

September 2005
Civil Engineering Department
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CIVIL ECHOES

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Dr. John Aidoo Joins Our CE Staff



John & Tina Aidoo

It's with great excitement and humility that I prepare to join the highly experienced faculty of the Civil Engineering Department at Rose-Hulman.

I obtained my undergraduate degree from the University of Science and Technology, in Ghana. Immediately after graduation, I was hired as an Assistant Civil Engineer with Wahome Steel Ltd, a steel producing company in Ghana. As Assistant Civil Engineer at the Fabrication Department, I was responsible for the design, fabrication and construction of factories, warehouses and roof trusses using steel sections. After working in the company for about three years, I decided it was time for me to pursue graduate studies in the area of structural engineering.

This brought me to the University of South Carolina (USC) where I conducted an experimental investigation in the area of structural rehabilitation of buildings and bridges using Carbon Fiber Reinforced Polymer composites (CFRP). Specifically in my Masters program, I studied the fatigue behavior of large scale reinforced concrete bridge girders strengthened with (CFRP) composites.

The focus of my PhD degree was on the structural testing of full-scale reinforced concrete bridge girders obtained from a decommissioned bridge. The bridge girders were shipped to the Structural Engineering Laboratory at the University of South Carolina to study methods of strengthening such existing structures. Through this hands-on experience, I have developed a substantial understanding of the application, behavior, and effectiveness of composite materials, such as FRP, for structural purposes.

Prior to being hired by Rose-Hulman, I had the invaluable experience of working at The South Carolina Department of Transportation (SCDOT). At SCDOT we worked to replace and maintain some of the old existing state bridges.

My main objective in teaching is to develop students to become creative engineers and to instill in them skills appropriate to their professions and life-long learning. This can be achieved through class projects, problem solving and student presentations. I believe in hands-on experience and would encourage undergraduate student participation in research programs. Such an approach will enhance their understanding of the fundamental concepts of engineering science and most importantly stimulate student enthusiasm.

Finally, in the foreseeable future, I intend to develop and teach undergraduate level courses in the areas of repair and retrofit of concrete structures using CFRP composite materials.

My wife Tina (a professional photographer) and I have taken up residence at the Village Quarter for the time being. Tina has taken pictures of Ghanaian governmental officials including visiting dignitaries like President Clinton. We are also expecting our first child in October.

Chairman's Perspective

The 2005-06 school year has begun, and I am very excited going into my 5th year as department head. But before I write about the year ahead, let me mention the many accomplishments of our students (especially our seniors) as they finished up the last school year. In April, all of our seniors took the FE exam, which is typical, but all of them passed it, which is unusual and represents a great accomplishment. In early May, they turned in their senior design projects, and they were excellent (collectively, the best I have seen in my 17 years at Rose). Then in late May, we got word that our ASCE student chapter won the Robert Ridgway Award for being the best ASCE chapter in the nation.

I could not have been more surprised at all of these accomplishments, and by that I don't mean any disrespect to the seniors that graduated. I just did not know how talented and capable they were until they were gone. We will miss them, but look forward to this year's seniors to build on that great success. (Please read the full story about the Robert Ridgway Award in this issue of the Echoes.)

This summer was a busy time in the department. A number of us attended the annual American Society of Engineering Educators conference in Portland. Two thirds of our faculty had papers in the proceedings. Also, Dr. Kevin Sutterer completed his second summer directing the National Science Foundation – Research Experience for Undergraduates program on forensic engineering. Eight students from across the country came to Rose to do directed research on engineering failures with Dr. Sutterer and Dr. Michael Robinson. In addition, members of the civil engineering faculty were working on papers, conferences, and course preparations making for a busy summer.

Now on to 2005-06. We have added a seventh faculty member, based on our growing enrollments. His name is John Aidoo, and his specialty is structures/mechanics. (Please read more about him in the article dedicated to him in this issue of CE Echoes.) Our senior class is a diverse and enjoyable group, and we look forward to another great year.

