the Clark School Ambassador program. Why? It has always been important to me to encourage young women to consider engineering as a profession. Even today women are still a minority in the different engineering fields and careers. I feel that I have a responsibility to share my experiences and advice to those who might face the same challenges that I did. If by simply speaking to these girls it makes their engineering career any easier, it's worth my time and effort.

I think Maryland offers programs and support that help encourage women in engineering. As an ambassador we gave presentations about engineering on campus and at local high schools to potential University of Maryland students. We shared with them not only information about the academic college, but also our own personal experiences and activities that we were involved with throughout school. The school has implemented a mentoring program that pairs first-year women with other women in their junior and senior years. They have faculty that are dedicated to providing guidance and assistance to women that might need it. If other schools are offering the same type of support and programs that Maryland offers the future of women in engineering looks very promising.

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FACULTY NEWS

Cinzia Cirillo has joined CEE as an assistant professor. Cirillo received her master's degree in engineering from the University of Naples, Italy, and her Ph.D. from the University of Torino, Italy, in 1994 and 1998, respectively. Her research interests include discrete choice analysis, advanced demand modeling, activity based models, revealed and stated preference surveys, large scale model systems, and value of time studies.

Gerald Galloway, a Glenn L. Martin Institute Professor, assumed the duties of president of the American Water Resources Association (AWRA) on January 1 for a one-year term. Galloway also serves as co-chair of AWRA's National Water Resources Policy Dialogues.

Galloway has also joined the Institute for Water Resources (IWR) as the 2007 Arthur Maass-Gilbert White Visiting Scholar. Galloway has been engaged with the institute on a part-time basis for several years, and his appointment as the next Maass-White Scholar is intended to increase his visibility and interactions at IWR while also extending his technical influence and intellectual engagement within the U.S. Army Corps of Engineers and the larger U.S. water resources community. Galloway will be engaged in several national efforts to develop and infuse new approaches to U.S. water resources planning and management.

The editors of the national engineering and construction magazine ENR (Engineering News Record) have named **Lewis E. (Ed) Link**, a senior research engineer with CEE, as one of the top 25 news makers for 2006. Link is the director of the **Interagency Performance Evaluation Task Force (IPET)** that is investigating the performance of the levees around New Orleans following Hurricane Katrina. With his inclusion in this prestigious group of 25 nationally recognized engineers, Link will be in consideration for ENR's individual Award of Excellence for 2006, the magazine's highest honor, which will be presented in New York this spring. IPET, established by the U.S. Army Corps of Engineers, is comprised of over 150 of the nation's leading experts from various government agencies (federal, state and local), universities and private industry, representing more than 50 different organizations.

And, Professors Link and Galloway were among 50 invited national experts brought together at the Aspen Wye River Conference Center on the Eastern Shore to develop policy improvements for the nation's flood risk reduction program. The summit was sponsored by the Association of State Floodplain Managers and the National Association for Storm and Floodwater Management Agencies with the support of the U.S. Army Corps of Engineers and the Federal Emergency Management Agency. Link represented IPET while Galloway represented both the American Society of Civil Engineers and the American Water Resources Association.

Professors **Deborah Goodings**, **Glenn Moglen** and **Gerry Galloway** were part of a faculty team that developed and then participated in a recent workshop on **Looking Ahead to Maryland 2050: Living in Our Environment**. The workshop brought together physical, engineering, natural, social and health sciences faculty and researchers from College Park and the Maryland System to represent diverse perspectives on environmental research. The goal of the workshop was the fostering of interdisciplinary and long-range thinking about environment-related issues that Maryland is likely to undergo over the next four decades, and the exploration of issues central to both protecting Maryland's environmental future and enhancing the quality of life for its citizens.

The Department of Homeland Security awarded Professor **Gang-Len Chang** a $500,000 research grant to explore the potential for deploying a real-time traffic management and travel time prediction system for the entire I-495 Capital Beltway. The scope of work for this pilot project includes the design of algorithms for real-time traffic simulation, optimizing sensor locations, incident detection, and integrated traffic control and management during emergency and special events. The research team led by Chang will also work with **Michael Pack** from CATT to explore the effectiveness of displaying the real-time traffic simulation and control results with a 3-D visualization system. The success of this research will lead to a full-scale deployment of the intelligent traffic monitoring and management environment for the congested Capital Beltway.

Miroslaw Skibniewski, A. James Clark Chair Professor of Civil and Environmental Engineering, received the coveted national title of **Professor of Engineering Sciences**, awarded personally by the president of the Republic of Poland, Lech Kaczyński. Based on elaborate scrutiny and subsequent recommendation by a standing commission of the Polish government, this title is conferred annually upon approximately 20 leading researchers from Polish and international research institutions in various fields of engineering.

Professor **Amde M. Amde** is chair of the **First International Conference on Recent Advances in Concrete Technology** to be held in September 2007 in Crystal City, Va. The conference is organized with the support of several organizations including, the Federal Highway Administration, the National Institute for Standards and Technology, the Portland Cement Association, the National Ready Mix Concrete Association, the National Association of Home Builders Research Center, the National Capital Chapter of ACI, and the South East Cement Association. The president and board of directors of the American Masonry Society have also appointed Amde as the next editor of the Masonry Society Journal effective October 2006.

