AEI NATIONAL STUDENT SNAPSHOT MAGAZINE

A MAGAZINE TO FEATURE DIFFERENT SCHOOLS AND SHARE IDEAS, CONNECT, AND INSPIRE AEI STUDENTS ACROSS THE COUNTRY.

2014
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About AEI

Established in 1998, the Architectural Engineering Institute (AEI) is a multi-disciplinary organization for professionals in the building industry comprised of architects, architectural engineers (including structural, mechanical, electrical), and others. AEI seeks to encourage excellence in practice, education, and research with a mission to serve the building community.¹

Current AEI Student Chapters:

1. California Polytechnic State University
2. Drexel University
3. Kansas State University
4. Lawrence Technological University
5. Milwaukee School of Engineering
6. Missouri University of Science & Technology
7. North Carolina A&T State University
8. Oklahoma State University
9. Pennsylvania State University
10. Tennessee State University
11. Texas A&M University-Kingsville
12. University of Colorado at Boulder
13. University of Kansas
14. University of Miami
15. University of Nebraska-Lincoln at Omaha
16. University of Oklahoma
17. University of Texas at Austin
18. University of Wyoming
19. Worcester Polytechnic Institute

AEI Students

The mission of the AEI National Student Organization is to unite student chapters and enable them to learn from each other, to pursue further education in shared academic interests, and to provide a united student voice within the Architectural Engineering Institute.²

National AEI offers opportunities for student members, including:
- Charles K. Pankow Student Competition
- Annual AEI National Conference

¹AEI Website: http://www.asce.org/aei
²AEI Students page: http://www.asce.org/aei/Content.aspx?id=25769807700
Dear AEI Students and Faculty,

AEI Snapshot, is a smaller version of the AEI National Student Magazine that features a few schools from around the country. The hope is that there can be multiple “AEI Snapshots” throughout future years, and a single large publication of the AEI National Student Magazine each year. We hope that the ideas and events shared in these magazines will inspire other schools and continue to foster discussion and interaction between all students at AEI National Student Conferences.

We hope that you have enjoyed the 2015 AEI Conference in Milwaukee, WI, hosted by the Milwaukee School of Engineering (MSOE), and that you will attend the 2016 Conference in Worcester, MA. These conferences are an excellent opportunity to meet other students as well as compete in the student competition. With alternating professional and student-focused conferences each year, the 2015 event offered an excellent environment for networking.

As the AEI National Student organization moves forward, we hope to generate further collaboration between chapters. Increasing communication between chapter presidents and the National officers can only prove beneficial for the organization. We hope that the connections that we make as students can lead to stronger professional relationships as we pursue our careers.

Sincerely,
The 2014-2015 National Officers

President: Geoffrey Wright, University of Nebraska-Lincoln at Omaha
Vice President: Yunjae Sohn, Worcester Polytechnic Institute
Secretary: Allyson Smith, Worcester Polytechnic Institute

This magazine was created by the officers using Microsoft PowerPoint and will be shared with future officers as a template for further development.

The next issue will feature:
• A different set of schools
• Recap of the 2015 AEI Student Conference.
FEATURED

AEI

CHAPTERS
Cal Poly’s AEI student chapter has the highest membership in the history of the club this year. We had 155 people sign up in the first two weeks and also have had over 90 members at each meeting afterward. Our meetings have been a mix of everything from constructing bridges with K’nex, learning fun facts about our professors, and having a demonstration of Hilti’s concrete fasteners.

Every quarter our chapter organizes office and site visits. This year our Vice President is planning the trip to San Francisco where we will see 5 firms and 2 sites. He is also beginning to plan the Spring Break trip where we send approximately 15 members to a new city for a week to see interesting offices and sites. Some cities under consideration include New York, Boston, or Austin.
LEARN BY SEEING – LEARN BY DOING

For members not willing to make the longer trips, we have begun organizing more local site visits as well. Our Coordinator recently organized a tour of a local building under construction that modeled light-gage steel, timber construction, brace frames, a moment frame, and steel shear walls. Many of the attendees were Freshman and Sophomores so they were able to learn a lot about what Architectural Engineering really means with “Learn by Seeing”--a play on Cal Poly’s motto “Learn by Doing.”