Join Us For Homecoming

The Civil Engineering faculty at Rose would like to extend a heartfelt invitation to you and your family to join us in the 2005 homecoming festivities. Homecoming will be held on September 30 – October 1, 2005. Of particular interest to us is being able to see you at the department open house on Saturday from 11 am until 1 pm. We will supply the lunch, you supply the conversation. One of the greatest joys of teaching is to hear about your career accomplishments and to catch up with you on your personal lives. We will also honor our past ASCE officers, since they all created a legacy leading to the Ridgway Awards received in 1998 and 2005.

Forensics REU

Our Engineering Forensics Research Institute Summer Research Experience for Undergraduates (EFRI REU) program just completed its second successful summer. The program hosted eight students from around the U.S. to work on projects related to engineering failures. Our students hailed from Oregon, New Mexico, Illinois, North Carolina, South Carolina, Connecticut, California, and Arkansas. The student teams worked on three projects: Courthouse Security Assessment, Drowning Prevention at Low Head Dams, and Fiberglass Soil Nails for Rapid Landslide Remediation. Our summer travels included visits to forensic engineers and sites in Chicago, Cleveland, and Indianapolis. The students all successfully completed their projects and are currently working on journal papers reporting their work. Though the purpose of the program is for the students to get a quality research *experience*, rather than having focus on the product itself, the faculty and their clients have noted the students produce exceptional work in their 8 week experience, with some projects approaching the quality of MS thesis work.

KEEP IN TOUCH

We are always interested in how our alumni are doing. Let us know about you! Keep in touch by e-mailing us at Kathy.nicoson@rose-hulman.edu with your current contact information and what you are doing.

Scholarship Recipients

ASCE Student Chapter News

American Consulting Engineering Scholarships:

Jeremy Burch
Austin M. Hastings
Elitsa Voeva

The big news for the Cecil T. Lobo ASCE Student Chapter is our selection as the best student chapter in the nation for 2004. The student chapter will receive the 2005 Ridgway Award at the ASCE National Meeting in Los Angeles this October. President Mike Reeves will attend. Several other students may also attend and past President Cory Howell, an 05 graduate, also hopes to make it to the event.

Jim Diehl Memorial Scholarship:

Cassidy A. Sutton

Student chapter activities this past Spring and this Summer included our annual Habitat for Humanity Golf Tournament in May and planning for the HEC-RAS Workshop that we are running this Fall in partnership with INAFSM and ASCE MIB. The Golf Tournament netted over \$1500 for Habitat for Humanity and was well attended. Twenty one teams competed for a variety of prizes at Rea Park. Luckily, the weather was awesome. The first day of the 3-day HEC-RAS workshop sponsored by the student chapter went without a hitch on August 25. Thirty-six professionals from around Indiana participated in the first day of the three day workshop. Days 2 and 3 will be October ? and November ?, respectively, here on campus.

Hannig Scholarships:

Joseph P. Garrott
Lauren D. Hughes
Joshua M. Jacobs
Fredrick K. Lintz
Matthew D. Lovell
Patrick H. Ludwig
Cole A. Marr
Lauren E. Oakley

The chapter is already busy with service activities this Fall. They have helped set up an Underground Railroad reenactment at St. Mary of the Woods College, participated in a United Way Clean Up Terre Haute work day, and are preparing plans for their first wheelchair ramp for this year. Alumni are encouraged to consider attending the department's Homecoming Brunch where we will have a short ceremony celebrating the chapter's recent success. Alumni are also encouraged to watch for our annual Holiday Banquet, scheduled in conjunction with our CE Board of Advisors meeting in early December.

Hannum, Wagle, & Cline Scholarship:

Justin R. Jent

Lobo Scholarships:

Michael C. Reeves
Cassidy A. Sutton

We would like to thank all of the scholarship sponsors. The student recipients are high achievers, and you have helped them to realize their lofty goals.