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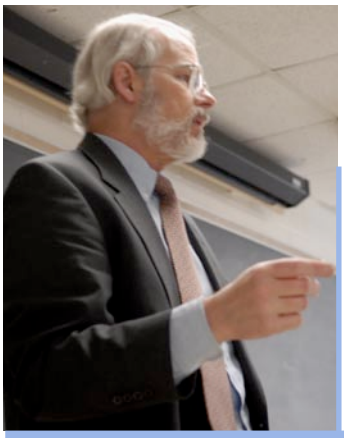
REACHING OUT

PROFESSOR HAS WORKED TO ESTABLISH ENGINEERING EDUCATION PROGRAMS IN SCHOOLS

Richard McCuen has a natural affinity for teaching. So, it is not surprising that he is interested in reaching out to the next generation of engineers – those who are still in middle school and high school. "I wanted to help young people develop an interest in engineering early on," says McCuen, a professor with CEE. As a result, McCuen has worked the last 15 years or so with schools in several Maryland counties helping train teachers and assisting school systems in implementing classes that integrate engineering with math, science and technology.



> "KIDS ARE SCARED OF ENGINEERING, BECAUSE SCIENCE IS SO THEORETICAL. THEY CAN'T MAKE THE CONNECTION BETWEEN THE PLAYSTATION 3 THEY HAVE AT HOME AND THE ENGINEERING THAT PRODUCED IT. I WANTED TO BROADEN THAT UNDERSTANDING."
> *– Professor Richard McCuen*

"My feeling has always been that young people would enjoy math and science more if they could see how it is used to solve real-world problems," he says.

And, the results have been positive. "I remember receiving an e-mail from a young person who said that when he started his senior year, he had no idea what he wanted to do," says McCuen. "After he took the engineering class, though, he decided to become an engineer."

Adding, "Kids are scared of engineering, because science is so theoretical. They can't make the connection between the PlayStation 3 they have at home and the engineering that produced it. I wanted to broaden that understanding."

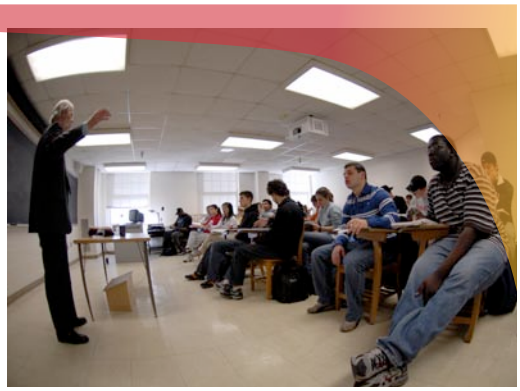
The teachers he has trained have been enthusiastic as well. "One of the teachers who has taught physics for 25 years tells me that he would rather teach engineering than physics," says McCuen. "He says it's more interesting and the kids like it."

Currently, McCuen is putting together a manual for middle school teachers instructing them on how to create after-school STEM clubs that focus on engineering – the STEM manual for science, technology, engineering and math. "Building rockets and robotics, things like that," says McCuen, who is a recipient of the department's Faculty Service Award.

Not bad for someone who isn't necessarily a big fan of gadgets. He admits to not owning a television during the past 30 years and to using a cell phone only once. "I tell my students that my job is to teach them what is in the computer program, not how to use it," he says. "I'm drawn to ideas."

That includes his own research. McCuen, who has been on the faculty of CEE for 36 years, focuses his research on hydrologic and water resources engineering. More specifically, he is involved with statistical hydrology and storm water management and has been honored for his work by the American Water Resource Association and the American Society of Civil Engineering Water Resource Planning and Management Division. He is also the author of 21 books and more than 200 professional papers on such subjects as modeling hydrologic change and hydrologic analysis and design.

McCuen, who grew up in west Philadelphia and whose father was an architectural engineer, recalls enjoying drafting classes in high school. Following graduation, he entered the military before attending college. "The military sent me to surveying school, and I really liked it," he says. "That's how I got interested in civil engineering."



After completing his military service, McCuen enrolled at Carnegie-Mellon University where he received his bachelor's degree in civil engineering in 1967. He then went on to receive his master's degree and Ph.D. from the Georgia Institute of Technology.

He joined the University of Maryland in 1971 as an assistant professor. "In those days there weren't that many positions in hydrology," he says. "At that time the focus was primarily on hydraulics rather than hydrology. In other words, the river was more important than the land. Now it is just the opposite."

He remembers distinctly his first days on campus. "It was the Vietnam era," he recalls. "When I first came here, the National Guard was clearing Route 1 because students were blocking it. The tear gas would slowly drift up toward the engineering building."

McCuen has seen significant change in his three decades here. The students, for example, "are a lot more serious." And, the school has improved greatly. "Maryland was viewed then by many as a last-resort school. Now, it's challenging for students to get admitted."

One thing has remained constant, though. McCuen's commitment to teaching. In his own classroom and outside of it. For McCuen the objective is simple. "I enjoy teaching and helping others teach. And, I enjoy learning and want to help others enjoy it as well."

CEE Associate Professor **David Lovell** and Professor **Michael Ball** of the university's business school, are co-principal investigators on a new three-year collaborative research project for NASA entitled "**Dynamic, Stochastic Models for Managing Air Traffic Flows**." Both Lovell and Ball also hold joint appointments with the engineering school's Institute for Systems Research. Other team members include Berkeley, MIT, Virginia Tech and Metron Aviation.

