UNIVERSITY OF MARYLAND 18 56

CIVIL REMARKS

CIVIL AND ENVIRONMENTAL ENGINEERING [cee.umd.edu]

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

Spring 2009
Vol. 8, No. 2

CATT Center's PROBE TECHNOLOGY

Eases Traffic Flow from New Jersey to North Carolina

IN THIS ISSUE

Cover Story|
CATT Center's Probe Technology Eases Traffic Flow from New Jersey to North Carolina
page 3

Current Research|
Center For Integrated Transportation Systems Management (CITSM) Selects Proposals
page 4

Student News|
page 6

Student Profile|
Sarah Ness
page 7

Faculty News|
page 8

Faculty Profile|
Gregory Baecher
page 9

Alumni News|
page 10

Alumni Profile|
Jim Kinkead
page 11

Staff Profile|
Elyse Beaulieu
page 13

CEE CHAIRMAN DR. ALI HAGHANI

Welcome to the latest issue of *CivilRemarks*. We, here in the Department of Civil and Environmental Engineering (CEE), are still reveling in the wonderful activities and events that took place as we recently celebrated our 100th anniversary. But, now, we look to the future. And, this issue is certainly a fine example of where that future is heading.

First, I am very pleased to announce that our new **Center for Integrated Transportation Systems Management** recently selected nine proposals for research. These proposals well reflect the mission of the center and, indeed, our program here at CEE. I think you will find the article about the projects chosen very informative and exciting as we begin the work of this new center.

Perhaps many of you, our readers, are commuters, travelling long distances to go to work and then return home again. If so, you no doubt, will be pleased to read about a system whose implementation is being led by CEE's **Center for Advanced Transportation Technology's I-95 Corridor Coalition's Vehicle Probe Project**. This project is aimed at easing the travel experience for motorists all up and down the I-95 corridor, from New Jersey to North Carolina.

Of course, we continue to profile outstanding faculty members, students, staff and alumni. In this issue we focus on **Professor Gregory Baecher**, who was recently chosen by students to receive CEE's Faculty Teaching Award. He has given much to CEE not only as a teacher, but as a researcher as well, and even as chair of this department at one time.

Our student profile is on **Sarah Ness**, who has been a committed member of the Engineers Without Borders chapter at the university. Her work with Engineers Without Borders, she says, played a significant role in her experience as a college student and in deciding the type of engineer she would like to become.

Earlier in my message, I mentioned those of you who commute long distances each day. We have had such a commuter in our own department. Staff member **Elyse Beaulieu**, our assistant director of graduate student services, remained an employee even after she moved away to Boston to join her fiancé. She commuted from there to campus each week. Not an easy task. But we certainly appreciated her efforts. She recently made the decision to no longer continue her work with CEE as she prepares for the birth of her first child. We thank her for the time she committed to us and wish her the best as she begins her new family.

We have yet more impressive alumni news to share with you. **Jim Kinkead** made the most of his experience here as a very serious and dedicated student. Now, he is employed with the Clark Construction Group, and enjoying a successful and challenging career. I think you will enjoy reading about his many projects. As I always say, and it remains truer than ever with Mr. Kinkead, we take great pride in the accomplishments of our alumni as they reflect so well on our own department, engineering school and university.

Ali Haghani

Department of CIVIL & ENVIRONMENTAL ENGINEERING
www.civil.umd.edu

CIVILREMARKS PRODUCTION TEAM
Dr. Ali Haghani: Chairman
Lisa Gregory: Editor
Al Santos: Photographer
Sangeeta Kaul: Graphic Designer

CivilRemarks is published twice yearly for alumni and friends of the Department of Civil and Environmental Engineering at the A. James Clark School of Engineering. Your alumni news and comments are welcome.

Please send them to:
Attn: Sangeeta Kaul
Department of Civil and Environmental Engineering
University of Maryland
1173 Glenn L. Martin Hall
College Park, MD, 20742-3021
301.405.4195 [Phone]
301.405.2585 [Fax]
skaul@umd.edu [E-mail]
You are also invited to visit our web site at www.cee.umd.edu

CATT Center's Probe Technology Eases Traffic Flow from New Jersey to North Carolina

Recently, when an early snow storm hit New Jersey, the state's transportation agency received information about an incident involving two semitrailers that had just jackknifed resulting in a traffic backup. Despite the agency's use of other data collection systems, this information came from one source and one source only, a system whose implementation is being led by CEE's Center for Advanced Transportation Technology's (CATT) I-95 Corridor Coalition's Vehicle Probe Project.

"As the result of that information, they were able to respond to the incident much earlier than they could have without it," says Stan Young, a research engineer with CATT. "They were impressed."

The **Vehicle Probe Project** is a groundbreaking initiative to provide comprehensive and continuous real-time information, such as travel times and speeds, to transportation agencies. The *I-95 Corridor Coalition* is an alliance of transportation agencies and other agencies from Maine to Florida and Canada which provides a forum for addressing transportation management and operation issues.

The heavily travelled I-95 corridor from New Jersey to North Carolina, where the system is currently being used, certainly presents issues. "This project is helping address the need and desire by states to receive active data on all roadways at all times," says Young. Adding that the "the density of metropolitan areas on the East Coast make this even more important."

Using probe technology, the objective is to acquire travel times and speeds for both freeways and arterial roads, says Young.

The system, which was up and running this past summer, initially covered a network of approximately 1,500 miles of freeway and 1,000 miles of arterial roadways from New Jersey to North Carolina. According to Young, those numbers have since grown as states have added additional miles to the system. "Nothing like this has been done before," he says.

The dominant source of data is obtained from fleet systems that use a Global Positioning System or GPS to monitor vehicle location, speed and trajectory. A company was awarded a contract in December 2007 to fuse various data sources into a comprehensive picture of traffic flow.

But, the process does not end there. In an effort to validate the information being received Young and his colleagues at CATT took it upon themselves to develop a new technology using deployable sensors. "We are breaking new ground by being able to monitor and verify the quality of the data on such a vast system," says Young.

The technology is based on using the radio emission of consumer electronic devices in a method directly analogous to automated toll tag data. "Specifically this targets the Bluetooth point-to-point networking signatures as anonymous probes," says Young. "This approach provides both quality and quantity travel time data combined with an unprecedented level of flexibility in terms of deployment. People say we're using a new technology to test a new technology."

"We are breaking new ground by being able to monitor and verify the quality of the data on such a vast system," says Young.

While the current tracking system was developed five years or so ago, the technology developed by CATT was done so during the last year and has been eagerly embraced by its users. "People recognized its value immediately," says Young. "It's become the gold standard."

With future potential for both it and the project as a whole. "We want this to eventually become a planning tool for transportation agencies," says Young. "If people understand the system better, there will be better system development."

Center For Integrated Transportation Systems Management (CITSM) Selects Proposals

Recently, the Center for Integrated Transportation Systems Management or CITSM approved nine research proposals. The proposals were chosen based on the recommendations of a review committee composed of representatives from academia, state and federal government and industry.

CITSM is located within the Department of Civil and Environmental Engineering and was established as a Tier I University Transportation Center in 2008. The goal of the center is the development of advanced technology, improved processes and enhanced organizational structures for the integrated management and operation of transportation facilities and corridors.