Arces at a construction site visit in San Luis Obispo.
Every year our chapter hosts a Structural Forum where we invite approximately 30 structural engineering companies for a career fair and dinner. This year our Structural Forum Chair is working very hard to invite some very influential speakers and expand the venue to accommodate our growing numbers. This event will take place in February.

Our goals this year as a chapter have also been to host more events to incorporate our younger members as well as other majors. We are in the process of organizing two large, college-wide events to show our support for our school and to practice collaboration between other majors.

We have been very successful in our endeavors so far this year and hope to continue to get high involvement and plan fun and informative events!
At the Milwaukee School of Engineering the student Architectural Engineering Chapter has been quite busy and will continue to remain so. Throughout the winter of 2013 and spring of 2014, a team of nine students designed and built a replica of the Milwaukee Art Museum’s Quadracci Pavilion out of Legos. This world renowned museum was designed by the Spanish architect Santiago Calatrava and was competed in 2001. The Burke Brise Soleil are the museums signature wings and can be seen open and close at scheduled times of the day. This famous building can even be seen in the movie blockbuster Transformers: Dark Side of the Moon.
The Lego replica took the team approximately 145 design hours and 380 build hours over the course of five months to complete. The masterpiece was built to a scale of 1 inch equivalent to 6 feet and used 15,000 Legos. The replica has an interactive LED light display and functional wings all thanks to the help of two electrical engineering team members Jason Genz and Michael Rajzer. The project was presented at the Lakefront Festival of Arts over the summer and now resides in MSOE’s library. MSOE’s members are sharing their love of Legos by teaming up with middle school students this December in a Lego challenge.
This fall the AEI chapter has been designing a house for Habitat for Humanity. It is a two story, 1,500 square feet home that is located in Waukesha, WI (20 minutes West of Milwaukee). The design is scheduled to be completed near the end of October and have the foundation poured before snow fall. Not only are we designing the home, our AEI chapter will be teaming up with MSOE’s Habitat for Humanity chapter this spring to help build the house as well.

Other MSOE fall events are our annual Disability Awareness Week and Masonry Days. Disability Awareness is a week-long event that is open to the entire MSOE community. Students are given the opportunity to navigate campus in a wheelchair to discover that typical daily tasks become difficult and sometimes frustrating. Our Masonry Day event gives students as well as professors a chance to work and interact with professional masons and learn how to lay bricks, concrete masonry units, and ceramic tile.

The Milwaukee School of Engineering will also be hosting the 2015 Architectural Engineering Institute National Conference at the end of March. Our officers and faculty are currently planning the student activities for the conference.
As the Worcester Polytechnic Institute (WPI) chapter celebrates its second anniversary, we are proud to see new members and our architectural program grow. Our mission is to assist our students to understand the different disciplines and opportunities available in the Architectural Engineering field. Throughout this past year, we continued many of the activities that were held during our first year, such as the guest lecture series, the ice cream social, the field trips and the AEI National Student Conference. In addition, we also added new events this year including “Build a Doghouse!”, the community service initiative and our mentoring program.
This fall semester, our chapter hosted two guest speakers from the building industry. Paul Kassabian, P.E., a structural engineer from Simpson Gumpertz & Heger, gave a lecture on innovative structural design in September. He presented a couple of both challenging and interesting projects that he did in UK. He also spoke about a robotics project in which he is currently working with the Harvard’s Wyss Institute. Our second guest lecturer was Keith Prata, P.E., LEED AP, an associate from Arup’s Boston Office, who lectured on what new graduates can expect during their first few years of work. This was a good opportunity for our AEI members to hear constructive suggestions from the professional in the building industry and we hope that these recommendations will help our Architectural Engineering students have a clear understanding of their career path in the future.

