

CE²

NEWSLETTER

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Christopher J. Earls, Chair

Message from the Chair

Since the beginning of this year, many things of great importance have occurred in our Department of Civil and Environmental Engineering (CEE). I am somewhat ambivalent about the opportunity to share this information because while there is a tremendous amount of exciting and good news, we have also experienced a significant loss.

As some of you may already be aware, we lost a valued and respected colleague this past January when **Fred Pohland** passed away unexpectedly. A member of the National Academy of Engineering (the highest honor for an engineer in the United States) and a committed and devoted educator, Fred embodied many of the important ideals that all of us strive for and hope to attain. Fred's experience, guidance, and inspiration will be sorely missed by our faculty, staff, and students.

As often happens in life, hope followed tragedy when we hired our newest faculty member this past March. **Kent Harries** now serves as an assistant professor in the structural engineering and mechanics group. (See story inside.)

Other changes in our faculty include the departure of **T-K Hung**, whose primary academic appointment is now four floors below us in the Department of Bioengineering. For those of you who do not know, T-K was an early pioneer in this field, partly as a result of his research into the mechanics of pulsating arterial blood flow. Although we will miss having T-K on the ninth floor of Benedum Hall, we are excited for him as he pursues wonderful new opportunities.

As you must have noticed by now, there has been a change in our newsletter that extends beyond the new and exciting format. Since the author of this letter is not **Rafael Quimpo**, clearly there is more to tell. This past January, Rafael learned of a significant research project that was coming his way (a \$2.1 million environmental impact study that he is working on with **Ronald Neufeld**). This prompted fond memories of more scholarly activities, which came flooding back into focus. Thus, after eight years devoted to CEE service and administration, Rafael is returning to his roots in achieving excellence in teaching and research. We are all very happy for Rafael and wish him much success with his exciting new project.

Now that I find myself intimately involved in helping to craft our department's future, I must confess that I am sometimes a little giddy. It is difficult to keep from being swept up in the sense of promise for a bright future for CEE. Realizing this bright future will require a tremendous amount of hard work and dedication. But as a department, we have stepped back and realized that the decisions we make now will have enormous impact in the long term. As a means to help guide us toward a bright future, the faculty has recently approved new departmental vision and mission statements that embody our aspirations and goals:

Vision

The Department of Civil and Environmental Engineering will be a national leader in the discovery and creation of new knowledge and its dissemination through scholarly publication and inspired instruction.

Mission

The mission of the Department of Civil and Environmental Engineering is to achieve scholarly excellence through the pursuit of leading-edge research and through the education of civil engineering professionals who are technically proficient problem solvers with a global outlook and a commitment to lifelong learning.

We are very serious about these statements, and we have committed ourselves to building a formidable department that operates at the highest levels to fulfill its educational and scholarly charge. Re-organization and restructuring, the addition of new faculty, and the renovation of our laboratories and facilities are just some of the important steps that we are currently taking to rise in national prominence and stature. With the continued support of you, the department's friends and alumni, we cannot fail. A strong, vigorous, well-regarded Department of Civil and Environmental Engineering makes us all proud. Hence I am sure that I can count on your support as we move forward with our ambitious plans for renewal.

I will use this newsletter as a medium for sharing the new and important developments under way here at Pitt. I also invite you to visit our newly redesigned Web site (www.engr.pitt.edu/civil) to stay current on all that is going on here in Benedum Hall. ■



Pitt Hosts ASCE Conference

by Liz Centini (Class of 2004)

Last April, Pitt's American Society of Civil Engineering (ASCE) Student Chapter hosted the 2004 Ohio Valley Regional Conference. Thirteen schools from Western Pennsylvania, Ohio, Kentucky, and Indiana participated in the weekend's competitions including steel bridge, concrete canoe, surveying, and technical paper writing.

The conference kicked off with the steel bridge event, a timed competition in which teams erected a scaled version of a bridge. Schools' times ranged from just over three minutes to 16 minutes total. Other factors taken into consideration were the weight of the bridge, construction economy, and aesthetics. While most schools chose a simple flat bridge design, Pitt raised the bar with an arch bridge with cable stays. Painted blue and gold, the bridge resembled some of the city of Pittsburgh's many landmark spans and placed fifth.

