Freshman Field Trip

To mark the end of a successful 2013-2014 academic year, the Civil Engineering Class of 2017 celebrated with a fun and educational field trip. Students and faculty piled onto a bus for the trip to Louisville, Kentucky where several large, interesting projects are underway. Thanks to the coordination efforts of two recent Rose-Hulman civil engineering graduates, Kyle Kovach, 2013 and Jon Gerken, 2013 working for Walsh Construction, the students spent the morning touring two new bridges across the Ohio River and an associated tunnel portal. The Louisville Section of the Society of American Military Engineers generously provided lunch for the group. The afternoon was spent touring the facilities at the Transit Authority of River City, including a new green maintenance facility; the historic Louisville water tower and treatment plant; and the McAlpine Locks along the Ohio River. As always, the students were able to see the exciting opportunities that await them as a Rose-Hulman civil engineer.

Students and faculty at the McAlpine Locks during the 2014 Freshman Field Trip.
Senior Design

Sand Creek Fish Passage Channel, Spokane, Washington
A fish passage channel and access road is required on Sand Creek of the Spokane Indian Reservation. The access road will be several miles in length over rugged terrain.

IDNR Centennial Shelter, West and Southwest Indiana
Indiana DNR is seeking several alternative designs for picnic shelters and supporting infrastructure celebrating their 100th anniversary. They have requested seismic design and consideration of the role of the shelters as a tornado shelter.

Springhill Christian Youth Camp, Seymour, Indiana
The client is seeking design of a trail system around 50-acre Rust Lake. This system would require a number of footbridges. They are also seeking a solution to cross some of the fingers of the lakes, perhaps with suspension bridges.

Wabash River Enhancement, Lafayette, Indiana
This project along the Wabash River extends northward from Highway 52 into Tecumseh Park. It includes trail adjacent to North River Road and a ravine crossing that will require an approximately 200-foot-long bridge.

Twin Aire Town Center, Indianapolis, Indiana
The project requires development of a former drive-in theatre site in Indianapolis as a multi-use green community. The project requires design of sports fields and multi-family senior housing, water resources management, and transportation infrastructure.

Catholic Mission School and Compound, Phaitol, India
The project requires design of a multi-story school building accommodating 1,000 students, including structural, geotechnical, and drinking water/waste management components. The client is also seeking design of later phase elements, including a church, rectory, convent, and dorms.

Historic Forks of the Wabash – Ehler Island, Huntington, Indiana
Historic Forks of the Wabash Park is an educational facility in Huntington, near Fort Wayne. An island trail system, campground, and river crossing are needed to give pedestrians access to educational opportunities on the island.

Sustainable Water Treatment for CSO System, Peru, Indiana
The City of Peru has a combined sewer system that results in numerous overflow events. They need design of a plan to manage the CSO events, including a holding basin, wetland treatment system, and interceptor sewer. They are also seeking a traffic management plan for the construction.

Wabash River Promenade, Terre Haute, Indiana
The client is seeking design of a pedestrian trail system extending from east of 3rd Street to the Wabash River, adjacent to the Vigo County Courthouse. The project will include design of a crossing over or under 3rd Street and a pathway through a busy parking lot.
Freshman Design - EM 103

This past spring our Freshman class had the chance to work on a varied range of projects, keeping up the tradition of receiving hands-on practice from the beginning of their college experience. If you have a project you would like to submit for this year’s projects, please contact Jenny Mueller Price at muellerp@rose-hulman.edu or 812-877-8861.

Project: Church Playground
A church in Clay City, Indiana, is planning a new playground for the church children. The idea is to have a fence around the playground that connects to the building, and use crumbed rubber for the ground cover.

Project: RHTT Fitness Trails
The RHTT Wellness Committee has been discussing a project to map out various fitness routes on campus and provide paper and/or online maps that would give the distances of all the routes.

Project: Hovercraft Site Layout
Neoteric Hovercraft is in need of a design for the parking lot at its Terre Haute facility. There are some civil/zoning issues to look into, as well as design features to incorporate.