Lovell has also been awarded a $212,800 grant from the National Science Foundation to develop electrophoretic, retroreflective displays for conveyance of transportation-related information. The project consists of development and testing of a novel display technology that is both electophoretic (involves the movement and/or rotation of charged particles in response to electric fields) and variably retroreflective, which means that incident light upon the display device is reflected (when desired) in the direction whence it came. If successful, these display technologies might lead to such developments as electronically switchable roadway paints, and tunnel walls that display messages.

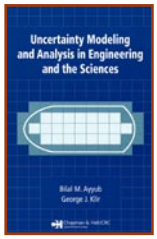
Assistant Professor **Ahmet Aydilek** received the **International Geosynthetics Society (IGS) Award** for his research contributions to the area of flow through porous geomedia and image-based characterization of geosynthetics. The IGS Award is the highest level of geosynthetics research award, and is given to recognize outstanding research contributions to geosynthetics engineering during the four years prior to the award. Previous recipients of this award include faculty members from the University of Texas-Austin, University of Illinois at Urbana Champaign, University of Tokyo and Queen's University, Canada.

Aydilek has also been selected as the **2006 recipient of the ASCE Collingwood Prize** for his article titled "*Constriction Size of Geotextile Filters*," published in ASCE Journal of Geotechnical and Geoenvironmental Engineering. The Collingwood Prize is a national-level publication award across all civil engineering disciplines and has been given annually since 1894 to one junior member of the profession.

Associate Professor **Elise Miller-Hooks** is a recipient of the Transportation Research Board's **Fred Burggraf Award**, which recognizes excellence in transportation research by researchers 35 years of age or under. Miller-Hooks was chosen for the award along with Hao Tang of the Federal Express Corporation for their paper on "*Interactive Heuristic for Practical Vehicle Routing Problem with Solution Shape Constraints*." The Burggraf Award was established in 1966 to stimulate and encourage young researchers to contribute to the advancement of knowledge in the field of transportation. The award was named in honor of Fred Burggraf, who served as the Transportation Research Board's executive director from 1951 until his retirement in 1964. Professor **Steven Gabriel** along with colleagues from the School of Public Policy officially released a study of whether the state of Maryland should join the **Regional Greenhouse Gas Initiative (RGGI)**. This work, commissioned by the Maryland Department of the Environment also involved Resources for the Future, Johns Hopkins University and Towson University as part of the research team. The purpose of RGGI is to reduce carbon dioxide emissions in the participating northeastern and mid-Atlantic states by setting up a cap-and-trade system for carbon allowances in the power generation sector. The results of the study are available on the web page for the Center for Integrative Environmental Research (CIER) and indicate that emissions reductions can be obtained with overall slightly beneficial economic results as well. It is anticipated that the report is to be reviewed by the governor's office as part of the decision for Maryland to join RGGI.

Gabriel was also a keynote speaker at INFRATRAIN 2006 at Technische Universität Berlin, Berlin, Germany, in October. This was a European Commission-sponsored workshop on infrastructure modeling for young researchers. His presentation was entitled "*Careers in Research*."

Ali Haghani, department chair, and faculty members, **Gregory Baecher** and **John Cable**, conducted a five-day short course in Abu Dhabi. The course entitled "*Project Management Fundamentals*" was organized by CEE and GASCO, one of the subsidiaries of Abu Dhabi National Oil Company (ADNOC). Ramesh Bhargava, manager of the Projects Control Division of GASCO, was the GASCO organizer and along with four other GASCO employees participated in teaching the course.



Professor **Bilal M. Ayyub** was the invited speaker on "*Risk Analysis for Informing Strategic and Tactical Decisions*," at the Naval War College, Chief of Naval Operations, Strategic Studies Group, Free Form Force, in Newport, Rhode Island, in October. And, Ayyub has been appointed to the working groups on higher education and homeland security as part of the transition team of Governor Martin O'Malley. Ayyub was also awarded a certificate by the board of governors of the American Society of Mechanical Engineers for service as the chair of the Safety Engineering and Risk Analysis Division, and is the co-author of a new book on Uncertainty Modeling and Analysis for Engineers and Scientists.

CONTINUED on page 9

STAFF PROFILE

ALL IN THE FAMILY

FOR JANET ALESSANDRINI WORKING ON CAMPUS IS A FAMILY TRADITION

For Janet Alessandrini, an executive administrative assistant I with CEE, working at the University of Maryland is a family affair. "I have a long history on campus," she says. "And, not just me, but my whole family."

Currently Alessandrini has two sisters working on campus, one in the Smith School of Business and the other in the Institute for Physical Science and Technology, as well as a nephew, who works in the Applause Café at the Clarice Smith Performing Arts Center.

> "IT WASN'T UNTIL I WAS IN JUNIOR HIGH THAT I REALIZED ALL PARENTS WEREN'T OFF BETWEEN CHRISTMAS AND NEW YEAR'S, LIKE THE UNIVERSITY."
> *- Janet Alessandrini*

But it doesn't stop there. "My mother worked in the College of Engineering and my father in the Institute for Systems Research," says Alessandrini, who grew up in New Carrollton, Md. Other relatives who were campus employees include two additional nephews, two cousins, a grandfather and even a great-uncle. "I never knew anything but the University of Maryland growing up," says Alessandrini. "This was the place to work."

Adding with a chuckle, "It wasn't until I was in junior high that I realized all parents weren't off between Christmas and New Year's, like the university."

During the last two decades, Alessandrini has made her own mark here. In fact, she was chosen for the 2003-2004 departmental Staff Service Award and has served on the 2006 College of Engineering Staff Appreciation Committee and the Professional Concepts Exchange Committee; among other activities.