Mark Your Calendar

October 1, 2005—Homecoming Reception for Civil Alumni hosted by the CE Department

November 30, 2005 —CE Board of Advisors Meeting

November 30, 2005 —ASCE Winter Banquet

Alumni Highlights

MICKEY HINES (1984) has accepted a position working for a hotel developer, Jack DeBoer, based in Wichita. DeBoer originated the "Courtyard" concept before he sold it to Marriott. He plans to build 1,500+ hotels in the coming years. The hotels are a hybrid of extended stay hotel and apartment called Value Place. They sell by a weekly rate, mostly to people who are paying their own way for business assignments. Mickey will be applying what he learned about pavements, as well as life cycle costing and risk analysis, in a commercial application. He will be doing value engineering for the site work, paving, and drainage. The owners will also be operators, so the value engineering needs to be reliable.

GENE LEBOEUF (1985) was promoted to Lieutenant Colonel in the U.S. Army Reserve on November 1, 2004. He currently is assigned to Headquarters, U.S. Pacific Command, Camp Smith, Hawaii, as an Engineer Plans and Logistics Officer. He was also promoted to Associate Professor of Civil and Environmental Engineering (with tenure) at Vanderbilt University in Nashville, Tennessee.

JOHN LUEKEN (1987) in February 2005 began a new position as U.S. Director of Construction for McDonald's USA. John has been with McDonald's for 10 years serving as a Project Manager and Construction Manager in the old Phoenix region prior to moving to Southern California in 2001 to be the Construction Manager John, his wife Linda and two sons Benjamin and Matthew will be making their home in Naperville, Illinois.

DANIEL RICH (1992) has been admitted into Texas A&M's PhD program. He is still doing work through his company, Rich Engr.

BRAD BUTLER (1997) is starting a new position September 12th as a research and development engineer at Cook Urological in Spencer, Indiana.

SETH WURZEL (1998) recently completed his MBA from UC Davis with an emphasis in finance. He was married on June 25th to Kathleen Furtado who is also a Civil Engineer (from Cal Poly San Luis Obispo). Congratulations Seth and Kathleen.

TIMOTHY CLARK (2002) reports he is a detachment commander in Italy now. His platoon is the sole source for military transportation throughout Italy. In about a year he will have fulfilled his commitment with the Army.

TARA STRAHLE (2002) has accepted a new position with Cannon & Associates in California.

MANDY (WAMPLER) STEWART (2002) and her husband Don are expecting their second child in November.

KEVIN WALDROUP (2004) will be back in the states for 2 weeks of R&R near the end of August and the first of September. After he goes back to Baghdad he will have about 3 to 3 ½ months until he comes home.

ERIC DIEHL (2005) reports he is working in the SABER (Simplified Acquisition of Base Engineering Requirements) department at Scott AFB.

CORY HOWELL (2005) vacationed for the entire month of June after graduation. He spent 3 weeks in Europe with a friend (England/Scotland/Ireland/Italy/Austria/Switzerland/Germany) and a week in Montana and Wyoming with his parents. In early July he went to work for Kimley-Horn in Vero Beach, Florida.

AARON ROBERTS (2005) is attending the University of South Florida to obtain a masters in environmental engineering.

EM 103 Introduction to Design Projects

Project: National Road Heritage Trail **Client:** Greg Midgley, NRHT, Inc. **Team:** Jeremy Burch, Bedford, Indiana; Brian Ellis, Greenfield, Indiana; Brian McIlwaine, Indianapolis, Indiana; Jeffery Smiley, Terre Haute, Indiana.

Project: Happiness Bag Recreation Facilities **Client:** Janet Webster, Happiness Bag **Team:** Jerel Fields, Bowling Green, Kentucky; Timothy Kent, Bridgeton, Indiana; John Lash, Brazil, Indiana; Robert Wilson, Batesville, Indiana.

Project: College Avenue Extension **Client:** Jason Koch, City of Terre Haute **Team:** Nicholas Klaserner, Cincinnati, Ohio; Zachary Tatlock, Shelbyville, Indiana; Matthew Trowbridge, Ft. Collins, Colorado; Brian Voll, West Terre Haute, Indiana.

Project: Hermitage **Client:** Sister Rose Ann Eaton, St. Mary of the Woods College **Team:** Jorge Camacho, Moreno Valley, California; Keegan Gumbs, Owosso, Michigan; Steve Hawkins, Casey, Illinois; Julie Roebel, Cincinnati, Ohio.