Project: SMWC Bridge
Saint Mary-of-the-Woods College is looking for creative ways to remove and eventually replace the iconic bridge on Le Fer Lake on their campus. The bridge project is part of a larger effort to restore the lake and create an outdoor classroom shelter and habitat, while repairing the dam, dredging the lake, and removing and replacing the bridge.

Project: Wabash to Wabash
The City of Terre Haute will construct a new river gateway promenade for cyclists and pedestrians, extending from the intersection of 3rd Street and Wabash Avenue to the Wabash River, and establishing a mini-park overlooking the Wabash River.

Project: Wabash Ave. Grade Separation
The City of Terre Haute will construct a grade separated structure at the intersection of 3rd Street/US 41 with Wabash Avenue for the safe and efficient movement of cyclists and pedestrians between Downtown Terre Haute, the City/County Government campus, and the Wabash River.
Engineers Without Borders -
Panama City, Panama Conference

The EWB students were disappointed, but understanding, after the cancellation of their August trip to Gomoa Gyaman, Ghana, because of health concerns related to the Ebola outbreak. As soon as it is again safe to travel to West Africa, the EWB team plans to continue its partnership with the local community and complete the latrines that they have worked hard to design. Meanwhile, the students are still hard at work building the Rose-Hulman chapter. During fall break this year, Dr. Kyle Kershaw traveled with four EWB students, including two civil engineering students (Sanders Park and Amanda Sparks) to Panama City, Panama, for a Global Engineering Conference held by the American Society of Civil Engineers and EWB. The students had a great time learning from presentations by and interactions with other EWB student chapters doing great work all over the world. The information gleaned from the conference will help to strengthen the Rose-Hulman chapter of EWB. The students also had an exclusive tour of the Panama Canal third set of locks construction and found time to explore the historic city.

Anna Tierney (EE), Daniel Reyna (ChE), Amanda Sparks (CE), Dr. Kyle Kershaw (CE), and Sanders Park (CE) at the Pacific Side Panama Canal Third Locks construction site

Sanders Park (CE), Amanda Sparks (CE), Dr. Kyle Kershaw (CE), Grant Imahara (Mythbusters), Daniel Reyna (ChE) and Anna Tierney (EE)
The Cecil T. Lobo ASCE Student Chapter enjoyed an excellent end to the 2014 academic year and has started the new academic year with several field trips, as well as exciting speakers. A new class of freshmen was welcomed to the department and to the student chapter. We also said goodbye to our graduating seniors as they entered the “real world”, ready to make their mark in the local ASCE branch.

The Chapter ended the 2014 academic year with its annual golf tournament for Habitat for Humanity. The conditions at Rea Park in Terre Haute were excellent, as was the golf. The chapter raised $2,000 for the local branch of Habitat for Humanity. It was good to see so many enjoying themselves for a good cause. We are starting to plan next year’s event, so look for details soon. The chapter is also hard at work planning its next wheelchair ramp build for the Will Center and The Ramps for Freedom Program. We are hoping for good weather on the first of November.

There is a lot of activity within the Chapter as preparation for the Great Lakes Conference has started. We hope to have teams competing in all the events this year, including the steel bridge and concrete canoe competitions. The conference will be hosted by Notre Dame on April 18 and 19, 2015. If you are in the area and want to cheer on Rose-Hulman, we would be glad to see everyone.

The Student Chapter was able to tour the construction site for the new Meijer store in Terre Haute. Although things were a bit muddy, everyone enjoyed themselves. The Chapter also hosted several speakers, including alumnus Molly Rice (2012) from Walsh Construction. In addition, the civil engineering faculty presented at a monthly meeting on the opportunities of graduate school, including some non-traditional career paths for civil engineers.

The Student Chapter is very thankful to all the Rose-Hulma civil alumni that work hard to provide unique opportunities for speakers and site visits. Please contact our faculty advisor, Dr. Michael Robinson, at robinson@rose-hulman.edu if you are willing to host a site visit or speak at a monthly meeting.

As always, the Chapter remains Civil Proud!

Golfers prepare to tee off at the Habitat for Humanity fundraiser.