The proposals are:

INTEGRATION OF OFF-RAMP AND ARTERIAL SIGNAL CONTROLS TO MINIMIZE THE RECURRENT CONGESTION ON CAPITAL BELTWAY

Gang-Len Chang - PI
(Civil and Environmental Engineering)

This research intends to capture the complex interaction between freeway off-ramp flows and traffic queues at neighboring arterial intersections, as several mainline segments on the Capital Beltway are often plagued by off-ramp spillback queues that significantly degrade their operational capacity. To minimize freeway congestion due to off-ramp queues but not to incur excessive arterial delay, this study will develop a multiple-objective model to first evaluate their interrelations, and then generate the optimal off-ramp and local signal controls to achieve the preset control objective such as maximizing the total throughput or minimizing the total delay.

INTEGRATING VEHICLE OWNERSHIP DECISIONS INTO THE MARYLAND STATEWIDE TRANSPORTATION MODEL

Kelly Clifton - PI
(Urban Studies and Planning)
Cinzia Cirillo - PI
(Civil and Environmental Engineering)

This applied research program proposes to develop a modeling framework for vehicle ownership in the state of Maryland for use in the Maryland Statewide Transportation Model (MSTM). The modeling system aims to produce the tools needed to understand and predict consumers' preferences on vehicle ownership, as a function of socio-demographic, economic, transportation system and land development characteristics. Econometric equations relying primarily on discrete choice methodologies (joint revealed and stated preference models) will be estimated from Maryland specific data.

MODELING VIOLATIONS IN HIGH-OCCUPANCY TOLL LANE STUDIES

Elise Miller-Hooks - PI
(Civil and Environmental Engineering)

This proposed research effort will quantify the impact of the various types of violations associated with High-Occupancy Toll or HOT lanes on estimates of travel speeds and other traffic metrics obtained through simulation modeling of proposed HOT lane facility designs and determine the criticality of modeling such violations in conducting studies of proposed HOT lane facilities.

PROTOTYPING A LOW-COST AND SCALABLE WIRELESS SENSOR NETWORK FOR TRAFFIC MEASUREMENT

Mehdi Kalantari Khandani
(Electrical and Computer Engineering)

This project will develop low-cost, low- profile and energy self-sufficient sensor modules for different applications of intelligent transportation systems. The proposed sensors harvest the mechanical vibration in street pavement and convert it to electrical energy for operation of sensors.

MODELING CAR OWNERSHIP DECISIONS AND VEHICLE AVAILABILITY IN THE STATE OF MARYLAND

Gerrit-Jan Knaap
(Urban Studies and Planning)

Under a contract with the Maryland State Highway Administration and in cooperation with Parson's Brinkerhoff, the National Center for Smart Growth is building a sketch-level transportation model. That model, which will include the entire states of Maryland and Delaware, the District of Columbia, and parts of Virginia, West Virginia and Pennsylvania will be used for a variety of purposes, including but not limited to examining the effects of various transportation investments on traffic flows, examining the effects of transportation investments on land use patterns, and examining alternative future development scenarios.

A PROOF-OF-CONCEPT AND DEMONSTRATION OF A HIGH DEFINITION, DIGITAL VIDEO SURVEILLANCE AND WIRELESS TRANSMISSION SYSTEM FOR TRAFFIC MONITORING AND ANALYSIS

Christopher Davis - PI
(Electrical and Computer Engineering)
Stuart Milner - PI
(Civil and Environmental Engineering)

This applied research project plans to conduct a proof-of-concept and

demonstration of a high-definition (HD), digital video surveillance and wireless transmission system for traffic monitoring and analysis, enabled by rapidly deployable, RF directional wireless links. This system will also provide improved capabilities to emergency responders. The demonstration will consist of HD cameras networked through a four-node directional wireless network on the University of Maryland campus, and will include the development of real-time "event" detection algorithms specially tailored to the unique combination of HD image capture, wireless transport and real-time processing.

INTERMODAL TRANSFER COORDINATION IN LOGISTIC NETWORKS

Paul Schonfeld
(Civil and Environmental Engineering)

A model will be developed for integrating and optimizing logistic networks relying on intermodal transfers. It will combine (1) a preplanning component for optimizing system characteristics such as terminal and vehicle characteristics, routes and schedules, and (2) real-time control algorithms for dealing with service disruptions.

DEVELOPMENT OF ADVANCED APPLICATIONS USING BLUETOOTH-GENERATED TRAFFIC FLOW DATA

Ali Haghani and Phil Tarnoff
(Civil and Environmental Engineering)

During the past year, research personnel of the Center for Advanced Transportation Technology or CATT successfully developed and demonstrated a new technology for the collection of travel times and space mean speeds of traffic based on the reception of signals emitted by Bluetooth-equipped electronics (PDAs, cell phones, car radios, laptop computers, etc.) located in passing vehicles. Bluetooth is a standards-based, pervasive wireless networking protocol whose use is rapidly expanding throughout the computer electronics industry. Because of the quality and large sample size of the Bluetooth data sets, this project is focused on research related to the use of this data for advanced analysis of the traffic conditions that existed at the time that the data was collected. This research is intended to address both near-term analytical challenges and long-term applications.

CAPWIN SEES A STRONG RISE IN 2008

The Center for Advanced Transportation Technology's Capital Wireless Information Net (CapWIN) program continues to grow rapidly in membership and capabilities, supported in part by $6.1 million in new congressional earmarked funding. CapWIN is the nation's first multi-state transportation and public safety wireless information network and is a regional coalition of public safety and transportation agencies across Maryland, Virginia, the District of Columbia and the federal government whose mission is to enable and promote interoperable data communications, operational data access and incident coordination across jurisdictions and disciplines. The number of agencies participating in CapWIN has doubled in just the past year to 81. The earmarked funding does three critical things for the program, according to Tom Henderson, executive director of CapWIN: give it time to become self-sufficient through its new membership fee program; expand its services for existing members and seek participation by regional, state and federal public safety agencies not currently a part of CapWIN; and create new applications focused on the needs of fire, EMT and other nonpolice agencies.

For more information, please visit the CEE website:
http://www.cee.umd.edu/news/news_story.php?id=3326
http://www.cee.umd.edu/news/news_story.php?id=3326

CEE DEPARTMENT DIRECTORY

DR. ALI HAGHANI
Department Chair
301.405.1963 — haghani@umd.edu

LISA SCHUETZ
Director, Administrative Services
301.405.5193 — lschuetz@umd.edu

AL SANTOS
Director, Undergraduate Student Services
301.405.1977 — asantos@umd.edu

BRENDA BROOKS
Assistant Director, Graduate Student Services
301.405.8944 — bbrooks@umd.edu

