

Cecil T. Lobo ASCE Student Chapter of Rose-Hulman Institute of Technology

In this issue we introduce our newest civil professor, describe the concrete canoe, provide an update on Dr. Houghtalen's water filter project in Sudan, and announce an upcoming civil outing. --Justin Perry



Meet Our New Faculty: Dr. Niezgoda!

—Dr. Sue Niezgoda

I feel very fortunate to have recently become a part of the Rose-Hulman faculty, I can't think of a better place to grow as an engineer and educator. I received my BA (96) in Engineering from Elizabethtown College and a BS (97) and MS (98) in Civil Engineering from The Pennsylvania State University. I chose an emphasis in water resources and completed my MS thesis in the area of bridge abutment scour. Upon completion of my MS, I went to work with the Army Corps of Engineers Cold Regions Research and Engineering Lab (CRREL) in Hanover, NH. I completed studies dealing with frozen, unfrozen, and thawing soils, snow, ice, traffic loads, and pavement materials. Following my time at CRREL, I went to work as a water resources engineer with a small consulting firm in Harrisburg, PA. I was responsible for designing restored stream channels, conducting stream stability evaluations and watershed assessments, and performing H&H studies for permit applications. My three years of professional practice have strengthened my knowledge of civil engineering and will allow me to confidently pursue professional relationships with local, state, and federal agencies to promote a highly practical and state-of-the-art learning environment.

After several years of consulting, I decided to return to Penn State to pursue a PhD. My dissertation work focused on improving the stream restoration design process using sediment transport modeling and risk assessment. Upon completion, I became part of the faculty at the University of Wyoming (UW) in Laramie, WY. I taught courses in hydraulic engineering, fluid dynamics, river systems, and soil erosion and conservation. My research focused on stream restoration, bridge scour, and the erodibility of ephemeral stream channels. Although I do enjoy research, I came to realize that my true passion is for teaching and that I desired a position at an institution that truly valued teaching above all. Here at Rose-Hulman, I intend to develop and teach courses in land development, stream restoration, and water resources engineering. My goals in the classroom will be to actively engage students using various presentation methods that incorporate real world and hands-on experience.

My future research interests lie in the areas of sediment transport, stream restoration, fluvial geomorphology, and risk and uncertainty. The primary focus of my future research will be on how the altered flow regime, sediment transport, and landscape processes in an urban watershed affect channel geometry, and how this information can then be used to improve the design effort. Future development goals also include staying active in national ASCE technical committees and bringing my experiences with these committees into the classroom to enhance presentations and design projects.

When I am not working, I am fulfilling my passion for the outdoors and participating in outdoor activities such as hiking, backpacking, skiing, running, and mountain and road biking. By far, my best experiences over the last three years out west were had during backpacking trips in the Rawah Mountains (CO), Mt. Zirkel Wilderness (CO), Bighorn National Forest (WY), and Wind River Mountains (WY). I was also fortunate to participate in the 2006 Laramie Enduro, a 75 mile mountain bike endurance race. The challenge was extreme (10.5 hours on the bike), but the reward was remarkable. I have also participated in the Tour de Wyoming, a six day road cycling tour that covers between 400 miles along a different route chosen each year. I have participated in Tours in southeast Wyoming, the Bighorn Mountain region, and the Black Hills/Devils Tower region. I have begun to explore outdoor opportunities here in Indiana, and have been pleasantly surprised at the possibilities. Overall, I believe that balance is key to a happy and fulfilling life, and I have found balancing work and play can make one a more successful individual.



Imagine: A Concrete Canoe!

- Tim Sliwinski

Imagine a crisp spring day with splashes of cold water hitting your face as you paddle vigorously toward a finish line. After racing and safely back on shore, you look back and realize you just completed something that many would say is impossible. You and your three teammates just raced in a concrete canoe! Yes, an actual boat consisting of glass, cement, small fibers, and other components of high-performance concrete.

Every year students from around the country combine engineering excellence and hydrodynamic design to construct water-worthy canoes from an inherently buoyant cementitious mixture. This year, Rose-Hulman students from a variety of majors are collaborating to take their learning experiences beyond the classroom to gain hands-on practical experience.

What all goes into building a concrete canoe? Research, design calculations, cylinder testing, hull design and analysis, and form building are all critical before the first canoe is even constructed. Not to mention the physical conditioning of the team members that will paddle the less than agile canoe. The average team has over 3,000 man-hours invested in their canoe, which means there is a lot to be done over the next several months.

The Cecil T. Lobo ACSE student chapter is currently in the process of acquiring materials and funding to get this project off the ground. We need a number of individuals to “float this boat”, and bring participation in this nationally recognized competition back to Rose. Perhaps your expertise is not in concrete, no problem; there are other opportunities for you to get involved. Fundraising, construction (for those of you that like to get dirty), hull design (for those of you who don't), and once our canoe is completed, we need our co-ed row team. If you are interested or would like to know more about this exciting opportunity, please get in touch with Matt Trowbridge, president of the Rose-Hulman chapter of ASCE. The concrete canoe team is an activity of ASCE.



Rose-Hulman Helps Dr. Houghtalen Bring Clean Water to Sudan

- Rachel Howser

The Cecil T. Lobo Chapter of the American Society of Civil Engineers chose to team up with Rose-Hulman civil engineering department head Dr. Robert Houghtalen to raise funds for sustainable bio-sand filters for use in impoverished areas of Sudan. Dr. Houghtalen is currently on an 11-month sabbatical in Khartoum, Sudan. While there, he will travel with members from the Educational Development Organization of Sudan (EDOOS) to educate villagers on the importance of clean drinking water. The original goal of the chapter was to provide funding for 50 water filters at a cost of \$30 per filter. Through the generosity of many groups, the chapter collected \$2950, nearly twice the original goal.

Putt-Putt, Anyone?

- Tim Sliwinski

Your friendly, neighborhood ASCE chapter will soon be having an outing to Fore Seasons Golf Complex for assorted fun, just West of Honey Creek Mall. All are welcome to join us, on Friday, November 2nd, when we will be leaving from the front circle drive at 8:00 PM. The cost will be \$4 to \$6 for putt-putt depending on the number in attendance, and \$4 and \$6 for small and large buckets for the driving range.

Upcoming Events

- October 24—ASCE Monthly Meeting
- November 2—Putt-Putt Golf (see above)

Did we forget something? Please contact an ASCE officer to contribute items to include on our calendar.

**To Expose Students and the Community to Civil Engineering
through Service and Education**

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We're on the Web

<http://www.rose-hulman.edu/ce/asce/index.htm>