Alessandrini actually first came to the campus as a student studying elementary education. But, she decided she would rather have a full-time job instead. "Since I was already on campus," she says, "I stayed on campus." Her first job was as a secretary with the Art Department where she worked for nine years, moving up the ranks to administrative assistant I. She then joined Campus Recreation Services in 1994 and worked for eight and a half years, becoming an administrative assistant II. By 2002, "I was ready for a change," she says of joining CEE.

"I knew the engineering school was a very well-known college on campus and nationwide," she says. "This was not the only reason to move here, but it sure was nice to become part of an up and growing college."

She has not been disappointed. "Dean Farvardin has made this a great college to work for," she says. "He really cares about staff morale and has done some events to try to meet employees within the different departments.
He's had lunches with employees to get to know those that he might not have contact with otherwise. This gives him insight into the people running the departments he is in charge of."

In her current role, Alessandrini provides administrative support for over 30 faculty and staff members. "I find the accomplishment of helping the faculty run classes and their research, and handling whatever I am asked, to be a rewarding part of my work," she says. "Especially rewarding are the special events I help facilitate-from department lunches, to receptions for speakers to large meetings, or even a conference. I have learned many things over the years."

Alessandrini, who lives in Laurel with her husband of 15 years and three children, is actively involved with the Girl Scouts as a leader of 8 years and she will soon be involved with Boy Scouts as her son will be joining next school year.

Her work at the university has enabled her to balance family life with her job responsibilities. "I enjoy the flexibility of the campus and the departments where I have worked. To be able to take off for school holidays and breaks, school milestones and activities, has allowed me to be productive at work and feel that I am still being supportive of my children."

Adding, "I enjoy working on campus, or I would not have been here for 22 years."

Note: Janet has left the department to pursue other interests on the UM campus. While we shall miss her, we wish her well in her future career path.

FACULTY NEWS (continued from page 8)

Fabiola Oscal, CEE's financial coordinator, was honored with the **2005-2006 Staff Appreciation** award. Professor **Rick McCuen** was honored with CEE's **2005-2006 Faculty Service Award**, while Professor **Ricardo Medina** received the **2005-2006 Faculty Teaching Award**. Congratulations to all the winners!

CEE is growing! Please welcome these new additions to the department:

Rhyneta Gumps-Business Manager, **Masoud Hamedi**-Faculty Research Assistant, **Oscar Velasco**-Academic Program Specialist, **Elyse Beaulieu**-Graduate Coordinator (pictured above).

ALUMNI NEWS

Ed Beighley, who received is Ph.D. from CEE in 2001, is now teaching at San Diego State University in the Department of Civil and Environmental Engineering.

Michael Casey is now teaching at George Mason University in the Department of Civil, Environmental, and Infrastructure Engineering. He received his master's degree and Ph.D. from CEE.

I. Jy (Steven) Chien was recently promoted to the rank of full professor in the Department of Civil and Environmental Engineering at the New Jersey Institute of Technology in Newark, New Jersey. He received his Ph.D. in the Transportation Engineering Program in December 1995.

Manoj K. Jha has recently been promoted to the rank of associate professor with tenure in the Civil Engineering Department at Morgan State University in Baltimore, Maryland. He received his Ph.D. in the Transportation Engineering Program in May 2000.

Ching-Jung Ting has been promoted to the rank of associate professor with tenure in the Department of Industrial Engineering and Management at Yuan Ze University in Chung-Li, Taiwan. He has also been appointed director of Yuan Ze University's Teaching Service. Ting received his Ph.D. in the Transportation Engineering Program in December 1997.

Chien-Hung (Louis) Wei has recently been appointed chair of the Department of Transportation & Communication Management at National Cheng Kung University in Tainan, Taiwan. There he is also director of the Institute of Telecommunications Management. He received his Ph.D. in the Transportation Engineering Program in August 1993.

Alum **Jorge Loyo-Rosales** is conducting research at UC Berkeley as part of an interdisciplinary project that uses a combination of field sampling, chemical analysis and bioassays to identify chemical contaminants in the Sacramento-San Joaquin river system at concentrations capable of inducing feminization or other endocrine-disrupting effects in Chinook salmon. The Sacramento and San Joaquin rivers are the two largest in California and are heavily impacted by the agricultural activity in the Central Valley. "This river system," says Loyo-Rosales, "also functions as spawning ground for Chinook salmon, whose population has been greatly diminished since the last century, to the point where several of the Chinook salmon runs have been listed in the Endangered Species Act." The reasons for the population decline, according to Loyo-Rosales, are multiple, and include over fishing, dam construction, water diversion to the Central Valley and Southern California, forestry practices, and the introduction of foreign species. "But exposure of salmon to endocrine-disrupting pollutants at early life stages could produce effects that might alter their reproductive success," he says. Adding, "With this research, we seek to identify these chemicals and their sources in order to minimize the exposure of Chinook salmon and other fish."

UMD TRANSPORTATION ENGINEERING ALUMNI DINNER MEETING
HELD IN TAIPEI ON OCTOBER 24, 2006

From left to right the pictures include:

Seated: Ms. Zody Chen from Taiwan High Speed Rail Co., M.S. 94, Dr. Shiaaulir Wang from UMD, M.S. 97, Ph.D. 2001, Prof. Shou-Min Tsao from National Taiwan University, M.S. 78, Ph.D. 81, Prof. Paul Schonfeld from UMD, Dr. Amy Hu Ph.D. 83, Prof. Melody Dai from National Cheng Kung University, Ph.D. 91.