STEPHANIE PETERS
Business Manager
301.405.5193 — speters@umd.edu

JO ANN MAXIM
Manager, Payroll and Human Resources
301.405.1971 — jam@umd.edu

GLORIA SPINDLER
Research Coordinator
301.405.1973 — gspindle@umd.edu

N'KOLA MORRIS
Account Clerk III
301.405.6261 — nkola@umd.edu

CHARITY MCGEE
Administrative Assistant I
301.405.7768 — crmcgee@umd.edu

ALFRED BITUIN
Lab Technician
301.405.1982 — fbituin@umd.edu

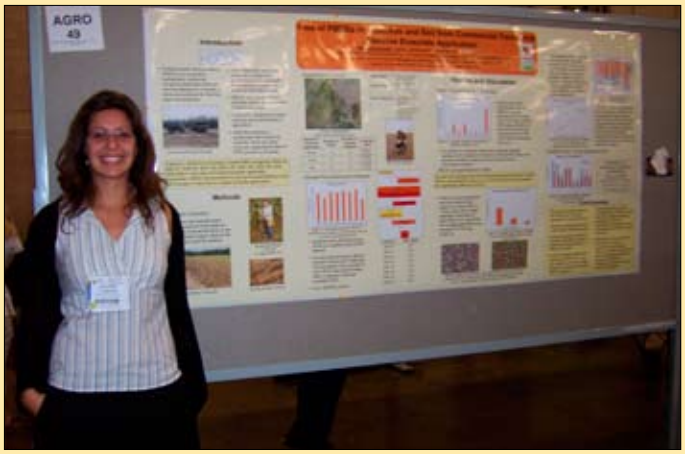
DAVID LEWIS
IT Coordinator
301.405.3221 — dblewis@umd.edu

JANET ALESSANDRINI
Coordinator
301.405.1974 — jalessan@umd.edu

MASOUD HAMEDI
Faculty Research Assistant
301.405.2350 — masoud@eng.umd.edu

SANGEETA KAUL
Coordinator, Design and Public Relations
301.405.4195 — skaul@umd.edu

The University of Maryland ranks **ninth**, its highest ranking ever in Kiplinger's value ratings. In the last rankings, the university was No. 28. The previous best was 15th in 2006. The ranking pertains to in-state tuition fees.



Natasha Andrade, a graduate student in the environmental engineering program, won first place in the National Student Paper Competition Masters Category from the **Water Environment Federation (WEF)**. WEF is a not-for-profit technical and educational organization that aims to preserve and enhance the global water environment. Andrade entered the national contest after she won first place at the regional student paper competition hosted by the *Chesapeake Water Environment Association*. The paper is regarding the presence of polybrominated diphenyl ethers in biosolids and soil from commercial farms that receive biosolids application.

A **National Science Foundation** report reveals that the University of Maryland is a leader in producing black undergraduates who go on to earn Ph.D.'s in science and engineering. Among traditionally white institutions, only Harvard, with 73 Ph.D. recipients from its undergraduate programs, eclipsed Maryland, which had 72. The University of California-Berkeley (64), the University of Virginia (63), University of Michigan (62), MIT (58) and the University of North Carolina (54) followed.

During the **Association of Energy Engineers (AEE) World Energy Congress**, a student chapter at the A. James Clark School of Engineering was officially chartered. AEE is a nonprofit professional society of 9,500 members in 73 countries. Its mission is "to promote the scientific and educational interests of those engaged in the energy industry and to foster action for sustainable development." The organization offers seminars (live and internet-based), conferences, journals, books and certification programs. AEE is also connected with the **Foundation of the Association of Energy Engineers**, which is a nonprofit organization that is dedicated to furthering education in energy and management. The foundation has raised and awarded more than $480,000 in scholarships to outstanding students.

U.S. News & World Report 's 2009 edition of *"America's Best Colleges"* ranks the A. James Clark School of Engineering's undergraduate program 21st in the nation, four spots up from last year's ranking. The Clark School ranks 8th in the nation among public engineering programs.

The inaugural seminar in the A. James Clark School of Engineering's new **Engineering Education** talk series was presented by **Norman L. Fortenberry** of the National Academy of Engineering Center for the Advancement of Scholarship on Engineering Education on October 7. Fortenberry's talk, "*Revitalizing Engineering Education: A Research-Driven Approach*," provided an overview of the forces driving improvement in engineering education and discussed efforts to continuously improve the quality of engineering education through research and innovation.

Family and friends of a Gemstone alumna have established the **Sarah E. Gingrich Firebaugh Memorial Scholarship** with a gift of $63,000 to provide annual scholarships to juniors and seniors in the Gemstone program. The first award will be provided in the 2008-2009 academic year. The scholarship will go to a well-rounded student in the Gemstone program majoring in engineering, chemistry, biochemistry or physics. Preference will be given to Pennsylvania residents.

Firebaugh, B.S. '00, chemistry, was among the first students to participate in the Gemstone program, which provided her the opportunity to research Chesapeake Bay pollution. In addition, she sang with an a capella group on campus and was president of the university's chapter of **Habitat for Humanity**. She died in a car accident in 2007. "Sarah was loved, and she will be missed," her family said in a statement. "It is in this spirit that her family and friends have come together to honor her memory through the creation of this endowment and scholarship."

Student Discovers World, Career Path through Work with Engineers Without Borders

When Sarah Ness decided to attend the University of Maryland, her family was a bit surprised. "My family is from Pennsylvania and several family members have attended Penn State. They are big Penn State fans," she says with a grin. "I'm the oldest grandchild in my family and so the first to attend college, and here I chose Maryland."

As she prepared to graduate this past December, though, Ness admits to having no regrets. And given her accomplishments during the past four years, neither does her family. Ness says that her time at the university and within the Civil and Environmental Engineering Department has opened up a whole new world to her. "With Maryland I saw this big school with so many different fields of studies and other activities and opportunities. I was drawn to that," she says.

More specifically, she has been drawn to the university's Engineers Without Borders-USA (EWB-USA) chapter. Since her first year on campus, Ness has been an active and enthusiastic participant of EWB-USA. The program enables students, as well as faculty members and professional engineers, to provide their talents and skills in addressing engineering issues in developing countries.

That first summer Ness travelled to Ecuador. While in Ecuador she worked on a water treatment project that captured spring water and treated it with chlorine, providing clean water to the communities. "We take so much for granted here," she says. "There are so many basic things we have - water, sanitation, electricity, health care - that others don't."

Ness had gone into college intent on pursuing studies in biomedical and bioengineering. But after returning from

STUDENT PROFILE (cont. on page 12)

Engineers Without Borders Update

JUNE 2008: Student Engineers Without Borders (EWB) project leader, Phil Hannam, wrote, "The communities of Dakole and Nakar outside of Dissin, Burkina Faso (in West Africa), now have a solar-powered water-pumping mechanism and a storage tank outfitted with four tapstands for easy access to the water. Some community gardens had already been placed prior to our arrival, and even more were being created in anticipation of us finishing our system. On the final day of the project, the communities gathered to see a demonstration and discussion, as well as to thank us and exchange gifts. Dakole gave the students a ram, two chickens and two pigeons. Nakar was too poor to give us any gifts, but the women in the community created a song and dance in Dagara: For a long time, we were thirsty. Then people came, and they dug a well. But we were still thirsty. And then you came and gave us the water we needed, and knowledge to keep it.

Our principle contact in Dissin translated a speech I made to the community, and in turn the community elders spoke on behalf of the community to express their gratitude, a moment of realization for every member of the team. The experience on that final day validated that every moment of frustration and anxiety, and every breath of effort on this project was well worth it."