Students prepare to visit the Meijer construction site in Terre Haute under the threat of rain.
AREMA

Jim McKinney, Rose-Hulman American Railway Engineering and Maintenance of Way Association (AREMA) faculty advisor, took 15 students from his Construction Methods and Equipment class and the Rose-Hulman AREMA Student Chapter to Chicago to attend the 2014 Annual AREMA Conference on September 29. In addition to a number of technical presentations, the students attended a session entitled "Meet the Next Generation," a major student recruiting effort by railroad companies, consulting firms, railway equipment manufacturers, and railroad material suppliers. The highlight of the trip was the travel on the Chicago METRA mass transit from University Park, Illinois, to downtown Chicago.
Department News

- Matt Lovell presented a paper titled "Performance of an Innovative Roof to Top-Plate Connection" with senior Jacob Gould at the World Conference on Timber Engineering in Quebec City, Canada.
- John Aidoo presented at the Capstone Design Conference in Columbus Ohio. John also served as one of the instructors for the PRISM Summer Intensive Institute for Vigo County School STEM instructors.
- Jeremy Chapman gave a presentation titled “Five-Year Analysis of Bicycle/Vehicle Crashes in the Upper Midwest” at the Mid-Continent Transportation Research Symposium in Madison, Wisconsin.
- Kyle Kershaw presented a paper titled "Rock Bolting in Sensitive Environments" at the Transportation Research Board’s Highway Geology Symposium in Laramie, Wyoming. Kyle also co-authored an article titled "Micropiles in the Smoky Mountain Foothills" that was published in the July/August 2014 edition of Deep Foundations Magazine.
- Jim McKinney participated in the 2014 REES - Railroad Engineering Education Symposium, in Overland Park, Kansas. He reported on Train Energy, Power, and Traffic Control; Railway Course/Program Development and Coordination; and Raising Student Interest and Recruiting Through Student Chapters. Jim also attended the 2014 NURail - National University Rail Center Annual Meeting in Altoona, Pennsylvania. He presented work on Education and Curriculum Development and on Outreach, Workforce Development and Tech Transfer.
- Pre-law advisor Dr. Jeremy Chapman hosted a presentation on “Apple vs. Samsung – What are Apple’s Patented iPhone and iPad Designs Really Worth?” prior to the start of the 2014 Rose-Hulman Graduate Fair, Monday Sep. 22nd. This presentation was sponsored by IP/ROP and was given by two third year students from the Indiana University Maurer School of Law (Scott Skiles, RHIT ’11, and Kathryn Moore), and moderated/judged by Professor Mark D. Janis, Director of the IU Center for Intellectual Property Research. This presentation, followed by a Q & A session, was attended by approximately 55 students. They also distributed information about scholarships to study IP law through a new partnership between the IU Maurer School of Law and Rose-Hulman.
- Jim McKinney’s Construction Methods and Equipment class traveled to Universal, Indiana, on October 1 to the International Union of Operating Engineers (IUOE) Local 841 training facility. The students were able to operate 11 different pieces of heavy equipment on the old Peabody strip mine site. The equipment included: skid steer loaders, tractor-loader-backhoes, mini excavator, large excavator, crawler-mounted bull dozers, and a vibratory segmental grid roller. This exercise provided the students with an appreciation of the operator skills and equipment capabilities they will encounter on large construction projects. This year marks the 14th year that IUOE 841 has supported this class project.
HOMECOMING 2014

Aaron Roberts ('05)
Scott Phillips ('89)
Peter Wentzel ('89)
Emily Nelson ('08)
Dave Staggs ('64)
Anthony Broadnax ('89)
Buck Klemola ('84) & Steve Roetter ('84)
Matt Busscher ('12)
Gary Pool ('99)
Wendy Packard ('03) & Jackie Sanders ('04)
Dr. Jim McKinney (CE) & Mark Sieracke ('84)
Natalie Stephen ('06)
Alumni Highlights

MARTIN WESSLER (1987) reports all is well at Wessler Engineering. In fact, the company is looking for experienced civil or environmental engineers, and wouldn’t mind hearing from any Rose alumni who are interested.