BUILDING DOGHOUSES

This year, we partnered with the WPI chapters of Habitat for Humanity and Promotion of Animal Welfare Society (PAWS) in the event “Build a Doghouse”. Through this initiative, the members of the three chapters were able to build two doghouses. During the event, our students got some hands on experience, by cutting the plywood, drilling the wooden studs and nailing the shingles. Those who participated also enjoyed of the free food, the music and the opportunity to donate to the cause. After the doghouses were finished, they were donated to a local animal shelter.
We have been planning to serve the Worcester community through community service opportunities. Last year, a few members have helped preserve valuable architecture in the city of Worcester through volunteering at Preservation Worcester. These members volunteered once a week to help create better resources for presentations to promote awareness in elementary schools in the city. They have also worked on creating a database of photos of historic buildings. Preservation Worcester is a private, non-profit organization that aims to preserve structures that have cultural, historical, and architectural values to the city. As the chapter shares the goal of Preservation Worcester, efforts have been put into build strong relationship between Preservation Worcester and the chapter. In following weeks, the chapter will be organizing series of events to have its student members visit the historical sites and take photos to help building the database.
AEI STUDENT EXPERIENCES
“This summer I had my first internship working for a general contractor. The project I was working on was a large office campus in the heart of Silicon Valley, California. Since our project was so large, they assigned each intern to a different subproject, be it the office buildings, parking garages, amenities, or site work. I was assigned to the buildings, and was responsible for coordinating what happened in the field with what was drawn on the plans. I received various submittals from subcontractors ranging from structural glass calculations to the color of tile finish, and my job was to make sure they complied with the specifications and received approval by the building’s architect and engineer before they were installed in the field. I was also responsible for answering questions that arose in the field by drafting and processing many requests for information.

I would walk the job site every day, observe what was taking place, and coordinate the various activities to ensure that the project was being built correctly and would finish on time. Through my various responsibilities during the summer, I learned an incredible amount of information that I had not yet gotten to in school, which I have already noticed is paying off now in my classes. As an engineering major, I knew I was capable of running the numbers and theoretically solving problems, but being out in the workforce allowed me to understand and appreciate all of the coordination that must take place in order for a building to be constructed. I think that my understanding of what happens in the field will help me to design effective and feasible buildings in the future, and will allow me to better envision how a project will go thus giving me an advantage in the workforce. I truly believe that being out on site enhanced my enthusiasm for the built environment and made me excited to be doing something I love.”

Emily Setoudeh, a Cal Poly student, interned for a general contractor in 2014. She is also the fundraising chair for Cal Poly’s AEI.
“During my internship, we had a BBQ lunch to celebrate the completion of one of our company’s projects. The day before, I was coordinating with the superintendents and they asked me to pick up all of the sodas for the next day. They sent me to the supermarket and told me to get two cases of each type of soda. When they said cases they meant a pack of 24 sodas, however I had envisioned a pack of 12 sodas. Needless to say I was very embarrassed when I came back with the drinks, and we all joked that I did not know how many cans were in a case. Although it was a lighthearted laughing matter, this experience taught me to always ask for all of the details needed to complete a task. I now will always remember how many sodas are in a case, and hope that something embarrassing like this doesn’t happen again!”

“I spent the summer working for a building engineering firm, and was tasked with various intern-type duties. One of these included driving to the headquarters office and coordinating the printing of a permit set of drawings to get the stamped and signed by the PE’s. Having little experience in the field at this point, I was unaware that a permit-set required at least three sets of the drawings, and so I did not question when I only received one. No one noticed the missing sets until I arrived at the architect’s office with only one set in hand. The architect, however, certainly did notice the missing drawings, and the anger was quite visible. Lessons learned? Permit-set is at least three, and don’t mess with architects on a deadline.
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