The 12-person travel team, selected from a larger design team, included civil engineering students, Kelly Canfield and Kevin Smith; civil engineering faculty lead Professor David Lovell; and practicing civil engineers, Bob Geist (Black and Veatch) and Johann Zimmerman (independent practitioner). The project was sponsored through an important earmarked gift from the Scholl Family Foundation.

AUGUST 2008: Ryan Payne (civil engineering senior and project lead), Thierry Some (mechanical engineering graduate student), Jason Lee (MBA/JD in the university's Robert H. Smith School of Business) and Professor Jungho Kim (mechanical engineering) returned to Burkina Faso to assess prospects for working with villagers to set up a cooperative for a solar-powered recharge facility. At present, villagers bike a long distance to pay to recharge car batteries they use in their homes for lighting. Following a demanding semester of project design, they are returning in January 2009 to construct the facility with the villagers. The travel team of 12 will also include Sarah Ness, past president of the university's EWB student chapter.

NOVEMBER 2008: The east coast chapters of EWB from Maine to Florida converged on the University of Maryland for a regional conference. The conference was imagined by and supported through a substantial gift from Chuck Waggner, distinguished Clark School alumnus. Peace Corps deputy director and university alumna, Jody Olsen, set the tone with her keynote speech, stressing the critical importance of beginning sustainable poverty reduction efforts by understanding local culture, local needs and local aspirations. Ness teamed with the Clark School development staff to bring about an impressive conference, another feather in the cap for the university's EWB chapter, a leader among chapters in the United States.

UPCOMING PROJECTS include ones in Peru and Ethiopia. Check back in the next issue of Civil Remarks. And, visit the web site at www.eng.umd.edu/ewb. Or, contact EWB faculty advisor, Deborah Goodings at goodings@umd.edu or at 301-405-1960.

CEE is proud to announce the addition of three new faculty members. Yunfeng Zhang has joined the department as an associate professor and Lei Zhang and Qingbin Cui have joined the department as assistant professors.

Yunfeng Zhang received his Ph.D. from the California Institute of Technology in 2001. His research focuses on sensor technology, smart materials, passive seismic response modification device for seismic hazard mitigation and performance-based design of self-centering structural systems, system identification of nonlinear structures, shake-table test and large-scale structural testing.

Lei Zhang received his Ph.D. from the University of Minnesota in 2006. His research focuses on transportation and urban systems analysis, land use and transportation planning, transportation economics and policy, innovative pricing and financing, infrastructure project and policy evaluation, traveler information systems, mathematical and agent-based simulation models with applications in ITS, demand forecasting and network dynamics.

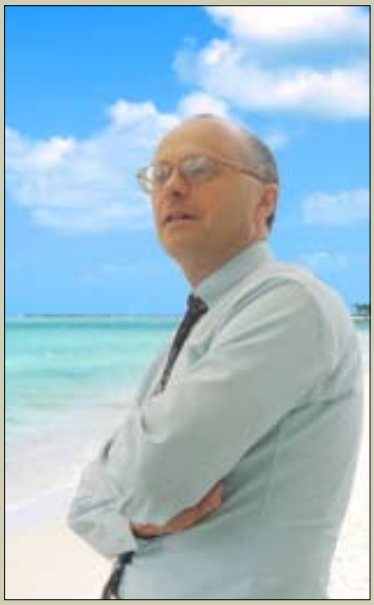
Qingbin Cui received his Ph.D. from Purdue University in 2005. His research focuses on infrastructure finance and sustainability, project delivery, contract engineering, project complexity and global project administration.

Gerald Galloway, Gerald Galloway, research professor, Glenn L. Martin Institute Professor of Engineering and affiliate faculty member of the Engineering and Public Policy Program, was recently elected 2008 Fellow by the National Academy of Public Administration. Additionally, as of summer 2008, Galloway,was appointed by Louisiana's governor to serve on the Governor's Advisory Commission on Coastal Protection, Restoration and Conservation.

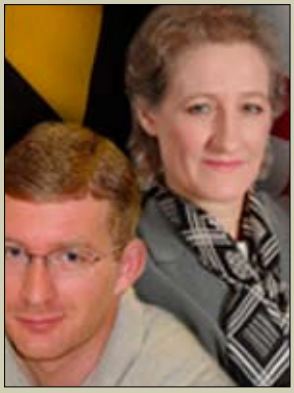
The second *Trans-Atlantic Infraday Conference on Applied Infrastructure Modeling and Policy Analysis* took place in November at Resources for the Future in Washington, D.C. Professor **Steven Gabriel** was the general chair and was joined by Professor Christian von Hirschhausen (co-chair) from Technische Universität in Dresden, German. The objective of the conference was to identify similarities and differences between various networked industries: energy, transportation, telecommunications and water as well as draw comparisons between North American and European experiences in research in this area with particular emphasis on the engineering-economic connection.

And, Deutches Institut für Wirtschaftsforschung (DIW, German Institute for Economic Research) in Berlin, Germany, appointed Gabriel as a DIW Research Professor. This appointment is in recognition of the energy policy modeling work from Gabriel's sabbatical visits during 2007-2008 and anticipated future research and training efforts. DIW has a global reputation as an economic think tank and center of excellence in research, especially with a policy focus. The initial appointment is for three years.

Professor **Allen Davis** has been appointed to the *BayStat Program Scientific Advisory Panel*. Davis was nominated by members of the BayStat Subcabinet based on his experience and reputation in the field. The BayStat Program was established by Maryland Governor Martin O'Malley and codified into law this past legislative session (Senate Bill 213) to measure and evaluate the state's efforts to restore the Chesapeake and Coastal Bays and to administer the up to $50 million annually established in the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund.



Philip Tarnoff, director of the Center for Advanced Transportation Technology or CATT, provided the keynote address to more than 100 attendees at the *Baltimore Regional Signal Forum* which was held November 5 at the Maritime Institute in Linthicum, Md. The forum, which was sponsored by the Baltimore Regional Transportation Board, provided sessions to discuss topics such as timing and detection; proposed MUTCD revisions for signals and impacts on pedestrian signal timing; battery backup; signal construction and maintenance; LED- equipment, maintenance and replacement; and accessible pedestrian signals.



CEE faculty members **Deborah Goodings** and **David Lovell** have been selected to join *Keystone: the Clark School Academy of Distinguished Professors*. Keystone instructors make a commitment to the improvement of education in fundamental engineering courses. The program is a renewable three-year appointment that includes a base salary increase, discretionary funds to support the recipient's activities and additional support personnel. Keystone aims to help improve student retention and graduation rates by ensuring students the best learning experiences in the early, formative stages.

Researchers at the **Center for Advanced Transportation Laboratory (CATT Lab)** have received the Greg Herrington Award from the National Academy of Sciences Transportation Research Board (TRB) for Excellence in Visualization Research for their paper entitled, "Visual Analytics for Transportation Incident Datasets."

The CATT Lab awardees include CATT Laboratory director **Michael L. Pack** along with graduate research assistants Darya Filippova,

FACULTY NEWS (cont. on page 14)

Professor Gregory Baecher Chosen by Students for CEE's Faculty Teaching Award

Ask why he thinks he was chosen as the most recent recipient of CEE's Faculty Teaching Award, and Gregory Baecher replies with his dry wit, "I've taught ENCE 100 (Introduction to Civil and Environmental Engineering) off and on for the last four or five years. Now those kids I taught as freshman are seniors. That's the trick."