While the bridge teams were assembling their entries Friday morning, six schools were trekking through the muddy Cathedral of Learning lawn as part of the land-surveying event. Teams worked to close a loop using leveling and angles. The much-anticipated portion of this event was the long-lost art of pacing, where Pitt led while most schools muddled their way through. Scores were based on the speed of the survey and the accuracy of the measurements. Despite spending many weekends learning how to work a tape, and not having any formal courses in surveying or practice equipment, Pitt took third place behind winner Ohio University and runner-up Cincinnati State.



Building the concrete canoe



Pitt's concrete canoe

Pitt civil engineering sophomore **Joe Coleman** took first place in Friday's technical paper competition on ethics in engineering. In addition to a first-place plaque, Coleman received a \$100 prize for his winning entry.

Despite a dreary start, Saturday turned into a nice day for the concrete canoe races at the North Park Lake Boathouse. The first event of the day was the presentation of the canoes for aesthetic judging. This year's aesthetic winners included Western Kentucky University and first-time competitors Carnegie Mellon University.

The canoe races were broken down into several heats for women's, men's, and co-ed sprint races, and the endurance race. All races were run against the clock and not against competing schools. Competitors in the sprint races ran the course of 100 meters down a lane, around a buoy, and back to the start line. The endurance race combined slalom and distance. Teams slalom 100 meters between buoys to travel 600 meters around the outside perimeter of a course.

Following the aesthetic judging was the swamp test, in which canoes are fully submerged into the lake but must have their edge float an inch above the water's surface. If the canoe floats, it will not sink with team members inside. The only two schools unable to pass the swamp test were Pitt and University of Dayton. If a canoe doesn't pass the swamp test, the team can add flotation devices to make it seaworthy at the expense of losing points. Pitt was able to get its boat afloat, but Dayton was not.

After a long day of canoe races, the teams celebrated at the awards banquet. There were many surprises throughout the night as schools clapped and cheered for one another. A few notable awards were the Spirit of Competition Award given to Cincinnati State for their valiant effort in trying to save their canoe, and the Award for Innovation given to Western Kentucky for their use of a radical asphalt-like binding to coat their canoe. ■

Chi Epsilon

by Asha Kamat (BSCE '04)

This year was an exciting year for Pitt's Chi Epsilon chapter. A new group of leaders stepped in and set high goals for the organization. Since many chapter members graduated, our main goal was to increase membership in the organization by providing a reason to stay involved.

Chi Epsilon is the National Civil Engineering Honor Society dedicated to scholarship, leadership, and service in engineering. Members are selected based on their commitment to scholastic achievement in civil engineering. The chapter invites the top five percent of the junior and senior classes to join and inducts those who fulfill the application criteria.

This year, the Pitt chapter strove to become more than just an organization that students join for résumé purposes. Chi Epsilon leadership set community service, social solidarity, and professional education as its three goals for 2004.

To accomplish these goals, Chi Epsilon hosted a variety of events. One spring Saturday, all the members spent a day at Schenley Park, tearing down brush and clearing trails. Social activities such as bowling allowed members to learn more about each other and form closer bonds. Through these friendships, juniors tapped into a source of candid advice and guidance from their peers. Chi Epsilon members also helped kids interested in math and science by volunteering at the local Math Counts competition.

This spring, Chi Epsilon had its most successful initiation in many years. Twelve new members joined the organization, bringing the total membership to 20 students. New officers were elected and the chapter is proud to announce **Stacia Davis** as the new president and **Brad DiCola** as the new vice president of the chapter. Stacia and Brad both attended the national Chi Epsilon convention and are excited to implement some of the ideas discussed at the convention. ■

Awards

The Metal Building Manufacturers Association (MBMA) selected **Noah B. Accord** as the recipient of its 2003 MBMA Fellowship Award in support of his MS thesis research, "Finite Element Analysis of Web Tapered Members." The fellowship

is competitively awarded to a single recipient each year and includes a \$5,000 stipend and commemorative plaque. Earls is his thesis advisor. ■

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FACULTY NOTES

Welcome!