Project: Lost Creek Slope Failure **Client:** Troy Swan, City of Terre Haute **Team:** Austin Hastings, Santa Ana, California; Brian Hoesman, Chesterton, Indiana; Michael Sandahl, Hillsdale, Michigan; Christopher Shireman, Salem, Indiana.

Project: Riley Historic Canal Trail **Client:** Pat Martin, Indiana Economic Development **Team:** Andrea Bollinger, Evansville, Indiana; Rachel Howser, Scottsburg, Indiana; Jacob Moore, Farmersburg, Indiana; Leonard Stuart, Temple, Texas.

Project: Flood Remediation **Client:** Kim Barnes, Four Rivers Resource Services **Team:** Robert Adolph, Danville, Illinois; Daniel Lindley, Robinson, Illinois; Jessica Toth, Anderson, Indiana; Emily Ziegler, Greensburg, Indiana.

Project: Redkey City Center **Client:** Chad Ducey, Werks Management, LLC **Team:** Katie Benner, Vancouver, Washington; Justin Jent, Milan, Indiana; Sean Jessup, Avon, Indiana; Erin Locke, Terre Haute, Indiana.

Project: Safety and Rescue Training Facilities **Client:** Dennis Dunbar, TH Airport **Team:** Kelly Burgess, Terre Haute, Indiana; Jeffery Gauthier, Georgetown, Texas; Jessica Young, Winchester, Indiana.

Project: Private Boat Dock **Client:** Randy Jensen **Team:** Paul Creasey, Terre Haute, Indiana; Ryan Pattenaude, Toledo, Illinois; Danielle Steinke, Crystal Lake, Illinois; Lindsey Thomann, Vincennes, Indiana.

Project: Outdoor Amphitheater **Client:** Teresa Herrington, Mill Creek Park **Team:** Curtis Anderson, Terre Haute, Indiana; Michael Krantz, Hanover, Indiana; Alexander McLean, Terre Haute, Indiana; Elitsa Voeva, Allentown, Pennsylvania.

Spring Freshmen Trip Another Success



Dave Maxwell (1991) talking to students and faculty about Busch Stadium construction.

The freshman year civil engineering Introduction to Design classes joined Drs. McKinney, Hanson and Sutterer on the department's 6th spring freshman trip on May 11, 2005. The trip returned to St. Louis, though that was their destination in 2004, due to the collection of projects available. Once again, Rose alum David Maxwell played a big part in the trip, arranging visits to the Lambert airport expansion and Busch Stadium construction site. Our entourage also visited the Edward Jones Dome, St. Louis Union Station, St. Louis Metrolink, the Gateway Arch, and Eads Bridge. The weather this year was great, and unlike 2004, this year's bridge walk across Eads Bridge to conclude the day featured sunny skies and good weather. The chapter once again wishes to thank David Maxwell for his assistance with the trip. We expect to return to our "normal" rotation of visits to Cincinnati, St. Louis, and perhaps Louisville in the coming years.

Condolences

MARK W. WILLIAMS (1993) died Thursday, August 25, 2005 at Major Hospital in Shelbyville, Indiana. He was born August 5, 1971, in Shelbyville and was the son of Luke and Mary Pat (Muehlenkamp) Williams. He married Robin K. Pressler on June 4, 2005, and she survives.

Other survivors include his parents of Shelbyville; grandparents, Tom and Martha Muehlenkamp of Cincinnati, Ohio, and Wilma F. Williams of Shelbyville; and good friend, John Foltz of Shelbyville.

Mark was president of Williams Industries for the past two years. Prior to that he served as plant manager. He had dedicated high life to his employees and his family.

He graduated from Shelbyville High School in 1989; from Rose-Hulman Institute of Technology in 1993, with a bachelor's degree in civil engineering; and from Purdue University, was a master's degree in civil engineering. He also had attended University of Texas, in Austin, Texas.

He was a member of St. Joseph Catholic Church and Alpha Tau Omega Fraternity. He was an avid softball player and golfer.