Yes, the award is based on the votes of seniors for the top three faculty members receiving the highest student evaluations each year. But, Baecher, despite his humor, can credit his selection to more than just name recognition. Since joining CEE a decade ago he has made an impact in the classroom as an instructor, teaching undergraduate and graduate courses and teaching courses outside engineering.

"I've enjoyed my career in academics," says Baecher, who joined CEE as department chair in 1995, a position he held until 2003. Besides teaching, he is also a highly regarded researcher on the risks posed by infrastructure, particularly dams and coastal defense works.

As a teacher, he finds working with students at all levels rewarding. "It's fun to be around young kids, just out of high school, who ask awkward questions and are learning new things," he says. "Then, you have the graduate students, many already midcareer, who have returned to campus to upgrade their skills and further their careers. It's a nice combination."

Besides teaching undergraduate courses, such as ENCE 100, Baecher also teaches within the department's Project Management Program. But, some of the most rewarding classes he has taught, he says, were not in engineering at all, but the university's World Courses offered to freshmen and sophomores. These interdisciplinary courses have included a course jointly taught by faculty from government and politics, biology and engineering on the Nile Basin and "its five thousand years of hydraulic civilization," he says. "I had all kinds of students in that course, a real cross section of the College Park population," he adds.

As a student himself, Beacher, who is originally from San Francisco, attended the University of California, Berkeley. "At that time," he recalls, "there was no charge for tuition. That's certainly changed."

Beacher decided as a senior to pursue a degree in civil engineering and more specifically geological engineering, "finding it the most interesting thing I had sufficient units to graduate in," he says.

In focusing on geological engineering, he was drawn to the connection of the natural world and technology, a path he has followed throughout his career. After receiving his bachelor's degree in 1968, he pursued a master's and Ph.D. in civil engineering at MIT. He served on active duty with the U.S. Army Corps of Engineers at Ft. Belvoir in the mid-1970's, and while on reserve duty he joined the faculty of MIT. Becoming an assistant professor in 1976, he went on to a full professorship and head of the Constructed Facilities Division.

As the 1990s dawned, he caught the dot-com bug. He stepped away from academe to co-found with several others the firm ConSolve Incorporated, an information technology company that provided software solutions for environmental engineering. He was its chief executive officer from 1988 to 1995. Baecher remembers being invigorated by the experience. "We didn't become rich," he says, "But we learned a great deal and had a good time."

After 10 years, Baecher returned to his roots. "I wanted to get back into academics," he says, "and Maryland offered me a job."

He was coming on for the long haul, he says. "I was making a commitment. I had no intention of leaving in a couple of years. I wanted to be back on campus."

At Maryland his research took a different turn. He began to focus more on water resources, describing the present as "a golden age for water issues." Adding, "We're seeing more severe hurricanes and the public has become more aware about the impact of climate change and the possibility of sea level rise that could possibly destroy coastal cities around the world."

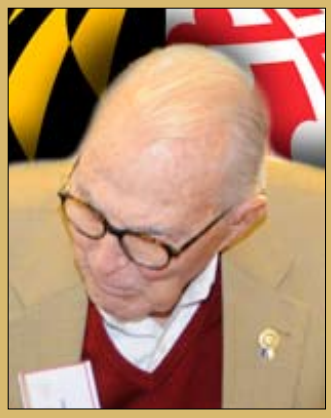
FACULTY PROFILE (cont. on page 12)

Hill International recently announced the promotion of three key executives in the Middle East region of the company's project management group. **Fateh N. Wattar**, who received his Ph.D. from CEE, was promoted from director of business to vice president of operations for the Northern Emirates, UAE. Wattar has over 25 years of experience in the engineering and construction industry and has worked for several major firms.

Tom Heikkinen is the new general manager of *Madison Water Utility* in Madison, Wis. Previous to assuming his current position, he was chief of plant operations at the Washington Suburban Sanitary Commission. During his 15 years at that utility, he worked with a team of 270 employees in providing 170 million gallons per day of clean drinking water to 1.8 million people in the Maryland suburbs surrounding Washington, D.C. Heikkinen earned both his bachelor's degree in civil engineering and his masters of engineering from the University of Maryland.

Emin Kutay has joined the *Department of Civil and Environmental Engineering at Michigan State University* as a tenure-track assistant professor. Kutay received a master's degree in 2002 and a Ph.D. in 2005 from CEE. Most recently, Kutay served as the asphalt mixture scientist/laboratory manager at the Turner-Fairbank Highway Research Center in Virginia. His research interests include image analysis and processing, X-ray computed tomography, analytical and numerical modeling techniques in pavement and geotechnical engineering, computational fluid dynamics and geosynthetics.

Philip C. "Pete" Cooper was recently honored with the *Salisbury Award* in Maryland. Cooper graduated in 1931 with a bachelor's degree in civil engineering from the University of Maryland. The Salisbury Award is presented by the Rotary Club of Salisbury and was established in 1926 for the purpose of recognizing "service that has been the greatest benefit to the happiness, prosperity, intellectual advancement or moral growth of the community." Cooper was the city's long-time engineer and director of public works, serving under seven mayors and 23 council members.



Martin Pietrucha, associate professor of civil engineering, has been named the interim director of the *Thomas D. Larson Pennsylvania Transportation Institute* at Penn State. Pietrucha received his Ph.D. from CEE. His experience includes work related to highway traffic operations, highway safety and human factors issues for public and private institutions. Pietrucha's research has focused on traffic signing, roadway delineation, pedestrian safety, highway geometric design, road safety audits and the visibility of commercial signing.

Consulting-Specifying Engineer magazine has announced the recipients of its *40 Under 40* award. This award is given to 40 building industry engineers under the age of 40 who stand out in their academic, professional, personal and community achievements. Among those chosen was alum **Peter D'Antonio**, who received his bachelor's degree from CEE and is the founder and president of PCD Engineering Services Inc., in Boulder, Colo.

Peggy White, who received a bachelor's degree in civil engineering in 1984, is the director of design for *christopher consultants ltd.*, a civil engineering consulting firm in Columbia, Md. White, who has also been a member of the board of directors of the National Capital Building Industry Association for several years, oversees the land development design of local commercial and residential projects.

David Brandes, who received a bachelor's degree in civil engineering with honors in 1988, is an associate professor of civil and environmental engineering at *Lafayette College* in Pennsylvania. In addition to teaching and research he is a co-advisor of the *Engineers Without Border* chapter at Lafayette.

Dean Tills, who graduated from CEE in 1983, is currently an associate for *Robert Silman Associates* in Washington, D.C. In response to an article in a 1992 ASCE newspaper requesting engineers join in rescue operations; he joined the Fairfax County Virginia Urban Search and Rescue Task Force. As the lead engineer on the task force he has participated in rescue operations after Hurricane Katrina, the Oklahoma City bombing, Hurricane Fran, the earthquakes in Turkey, Taiwan and Iran and the attack on the Pentagon. He was selected by Engineering News Record, a construction industry magazine, as one of the 25 top newsmakers in 2002 for activities at the Pentagon in 2001 and received a Public Service Award from the *American Society of Civil Engineers* for his search and rescue work.