Standing: Mr. Frank Ke from Tact Logistics, M.S. 96, Prof. Kurt Lee from Feng Chia University, Ph.D. 93, Dr. Chi-Kuo Lin from the Institute of Transportation, Ph.D. 96, Prof. Ching Chang from Chung Hua University, Ph.D. 94, Prof. Jason Chang from National Taiwan University, Ph.D. 90, Prof. Hsien-Min Chiu from Tamkang University, Ph.D. 91(?), Dr. Jyh-Cherng Jong from Sinotech Engineering Consultants, Ph.D. 98, Ms. Winnie Leu from the Taiwan Ministry of Transportation and Communications, Prof. Louis Wei from National Cheng Kung University, Ph.D. 93.

UMD TRANSPORTATION ALUMNI CLUB MEETING IN SEOUL, KOREA
HELD JUNE 19, 2006

CEE Alum **Peter Stephanos** was selected for the senior executive service position of director, Office of Pavement Technology in the Office of Infrastructure, effective March 4, 2007.

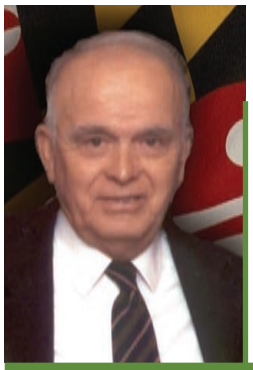
Stephanos has 20 years of experience in the highway pavement area at the State level. He is currently the director of materials and technology for the Maryland State Highway Administration, where he is responsible for the design and acceptance of materials used on highway projects. As director, he manages four material laboratory testing facilities, geotechnical drilling operations, pavement and bridge testing operations and engineering design. He has also served for seven years as division manager for Mactech, a large geotechnical engineering firm.

Stephanos earned a bachelor's degree in civil engineering and a master's degree in both civil engineering and geotechnical engineering from the University of Maryland.

COMING FULL CIRCLE

ALUM HOPES SCHOLARSHIP WILL BENEFIT FUTURE ENGINEERS AND THE FUTURE OF ENGINEERING

Richard Reed knows firsthand what an ambitious graduate armed with a bachelor's degree can accomplish. He was one himself. That was over 50 years ago, and today, Reed is one of several colleagues who contributed to the success of Greenhorne & O'Mara, Inc., a consulting engineering firm headquartered in Laurel, Md.



"THIS SCHOLARSHIP IS ALLOWING ME TO COME FULL CIRCLE. COMPANIES NEED ENGINEERS AND THERE ARE ENGINEERING STUDENTS WHO NEED FINANCIAL ASSISTANCE. I WANTED TO HELP."
– Alum Richard Reed

No one of that group of colleagues remains at the firm, having retired. But, the company continues to thrive. "They are on their third generation," Reed says proudly.

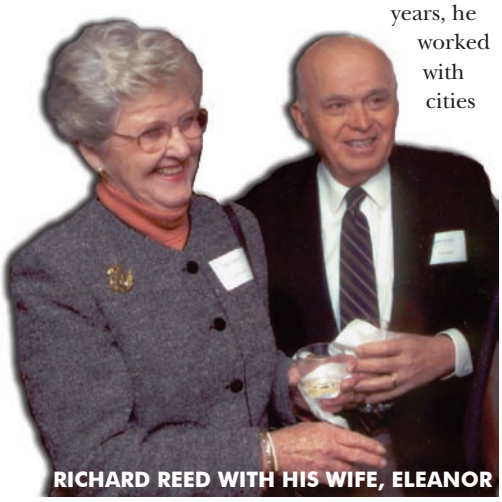
Reed is continuing to consider the future of his former company as well as others, in donating $100,000 to establish an undergraduate scholarship fund for students in CEE. "This scholarship is allowing me to come full circle," he says. "Companies need engineers and there are young engineering students who need financial assistance. I wanted to help."

Reed grew up in Washington, D.C., where his father was a general contractor. He considered following in his father's footsteps, but chose civil engineering instead. Reed describes his time as a civil engineering student at the University of Maryland as a "wonderful time in my life. I met my wife there." He lived at home while attending school, but even without living on campus, he made many "lifelong friends."

Reed graduated in 1950, along with his wife, Eleanor, who was a student in the arts and sciences. After graduation, he took a job with Ben Dyer Associates, land development consultants in Hyattsville. "My father worked with them, and in talking to Mr. Dyer, he found out that the company was looking for graduates of the University of Maryland. Mr. Dyer was a graduate of the university." Shortly after joining Dyer, however, "the Korean situation broke out," he recalls. He was called to active duty with the U.S. Air Force and was stationed in Texas for two years.

After active duty, he returned home and to his job. However, seven years later, Reed was looking for something different. He found it with Greenhorne & O'Mara. "This was a firm that appeared to be a little more aggressive," he says. "Everyone wants to move up, have more responsibility. I was the same."

Reed joined Greenhorne & O'Mara in 1960 as a municipal engineer. For the next 10 years, he worked with cities and towns such as College Park, Edmonston, New Carrollton, Hyattsville, Bladensburg, Somerset, Cheverly, Laytonsville, District Heights, Laurel, Greenbelt and Poolesville. "I interfaced between designers and our clients," he says. "I enjoyed working with the town councils, mayors and citizens in developing projects."