Kent A. Harries joined the CEE faculty in July 2004. Previously, he was assistant professor at the University of South Carolina and a research engineer at the Advanced Technology for Large Structural Systems Center at Lehigh University. He received his PhD in structural engineering and master's and bachelor's degrees in civil engineering and applied mechanics from McGill University in Montreal, Canada. Harries is a licensed professional engineer in the Province of Ontario, Canada.



Kent A. Harries

Harries' research interests include the seismic design and retrofit of building structures, the design and behavior of high-rise structures, the use of

nontraditional materials in civil infrastructure, applications of full-scale structural testing, and the history and philosophy of science and technology. He welcomes the opportunity to bring his research to the Watkins-Haggart Structural Engineering Laboratory at Pitt.

A member of many national and international technical organizations and committees, Harries serves as an associate editor of the *ASCE Journal of Bridge Engineering*. ■

New Grants

Leonard Casson, associate professor, "Identify, Screen and Treat Contaminants to Ensure Wastewater Security," Water Environment Research Foundation, \$506,376. This project's objective is to assimilate and provide high-quality information to wastewater collection and treatment facilities and their communities. This, in turn, will help them be better

equipped to safely respond to, remediate, and recover from the introduction of hazardous materials into wastewater collection and treatment systems.

Ronald Neufeld, professor, "Beneficial Reuse and Metals Recovery from Acid Mine Drainage Residuals," Southern Alleghenies Conservancy and PA-DEP through the Fraunhofer Center for Energy & Environment, \$122,079. The purpose of this project is to develop a technology that can treat acid mine drainage while also recovering valuable minerals. The technological approach is based on the water chemistry of metals oxidation and consequent precipitation. Application of this system will be to the St. Michaels acid mine drainage outfall located near Johnstown, Pa.

Rafael Quimpo, professor, and **Neufeld** (in cooperation with GAI Consultants of Monroeville; AWK Engineers of Turtle Creek; Gwin Dobson & Foreman of Altoona; and, and Unitec Engineers of State College, Pa.), "I-99 Corridor Environmental Effects Study," Pennsylvania Department of Transportation, \$2.1 million. This research project will investigate and validate best management practices for protecting the environment during construction, and will investigate a new concept in roadway design wherein special provisions are made to better preserve surface and groundwater flows at their preconstruction conditions. Quimpo will direct the project with **Precha Yodnane** (MSCE '75, PhD '79), vice president of GAI Consultants, as associate director. Quimpo and Neufeld will be principal and co-principal investigator, respectively. Faculty members from the Departments of Geology and Planetary Science and Biological Sciences will assist in the project. The Western Pennsylvania Conservancy will collaborate on environmental monitoring. ■

Awards

Casson won the 2004 American Water Works Association Management Division Best Paper Award for "Utility-Based Analytical Methods to Ensure Public Water Supply Security." The Pittsburgh section of the American Society of Civil Engineers also honored Casson with its Professor of the Year Award.

Earls was awarded an Outstanding Young Alumni Award from the Charles E. Via Jr. Department of Civil & Environmental Engineering at Virginia Tech for 2004.

Neufeld won the 2004 Professional Research Award from the Pennsylvania Water Environment Association.

Julie M. Vandenbossche, assistant professor, received the Transportation Research Board (TRF) Fred Burgraff Award, which recognizes excellence in transportation research by individuals 35 years of age or younger. ■