Charles E. Bowler Jr., who graduated from the university with a bachelor's degree in civil engineering in 1958, died Nov. 16 at his home in Silver Spring, Md. Bowler was a transportation engineer who contributed to projects across the Washington region, including helping design the Shirley Highway express bus lane system, now the Interstate 395 HOV lanes. From 1998 to 2008, he managed the computer-aided drafting/design unit of the university's Department of Facilities Planning.

Dennis J. Hogan, who graduated in 2000, has been working in the geotechnical field of civil engineering in various capacities. He spent time working on heavy foundation projects for *Mueser Rutledge Consulting Engineers* in New York City, and started work in the area of dams with O'Brien & Gere Engineers in Blue Bell, Pa. He currently works as a project engineer for Malcolm Pirnie, Inc., in geotechnical and dam engineering services. He writes that he has "investigated, designed, rehabilitated and inspected large, high-hazard dams in New York, Connecticut, Pennsylvania, New Jersey, North Carolina, Alabama, Mississippi and Puerto Rico."

ALUMNI NEWS (cont. on page 14)

Alum Uses Engineering Education to Realize Dream Career

For Jim Kinkead his education as a student in the university's engineering program was a chance of a lifetime. "I knew this was my one opportunity to do something with my life," he says.

That "something" is now his work as a senior vice president with the Clark Construction Group, LLC, where he has been employed for nearly 23 years. The Clark Construction Group, based in Bethesda, Md., is one of the nation's most experienced and respected providers of construction services, with over $4 billion in annual revenue and major projects throughout the United States. The serious college student, who spent more time studying than doing anything else, now can't wait to get to work each day.

"I love what I do," he says grinning.

Through his work with Clark, Kinkead has been responsible for such construction projects as the American Red Cross national headquarters and the United States Department of Transportation headquarters, in Washington, D.C., the Clarendon Center, a mixed-use development, in Arlington, Va., and the National Harbor buildings E,K and L, part of a mixed-use waterfront development in Maryland, just to name a few.

Finding the way to that successful career, though, wasn't so obvious for Kinkead early on as he graduated high school and began taking classes at a local community college. "I was an average student without a career path," says Kinkead, who grew up in the Kensington and Wheaton area of Maryland.

Then Kinkead discovered math and physics and his world changed. "Something clicked," he says. "I really understood it and wanted to learn much more."

After two years at community college, Kinkead set his sights on the University of Maryland and a major in civil engineering. "I couldn't get enough of the engineering classes," he says. "It just worked for me." Adding, "I worked so hard. I treated my education like it was my job. I was willing to work seven days a week at it, if needed."

Kinkead went from self-described average student to graduating cum laude in 1985. While an engineering student he was eager to test the waters of the industry. He found it by going to work for Peter A. (Tony) Warner, now the president and chief executive officer of Warner Construction Consultants, Inc. However, at that time, "Tony was working out of his home," recalls Kinkead with a chuckle. Adding, "I wanted real construction experience and working for Tony during the summer and part time as a senior provided that. "

After graduation when Kinkead was ready to begin his own career, Warner pointed the way to the Clark Construction Group. "I trusted Tony, and he sent me to the best company in the area as far as general contractors are concerned and in my opinion," says Kinkead.

He started as a field engineer, and clearly remembers his first project, working on the National Museum of Women in the Arts. "It was an amazing experience," he recalls. "I was involved with working on this gorgeous building."

By the time Kinkead had advanced to a project manger in the early 1990s, he was given responsibility for another project close to his heart – the university Football Team Building. "I was a fan of the football team and so glad to be back on campus," he says.

"For me, it was really exciting."

"With each project, I think, this is a once-in-a-lifetime job and then another project comes along and I think the same thing. I am constantly amazed at that," says Kinkead.

Kinkead is quick to add that most days are that way for him. "At Clark I have been continually challenged and provided with limitless opportunities," he says. "With each project, I think, this is a once-in-a-lifetime job and then another project comes along and I think the same thing. I am constantly amazed at that."

When asked to pick a favorite project or two, Kinkead cannot. "Each building and each

ALUMNI PROFILE (cont. on page 14)

STUDENT PROFILE (cont. from page 7)

Ecuador she promptly changed her mind and her major to civil engineering. When she graduated in December she did so with not only a degree in civil engineering but a minor in international development and conflict management, as well.

On a resume that includes much, such as a variety of impressive internships (American Contracting and Environmental Services and KCI Technologies), honors and awards (2008 Robert L. Morris Award for Environmental Leadership), and other campus activities (Women in Engineering mentor and study abroad in Laos), Engineers Without Borders-USA stands out. She has steadily climbed the ranks within the EWB-USA program.

For example, this past year she was vice president of the EWB-USA South East Region Executive Committee and workshop coordinator for the 2008 East Coast Workshop. In other EWB-USA work, Ness also served as EWB-USA's University of Maryland chapter president during 2007-2008; travelled to Dissin, Burkina Faso, as a student member on a proposed solar energy project in January 2009; was project leader for a proposed water treatment system for Patapamba, Ecuador, in 2007; a co-project leader for successful completion of water sanitation systems for Uduzhapa and Conseco, Ecuador, in 2006; and a student member on a successful water supply project in Patadel, Ecuador, in 2005.

"This has been such a large part of my college experience," she says. "The largest part, actually."

Ness grew up in a very different world than the one she has worked to help as part of EWB-USA. She was born in Baltimore, Md., and attended Catholic school in the Towson area. In high school she also had her first opportunity to travel abroad participating in a school trip to El Salvador to visit a sister school there as a way to "promote education and international solidarity," she says.

"I remember visiting the community and us sharing our lives with them and them sharing their lives with us," she recalls. "It was so amazing to me. We were strangers to them and them to us. But, we were welcomed from the very beginning. They shared all they had with us, even though it wasn't very much."

The experience left a lasting impression on her, and she looked to repeat it again as a college student, this time working to help better the community she was visiting. EWB-USA provided the answer changing her life along the way. "I'm not sure I'd still be in engineering without EWB-USA," she admits. "I have learned so much. I have seen how engineers can use their knowledge to improve the quality of life for people in need. EWB-USA also has taught me leadership and project management skills, even public speaking skills as a result of the presentations I've given about EWB-USA."

As she prepares to end her career as an undergraduate student, she plans to use those skills professionally. She is interested in working with drinking water or waste water treatment "from a technical and design perspective," she says.

She is also interested in attending graduate school, perhaps doing so part time, while working. One thing is certain, she hopes to continue the work she began with EWB-USA in some way. "I'd like to pair my engineering knowledge with international development," she says. Adding, "EWB-USA gave me a sense of what was possible using the knowledge I had."

A knowledge she feels should be shared by all of her fellow engineers. "In today's world we're not all separate, but connected," she says. "We are a global community and as such should share the technology we have to help others. I think my generation really needs to have that global perspective. It is the world we live in today."

FACULTY PROFILE (cont. from page 9)

Through his research, he has become an active consultant to government and industry on the risk and reliability of constructed facilities, especially in water resources development, as well as dam safety and national security.