RICHARD REED WITH HIS WIFE, ELEANOR

Reed would go on to become a senior vice president and his duties would include business development and client relations. The company underwent change too. One of the original owners, Marcus F. H. Greenhorne, retired and then shortly after passed away, leaving his business partner A. James O'Mara with sole proprietorship. O'Mara offered a group of employees at the firm the opportunity to become associates. "You had to be a registered engineer," says Reed. "All of a sudden a group of employees secured registration and then decided to go out and open businesses of their own, singularly and in groups."

Reed remained, becoming one of four associates to take an equity position with the company, and he would see the company grow by leaps and bounds. Reed says that he is especially proud of projects such as the construction of the Capital Centre and the Laurel Lakes development. He retired in 1991.

Today, the company serves clients in the private and public sector on projects throughout the nation and overseas and is consistently ranked by Engineering News Record among the top 25 percent of engineering design firms in the United States.

Throughout his life, Reed remained connected with the place where his engineering career began-his alma mater. He served as president of the Engineering Alumni Association in 1975 and has served on the engineering school's Board of Visitors under four deans, Bob Beckman, George Dieter, Bill Destler and Nariman Farvadin. And, he and his wife Eleanor have been members of the Terrapin club for 40 years. "We attend all the home football and basketball games," he says.

The Reed legacy at the school has even continued with one of the couple's three sons attending the university at College Park as well as the Maryland-Virginia Regional College of Veterinary Medicine. He now has his own animal hospital in Annapolis.

But, Reed wanted to leave an even more permanent mark upon the school. "The university always needs scholarships," he says. And the engineering profession will always need new talent. Thus, the Richard N. Reed Jr. Scholarship was established. "This is a way that indicates I was here for a time," says Reed of the scholarship, "and wanted to make a difference."

Adding, "It's been a grand experience."

CURRENT RESEARCH

WORKING WITH INDUSTRY

RESEARCH BY PROFESSOR GOULIAS ADDRESSES ISSUES AND LIMITATIONS IN CONCRETE MATERIALS

"Concrete is the most common building material used in the world," says Dimitrios Goulias, an associate professor with CEE. "Even though it has been studied to a great extent, more than any other construction material, it still resents significant challenges in material improvement and modeling."

And, Goulias is working to face those very challenges in an effort to better utilize concrete in construction. Recently, Goulias, who joined CEE in 1999, was awarded two research grants that address the issues and limitations the construction industry faces in using concrete and cement-based mortars.

One is a two-year grant from the Department of Energy's Combustion Byproducts Recycling Consortium program in partnership with the National Ready Mix Concrete Association (NRMCA). The objective is to develop a novel science-based approach using maturity modeling of high volume fly ash (HVFA) concrete through activation energy determination. "We're addressing the slower rate of hydration, delayed setting times, and strength gain of HVFA concrete with class C and F fly ash," explains Goulias. This project, orchestrated by Goulias and NRMCA research engineers, is the first successful research grant award of the cooperative agreement in research and education with the ready mixed concrete industry.

The other project is a grant from the National Stone, Sand and Gravel Association and Portland Cement Association evaluating the effects of fine aggregate on cementmortar properties. More specifically, says Goulias, "we are looking at the current American Society for Testing and Materials (ASMT) standards, including C144 and C270, since they do not reflect the characteristics of fine aggregate produced and used in North America."

High Volume Fly Ash. According to Goulias, the actual use of high volumes of fly ash in ready mixed concrete is limited. A 2004 fly ash survey by the American Coal Ash Association found that out of the 70 million tons of fly ash produced, about 40 percent was beneficially utilized and a large proportion was land filled. Organizations such as the Maryland Department of Natural Resources are looking to improve this and thereby further promote the use of coal combustion by-products in the state.

"Surveys and discussions with the ready mixed concrete industry suggest that the average fly ash content in all ready mixed concrete is still about 10 percent," says Goulias. However, "If the average fly ash content in all ready mixed concrete were increased to 20%, this would increase the overall fly ash utilization from 40% to 64% thereby far exceeding the Combustion Byproducts Recycling Consortium's 2010 goal of 50% fly ash utilization!" adds Goulias.

The two major stumbling blocks that have limited the use of high volume fly ash in concrete have been the lower early-age strength of less than seven days and the delayed initial setting time.

In addressing the lower early-age strength, Goulias and his research team are hoping to demonstrate that current standards of practice and testing using standard cylinders do not appropriately evaluate concrete strength gain. "In other words," says Goulias, "the hydration effects and thus concrete temperature and strength development is dependent on the mass of the concrete structural member considered." For this reason strength gain of several concrete mixtures with different fly ash types, C and F, and variable volume contents will be examined by comparing field and lab concrete cylinders with field concrete blocks and slabs. "In this process the activation energy needs to be first determined in the laboratory and then used in the maturity modeling analysis for every concrete mixture considered in the study" adds Goulias.

Figure 1: North America Fine Aggregate Sources

According to Goulias, the maturity based approach is used to demonstrate that HVFA concrete in the structure has sufficient early-age strengths to allow for optimized construction scheduling.

As for the issue of delayed initial setting times, Goulias and his research team hope to demonstrate that by using some suitable chemical admixtures or additions the initial setting times of Class C fly ash concrete is not delayed. "Setting time of concrete is critical in the construction process since it identifies the time period that concrete is workable and the time that concrete start

CONTINUED on page 13

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hardening for strength development," says Goulias.

Evaluating Aggregate for Masonry Mortar.