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ALUMNI NOTES

CEAC Update

by *Jim Lombardi (BSCE '72), president*

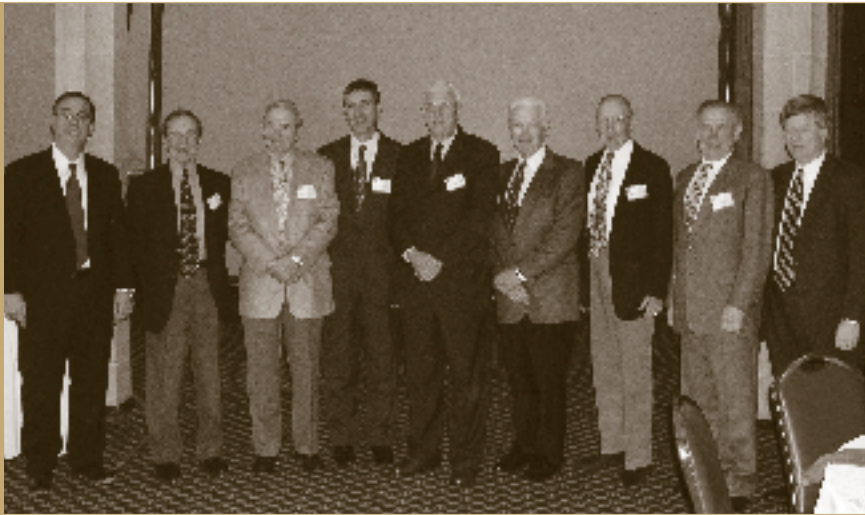
Chancellor Mark A. Nordenberg was the special guest speaker at the Civil Engineering Alumni Club (CEAC) Luncheon held on April 15 at the University Club. He spoke about the difference between mechanical engineering and civil engineering, joking that, "Mechanical engineers build weapons. Civil engineers build targets."

The chancellor reviewed the University's past accomplishments and successes, talked about current and planned projects and initiatives, and presented his vision for the future of our University. **Alfred C. Ackenheil** (BSCE '39, PhD '54) praised Nordenberg for "a first-class job." Ackenheil was among seven of our department's past Distinguished Alumni Award recipients who were recognized and honored at the luncheon. The others were **Paul R. Bridges** (BSCE '59), **Michael H. Dufalla** (BSCE '67, BSMIN '68, MSCE '70), **Charles Russell Jr.** (BSCE '59, MSCE '70), **Alex G. Sciulli** (BSCE '75, MSCE '81), **Aloysius T. McLaughlin** (BSCE '57), and **Joseph F. Lagnese Jr.** (BSCE '51). The 60 individuals attending were treated to an excellent lunch, good fellowship, and a great presentation.

Since the luncheon, Nordenberg has written two letters and thanked CEAC for being "truly interested in advancing the University and the School of Engineering." The chancellor added that, "It is alumni like ... members of the club that help us keep the University moving forward."

STORY CONTINUED ON BACK

U.S. Steel Dean of Engineering Gerald Holder (far left) and Chancellor Mark Nordenberg (far right) with the Distinguished Alumni Award recipients.



On June 9, 14 CEAC members toured the new Biomedical Science Tower 3 (BST3) currently under construction on the Pitt campus. Edward Elinski, PE, from Mascaro/Hunt, construction managers, narrated an interesting presentation on the history and progress of the building, and then the group toured a truly world-class facility. Located in the heart of Pittsburgh's healthcare corridor, this 10-story, 330,000-square-foot, \$205 million building will allow scientists from an array of disciplines to pool their expertise and participate in discoveries that advance scientific understanding while bettering the human condition. One of the largest magnets in the world will be housed in the basement of BST3. After the tour, the group met at Peter's Pub for soft drinks, buffalo wings, and good conversation. ■

Awards

Robert F. Nowack (MSCE '52), Alumni Professor of Civil Engineering and Engineering Mechanics at Clemson University, was the 2004 recipient of Clemson's Distinguished Service to People Award. He has taught there for more than 50 years.

Daniel J. DePra, PE, DEE (BSME '93, MSCE '04) is the 2004 recipient of the Young Engineer of the Year Award from the Pittsburgh Chapter of the Pennsylvania Society of Professional Engineers.

The Pittsburgh Chapter of the American Society of Civil Engineers named **Art Gazdik** (MSCE '91), engineer for Ross Township, Government Engineer of the Year.

The Engineers' Society of Western Pennsylvania recognized **Allen D. Biehler** (BSCE '67) as the 2004 recipient of the William Metcalf Award and **John E. Coyne** (BSCE '70) as Engineer of the Year.



Art Hoffmann receives ASCE award.

The Pittsburgh Section of the American Society of Civil Engineers awarded the Civil Engineering of the Year Award to **Art Hoffmann** (BSCE '83) of Gannett Fleming. **George Joseph Feczek** (BSCE '01) of the Pennsylvania Department of Transportation received the Young Civil Engineer of the Year Award. President **Anthony Iannacchione** (PhD '97) and past president **Gary Runco** (BSCE '76), the awards committee chair, presented the honors. ■

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