Baecher and fellow faculty member, Lewis E. Link Jr., recently were awarded the Army Commander's Award for Public Service, recognizing their contributions to the Interagency Performance Evaluation Task Force or IPET. IPET was established by the Chief of Engineers in 2005 with the objective of understanding the behavior of the New Orleans Hurricane Protection System in response to Hurricane Katrina and to assist in applying that knowledge to the reconstitution of a more resilient and capable system.

Baecher has served on various National Research Council committees, as well, including water security planning for the EPA; a committee on science and technology for countering terrorism; and the water science and technology board. He is also a member of the National Academy of Engineering.

More recently, he was appointed to the Planetary Protection Subcommittee of NASA's Science Mission Directorate to assess issues and risks of biological contamination with the launch and return of spacecraft in interplanetary missions.

For the teacher, researcher and one-time businessman it has been a satisfying career so far. "Not bad," he says in his understated way. Not bad at all.

Staff Member Elyse Beaulieu Lives in Boston and Commutes to Job with CEE

Since last spring, Elyse Beaulieu, assistant director of graduate student services for CEE, has been commuting to the university campus from Boston where her fiancé works as a postdoctoral fellow.

"I couldn't quite leave," says Beaulieu of CEE. "This has been a special place for me."

CEE is also a place where Beaulieu has been able to pursue her varied talents and interests. Growing up in Silver Spring, Md., Beaulieu was raised by a father who was a scientist and a mother who was an artist. "I remember walking through the forest as a little girl and my father telling me the scientific names of plants," she says. "Then there were other times I remember trips to the National Gallery of Art in D.C. where my mother worked. I guess you can say I am a product of two different branches of the family tree."

Her father was a veterinarian who worked for the U.S. Food and Drug Administration's Center for Veterinary Medicine. Her mother was a fiber artist concentrating in the areas of hand weaving and spinning. Yet, despite her respect for her mother's talents, as she grew older Beaulieu found herself more and more drawn to the science side of the family. "My dad was a scientist, and I wanted to be a scientist," she says.

She entered a nearby college intent on studying biochemistry and molecular biology. However, although a bright student, "towards the end of my sophomore year, I had taken a couple of labs, and I found myself relying heavily on my lab mates. The process of experimentation just didn't come naturally to me," she says.

She did enjoy reading and writing about science. In fact, she found she had a flourish for writing creative and engaging research papers. As the more liberal arts branch of the family tree kicked in, Beaulieu began to consider becoming a writer and editor. "I remember when I was nine or 10 writing this story about horse thieves. Writing was something I always enjoyed," she says.

She went on to graduate from college with degrees in English and sociology, teaching high school English briefly, before moving to Pennsylvania where her now ex-husband was attending school. While there, she joined the Penn State Center for Adult Learner Services as a staff assistant and editor. "It was an opportunity for me to observe the administrative side of a university," she says. An experience that would prove helpful in her future at the University of Maryland.

After a year in Pennsylvania, she returned home and decided to enter graduate school. More specifically, she wanted to enroll in the university's comparative literature program. "I wasn't a bad writer going in, but I was an even better writer coming out of that program," she says now. She received her maser's degree in English literature in the spring of 2003. Her focus was on mythology, an interest that had been nurtured by her mother during her childhood. "I find it so fascinating to see how mythology worked in the lives of people," she says.

While a graduate student she went to work for the university in order to pay her tuition. "I had a friend who was working as a graduate assistant in the Department of Mechanical Engineering and she encouraged me to take a GA position with the department, which turned into a graduate coordinator position," she recalls. Beaulieu quickly moved on to manager of graduate studies and also taught

"I like working with students," Beaulieu says, referring both to her role as a lecturer in the English department and her work with the engineering school.

a course on the Introduction to Mythology during the fall of 2003 for the English department.

"I like working with students," she says, referring both to her role as a lecturer in the English department and her work with the engineering school.

Beaulieu had become the assistant director of graduate studies for the Department of Mechanical Engineering prior to joining CEE's graduate student services as an assistant director in January of 2007. During her time working for the engineering school,

STAFF PROFILE (cont. on page 14)

ALUMNI PROFILE (cont. from page 11)

project has its own nuances. I can tell you a story about each one," he says.

Currently he is involved with the Constitution Square project, a mixed-use development north of Union Station in Washington, D.C. "It's a three-building complex with a residential tower, 440 luxury apartments, and two big office towers. It's a big complicated job, and I'm enjoying it." Adding, "A typical office building would be rather mundane at this point."

Despite the demands of his career, though, he has remained loyal to his alma mater. Several years ago, Kinkead helped establish the university's student chapter of Associated Builders and Contractors, Inc., (ABC), an undergraduate student organization which is sponsored by ABC's Metro Washington chapter. He returns to campus to speak about his profession and is a member of CEE's Board of Visitors.

Outside of his alumni involvements and regular job responsibilities, he is leading the Clark Construction Group's "green" initiative, educating workers at the construction company in order to meet the requirements of the U.S. Green Building Council's Leadership in Energy and Environmental Design program. And, he recently was appointed to the National Registry of Peer Professionals by the General Services Administration (GSA) and as such he will be called upon to visit various job sites conducting informal evaluations of projects involving the GSA. The father of two daughters, six and eight, he coaches their basketball and soccer teams. "We live a busy life," he says of he and his wife, who works at NIH. "But a good life."

At the end of an exhausting day, though, he need only to think of the buildings that he has built to find a deep feeling of satisfaction.' "You take an idea," he says, "and a set of drawings and figure out how to put together a thousand parts and pieces and you have this amazing structure that comes from that. There's nothing more rewarding."

STAFF PROFILE (cont. from page 13)

she pursued other interests as well, such as a writing tutor and a free-lance technical editor. After coming to CEE, she was even asked to put her writing and editing skills to work for the department as a lecturer of a technical writing seminar during the fall of 2007, spring of 2008 and this past fall.

The university not only provided her with an education and employment, but a relationship as well. She met her current fiancé, Victor, a Russian doctoral student studying mechanical engineering, at the university. "I can't quite pull away from that science attraction," she chuckles.

The couple have dated for three years even after her fiancé moved to Boston to continue his education at Harvard and MIT. Beaulieu decided to join him last February. She was not eager to leave CEE and CEE was not eager to lose her. So the department offered her the opportunity to commute to campus several days a week. She agreed. She comes to campus Tuesday through Thursday, teaching her course on technical writing on Tuesday. Monday and Friday she works from home. "It's worked out pretty well," she says.

However, her days of commuting will be soon coming to an end. She and her fiancé are expecting their first child in March, making the trek to Maryland much more difficult. She is ending one chapter of her life and beginning another. But she takes fond thoughts with her. "It isn't going to be easy leaving CEE and the people that I've come to know," she says.

FACULTY NEWS (cont. from page 8)

Andreea Olea, Michael VanDaniker, and Krist Wongsuphasawat. Their research began as a class project during the spring of 2008 for Dr. Ben Shneiderman's Information Visualization course in the department of computer science. After the semester ended, Mr. Wongsuphasawat and Mr. Pack expanded the project to produce this award-winning research.

The award is in honor of the late Mr. Greg Herrington—a pioneer in the exploration and application of 3D visualization technologies to transportation planning and design. It honors his memory by recognizing outstanding research in the field of visualization as applied to challenges and opportunities for improving transportation.

The formal presentation of the award will take place on January 14th at the 2009 TRB Annual Meeting in Washington, D.C. during the Visualization in Transportation Committee meeting.