The aggregate industry providing fine aggregates (sand) for mortars is currently faced with a significant difficulty in providing sands that meet ASTM acceptance standards of aggregates for mortars. Currently aggregates have to comply with ASTM C 144, standard specification for aggregate for masonry mortar, which contains grading requirements for natural and manufactured sands.

"When gradation does not meet such requirements there is a provision in the standard to further test the interaction of the aggregate within a mortar and evaluate if the properties meet ASTM C 270 mortars for masonry," says Goulias. This additional testing implies cost and time in the process of establishing mortar proportions. Since 90% of the aggregates examined so far in the project from 50 different quarries in the United States and Canada do not meet the ASTM C144 standards this is becoming the norm.

"As such, there is a need to revise or define new acceptance standards reflecting the achievable levels of aggregate production properties by the industry in North America," says Goulias.

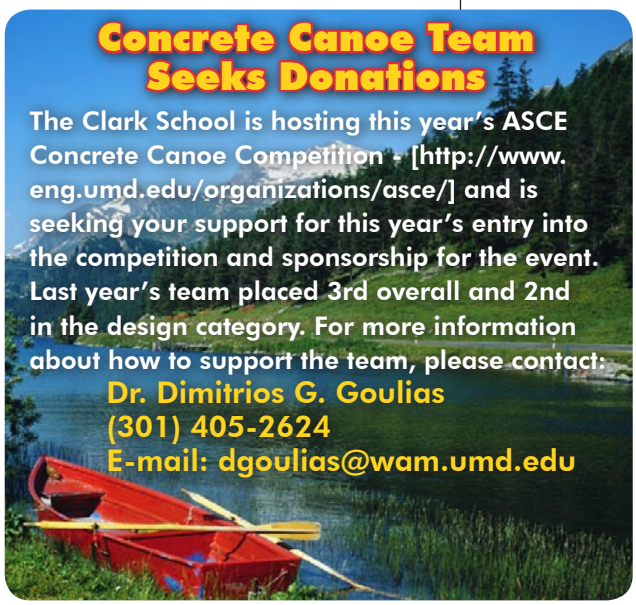
The objective of this project is to evaluate the effects of aggregate gradations on mortar properties and second revise or propose a new set of ASTM standards to be used in construction practice. "Our research," says Goulias, "is examining the effects of sand gradation and other properties, such as absorption, aggregate shape and surface friction, fineness modulus on the void content of the aggregate skeleton using packing theory modeling for poly-disperse mixtures, and the implications on the properties of mortars including compressive strength, air content, flow, and water retention."

According to Goulias, experimentation and analysis of this research will provide an assessment of the impact of aggregate characteristics on mortar properties and identify the achievable levels and the acceptable levels of these properties on producing good quality cement based mortars. "The results of this study could provide the basis for preparing and balloting a revision and modification or the establishment of a new set of ASTM standards for the construction industry," says Goulias.

STUDENT PROFILE (Continued from page 5)

What do you find most rewarding and challenging about the work you do at Whiting-Turner? I am a project engineer on the track to become a project manager. Although I have only been there a short time as a full-time employee one of the most rewarding things I look forward to is completing a project and seeing the finished structure come together. One of the most challenging things is trying to coordinate the different parts and phases of a project as it is continuing. Interning with the company made the transition into a full-time position very easy. I already knew most of the people I would be working with and was comfortable with my working environment. I also was familiar and knowledgeable of my responsibilities and what was expected of me.

What do you anticipate for the future? I hope as I continue my career that I will become a successful project manager and eventually obtain my master's degree. I would also like to see myself teaching someday - maybe not as a profession, but in some way educating students. My mother is a teacher, and I think that I've learned from her the importance of sharing your knowledge with others and giving back what was given to you.



COVER STORY (Continued from front page)

LEFT TO RIGHT: ALI HAGHANI, PHIL TARNOFF, ELISE MILLER-HOOKS, PAUL SCHONFELD, CINZIA CIRILLO, G.L. CHANG & HANI MAHMASSANI

The multidisciplinary center will bring together faculty from various departments in the Clark School, as well as the Robert H. Smith School of Business and the School of Public Policy to collaborate in conducting state-of-the-art research in transportation.

"Winning this clearly indicates the spirit of cooperation and the eagerness for collaborative work that exists among the faculty at the University of Maryland," says Haghani. CITSM participants from CEE are faculty members of the transportation group and include Haghani, Phillip Tarnoff, Elise Miller-Hooks, Paul Schonfeld, Gang Len Chang, Hani Mahmassani and Cinzia Cirillo.

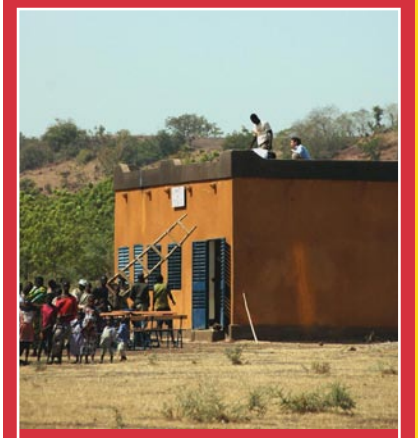
"We intend to leverage this award," says Haghani, "by growing this center into a state-supported interdisciplinary Maryland Transportation Research Institute much in the form of other major research institutes of the Clark School, such as the Institute for Systems Research and the Institute for Research in Electronics and Applied Physics."

PICTURE PROFILE

BLAZING TRAILS ACROSS THE GLOBE

"ENGINEERS WITHOUT BORDERS" CONQUERS CULTURAL AND GEOGRAPHICAL DIVISIONS

AFRICA



BRAZIL

THAILAND

In January 2007, **Engineers Without Borders** completed its most impressive array of project trips yet.