JOEL ERICSON (2002) has been promoted to Head of Airfield Development with Parsons, seconded to the Abu Dhabi Airports Company. He is currently working on the construction of Abu Dhabi International, doing airside projects for what will be the world’s largest airport terminal building. He is residing in the United Arab Emirates with his wife, Amy, and their two young sons.

JEREMY KASHMAN (2003) became the City Engineer for the City of Carmel, Indiana, in February of this year.

AARON ROBERTS (2005) recently took a Project Manager position with LJA Engineering, Inc.’s Houston’s office. The company is a mid-sized engineering firm, that does projects all over the state of Texas.

BENJAMIN HENSON (2006) writes that things are going well at Midwest Steel, with projects in South Carolina, and elsewhere in the Midwest and South.

JOSH JACOBS (2006) started with St. Elizabeth Hospital in northern Kentucky, in late April, as the Assistant Director of Plant Engineering, Operations, and Maintenance.

ABBY RICHARDS (2006) started with Civil and Environmental Consultants, Inc., as an Assistant Project Manager in March, and transferred from their Indianapolis office to their Cincinnati office this summer.

CHRISTIAN OSTERMEIER (2011) was promoted to Project Manager at Patriot Engineering and Environmental, Inc.’s Louisville office.

ADAM CARLSON (2013) reports that he is gaining valuable experience since starting at Anchor QEA Seattle’s branch, more than a year ago. The company is an environmental consulting and engineering firm, with a focus on water resources, surface and groundwater quality, coastal development, habitat restoration, and contaminated sediment management projects.

Mark Your Calendar

December 17 - ASCE Winter Banquet
January 7 - CE Board of Advisors Meeting
January 21 - Winter Career Fair
April 22 - Spring Career Fair
May 16 (tentative) - ASCE Golf Tournament, Rea Park Golf Course
May 20 - Order of the Engineer Ceremony
May 30 - Class of 2015 Commencement
First and foremost, we are happy to report two new additions to the CE family. Professors Jenny Mueller Price and Michelle Marincel Payne gave birth to healthy baby boys. Please join us in welcoming Camas James Price and Aaron Clarence Payne!

Thanks to the support of friends of the department, we were able to host the Civil Engineering Division “Rap” Session of the American Society for Engineering Education at its annual meeting in June, in Indianapolis. The Rap session is a social event intended to gather civil engineering faculty members from all over the country and beyond to chat and network about innovations in CE education. Our event was held at Under the Rock at the Rock Bottom Brewery and was very well attended with more than 100 present. Several CE Division officers praised the event as one of the best ever in more than 30 years of Rap Sessions and thanked us for the wonderful Rose-Hulman welcome to Indiana.

We have had a great start to the academic year. Our nine senior projects include a mission in India and two partnered projects with Gonzaga University in Spokane. We have had a lot of travel this fall, as summarized in our Department News. The two Gonzaga partnerships have required travel to the local sites. Keith Royer recently accompanied seniors Tom Glardon and Caleb Apker to Spokane to meet their partners and conduct a site investigation for the Sand Creek project and Kyle Kershaw is assisting seniors Elizabel Carrillo and Ben Meadows (and their two partners) with site investigations for the Indiana DNR Centennial Shelter project. We would like to thank all of you for the continued support of our program. The time and knowledge many of you donate to various projects, including assessment of student work, service needs, mentoring, and summer internship learning is invaluable to us. Because of the gifts you designate for civil engineering, we are able to pursue learning opportunities for our students, such as our Gonzaga partnership, acquisition of needed equipment, and software and travel expenses to improve learning. We feel truly blessed to have your support!

We hope you enjoy this issue of CE Echoes. Although we focused on the start of the new academic year, we included our spring freshman trip and projects because those did not make the previous issue. We hope that information will remind you that beginning every year around January we are seeking freshman projects and places to visit. Please keep us in mind for projects and visit opportunities. Also, please share with us any suggestions you have for information you would like to see included in future CE Echoes, and always please share news for our Alumni Highlights section.

- Kevin Sutterer

Caleb Apker, Naomi Medley, Tom Glardon and Joe Schober at the Sand Creek Passage site taking samples.

Keith Royer, Tom Glardon and Caleb Apker in front of the McCarthey Athletic Center on Gonzaga University’s campus.