ALUMNI NEWS (cont. from page 10)

Benjamin John Bookhultz, who graduated from CEE in 2005, married **Victoria Louise Smith** on May 24, 2008. Bookhultz is employed with Carroll Engineering in Hunt Valley, Md., and the couple resides in Catonsville, Md.

John A. d'Epagnier, who received his bachelor's degree in civil engineering in 1982, has been working in the civil engineering field at *Rummel Klepper & Kahl Engineers* in Baltimore, Md., since 1989. He is currently an associate and manages the firm's urban design and site development group. Over the course of his career, d'Epagnier has participated in the planning, design and management of various transportation and site development projects throughout the mid-Atlantic area. A few of the notable projects d'Epagnier has participated in include *M&T Bank Stadium* where the Ravens football team plays and the *Maryland Science Center* expansion.

"REFLECTING ON OUR PAST"

CENTENNIAL BOOK ORDER FORM

Please print this order form, fill it out, and fax it to:
Attn: Nikki Morris
Phone: 301.405.6261
Fax: 301.405.2585

Price (includes shipping) is $35.00/book
You are also welcome to personally pick up your book from the CEE office.

Please fill out all areas that apply:
I would like _____ copies of "Reflecting On Our Past"

_____ X $ 35.00 = _____
COPIES ENTER TOTAL TRANSACTION AMOUNT HERE

SHIPPING/CONTACT INFORMATION:
Upon receipt of payment, please send _____ copy/copies of "Reflecting On Our Past" ($35.00/book — includes shipping) to:

Name(s) (please print) _____

_____

Address _____

_____

_____

Telephone _____

E-mail _____

Please submit any additional names/addresses on a separate sheet of paper along with this form.

PAYMENT BY CHECK:
Please enclose a check for the Total Transaction Amount made payable to the University of Maryland and mail it to:
Civil & Environmental Engineering
University of Maryland
1173 Glenn L. Martin Hall
College Park, MD 20742-3021
(Please include your telephone number on the check).

PAYMENT BY CREDIT CARD:
Cardholder's Name and Telephone (please print)

_____

_____

Address _____

_____

Credit Card Type _____

Credit Card Number_____

Expiration Date _____

Cardholder's Here _____

Would you like your receipt _____ E-mailed or ____ Mailed to your Contact Address above?
(Please check your preference.)

HELLO!

We'd Love 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. You are welcome to send us an update on your personal stationary, or via email.

_____
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 Updates:

_____

_____

_____

_____

_____

_____

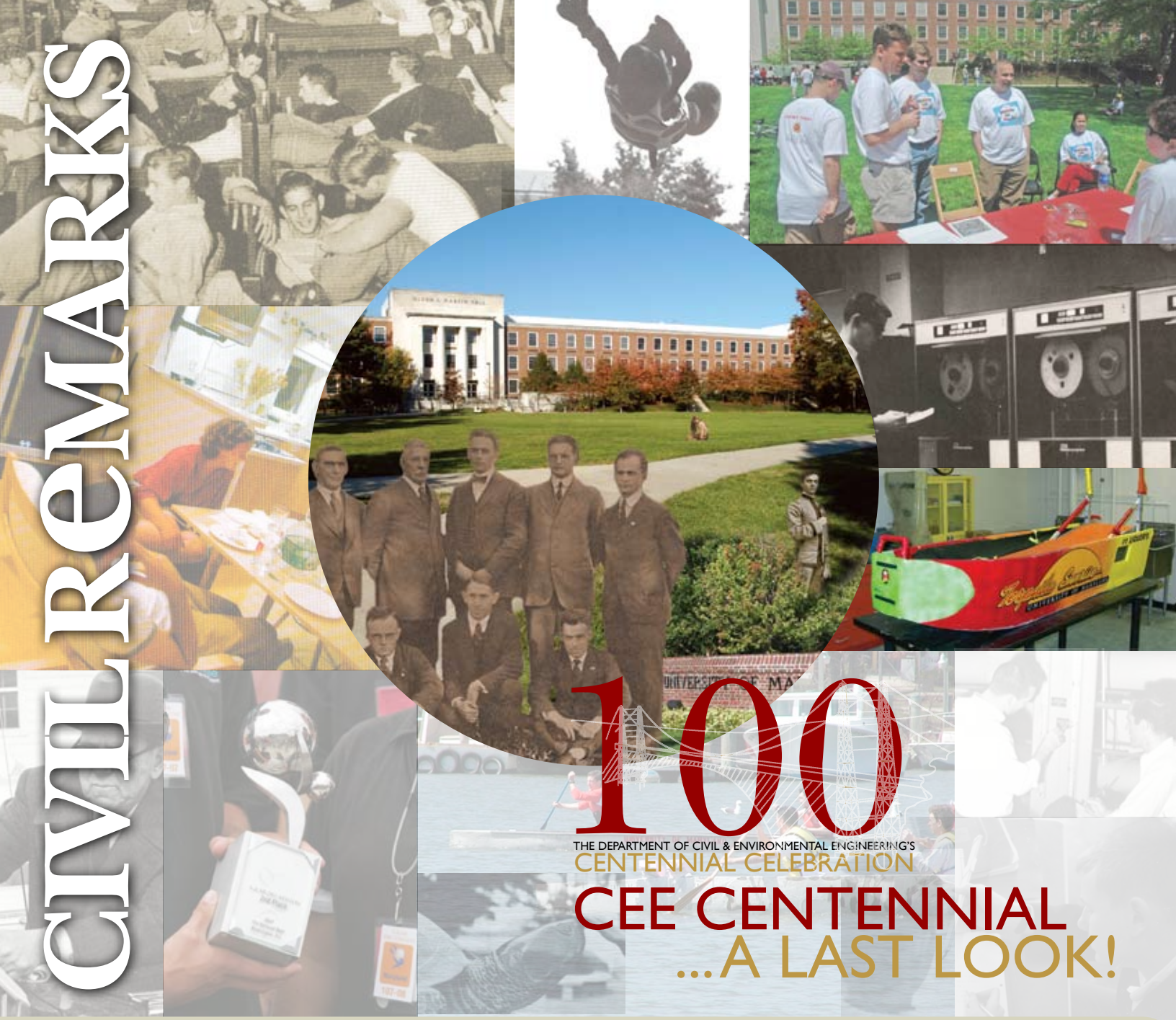
_____

_____

_____

Also, please send the address of any Civil & Environmental Engineering alumni you know who are not receiving the CivilRemarks newsletter.

Please send to:
Sangeeta Kaul,
CivilRemarks
Department of Civil and Environmental Engineering
University of Maryland
College Park, MD 20742-3021
E-mail: skaul@umd.edu
Phone: 301 405 4195
For further information, please visit us at cee.umd.edu



CIVILREMARKS

100

THE DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING'S
CENTENNIAL CELEBRATION

CEE CENTENNIAL
...A LAST LOOK!

A. JAMES CLARK
SCHOOL OF ENGINEERING

Department of Civil & Environmental Engineering
University of Maryland
1173 Glenn L. Martin Hall
College Park, MD 20742-3021

Nonprofit Org.
U.S. Postage
PAID
Permit No. 10
College Park, MD