The chapter sent one team back to Brazil, led by **Peter Chang** (Civil Engineering). Last August, they built a water storage and chlorination system for the island of Ilha das Pecas; this January they returned to build three small constructed wetlands for domestic sewage treatment. The project was recognized with the **Santander Prize**, the most prestigious Brazilian prize for environmental projects.

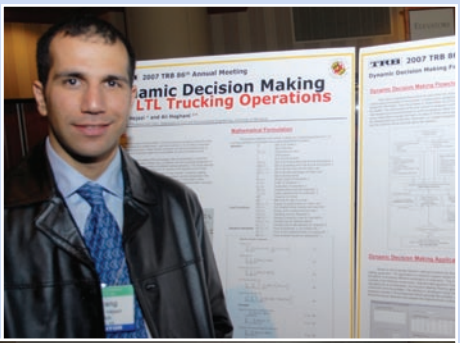
Another trip returned to the Lahu village of Baan Bo Mai, Thailand, to lay 1,300 feet of a water pipeline and to rebuild an intake system destroyed in the rainy season last fall. **Patrick Murphy** (NASA), **John Sankey** (Reinforced Earth Company), and **Chris Seremet** (EA Engineering, Science and Technology) worked with EWB students to lay an extremely demanding section of pipe. This pipeline will serve 200 villages, including an orphanage of 30 (and increasing) refugee children from Burma. They expect to return one more time to complete the project.

Elias Balaras (Mechanical Engineering) and Keith Brabant (Reinforced Earth

THE 86TH ANNUAL TRB CONVENTION

CEE PARTICIPATES IN TRANSPORTATION RESEARCH BOARD'S 86TH ANNUAL MEETING

CEE recently participated in the Transportation Research Board's 86th annual meeting in January in Washington, D.C. The TRB annual meeting program covers all transportation modes, with more than 2,800 presentations in 500 sessions addressing topics of interest to policy makers, administrators, practitioners, researchers and representatives of government, industry and academic institutions. The spotlight theme for this year's meeting was **"Transportation Institutions, Finance, and Workforce: Meeting the Needs of the 21st Century."**



CEE faculty participated in a variety of sessions, including sessions on Women's Walking Behavior and Health: Exploring the Links; Influence of Personal and Activity Attributes on Discretionary Activity Location Choice: In Home or Out of Home?; Sensor Coverage and Location for Real-Time Traffic Prediction

Company) traveled with students **Sarah Ness** and **Antonio Levy** to evaluate a new project in Azuay, a province in Andean Ecuador. Our EWB chapter has a impressive history of success in that province. They will collaborate with other (non-engineering) NGO's in this new work.

Jungho Kim (Mechanical Engineering) took three engineering students to Dissin, Burkina Faso, West Africa to explore a solar energy project to light adult literacy centers in a country with less than 15% literacy. They did a small test installation, and are getting data of the use of the system. They will use this data to plan a larger project when they return. **Elisabeth Smela** (Mechanical Engineering) accompanied the group to explore other solar energy applications.

Want to learn more? Visit www.eng.umd.edu, and be amazed. Get involved with the chapter for the best engineering experience of a lifetime.

in Large-Scale Networks; Emergency Evacuation; Dialogue with Leaders in Design and Construction of Transportation Facilities; State-Dependent Pricing for Real-Time Freeway Management: Static, Reactive and Anticipatory; and Evaluation of Baltimore, Maryland, Cell Probe Traffic Deployment; among others.

We'd Like To Hear From You!

We want to know where life has taken you since you left the University of Maryland. Please complete the form below, including any additional comments. Also, send the address of any Civil & Environmental Engineering Alumni you know who are not receiving the newsletter *Civil Remarks*.

FIRST NAME _____ MIDDLE INITIAL _____ LAST NAME _____

DEGREE(S) _____ GRADUATION YEAR(S) _____

HOME ADDRESS _____

CITY _____ STATE _____ ZIP+4 _____

POSITION TITLE _____

FIRM ADDRESS _____

CITY _____ STATE _____ ZIP+4 _____

BUSINESS PHONE _____ FAX NO. _____ E-MAIL _____

Alumni News:

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[Student Employees]

GET INVOLVED!

The 2008 CEE CENTENNIAL CELEBRATION is coming!

In 2008, the Civil and Environmental Engineering Department will celebrate its 100th year on the College Park campus. The planning for our centennial has started but we need your help. We are putting together a history of the department and want important input from alumni and friends.

We are especially interested in pictures of events and alumni of our department. We hope to put together a history of the department and include pictures from all decades of the past century. Any pictures submitted will be returned. A history would not be complete without stories of classmates and faculty. So compose a diary of your remembrances of your years in College Park and share them with us.

We also want to know about your professional accomplishments and how our program prepared you for your professional career. If you have worked on major civil engineering projects, let us know about them, including pictures. Thoughts about the curriculum of your years are also welcome. You decide what was important and submit it to us via e-mail to at cee_centennial@umd.edu or mail it to:

Dr. Richard H. McCuen
Department of Civil and Environmental Engineering
University of Maryland
1173 Glenn L. Martin Hall
College Park, MD 20742-3021

Civil Remarks is published twice yearly for alumni and friends of the Department of Civil & Environmental Engineering at the A. James Clark School of Engineering. Your alumni news and comments are welcome. Please send them to:

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