Service Projects

By: Rachel Carlton

Throughout the year, the American Institute of Chemical Engineers members participate in outreach events and service projects to help the community. Since last summer, AIChE has volunteered at local schools, during summer programs, at the Palmer Home for Children Thrift Store, and with Habitat for Humanity. AIChE has also participated in MSU-sponsored annual community events such as the Halloween Carnival and the BIG EVENT.

Each summer, AIChE conducts outreach activities despite the reduced number of AIChE members on campus. Last summer, AIChE held a LEGO robotics project and provided lunch for 24 students and 12 counselors from Westpoint High School’s Upward Bound summer program. Our chapter also held an activity for camp Jigsaw (a summer camp for high school and college students on the autism spectrum). Campers learned how to build and program LEGO NXT robots.

On Saturday, September 14th and 28th, members of AIChE dedicated their time to help Palmer Children’s Home. From nine to noon, over fifty students arrived at the thrift store and helped hang, price, and shelve a large volume of used clothes. Afterwards, AIChE went to Bulldog Lanes for Lunch n’ Bowl. Also on September 28th, AIChE volunteered for Habitat for Humanity, helping to build a home in Starkville on Beattie Street. Members worked on the roof, painted the sides of the house, and attached boards on the front patio. On October 29th, members of AIChE helped run a mummy wrap at MSU’s annual Halloween carnival. Children from the community had the opportunity to be wrapped as mummies or wrap one of the volunteering members. In the spring semester, AIChE sponsored a Girl Scout Merit Badge day and a similar event for middle school girls to learn about chemical engineering.

General News

After several years’ absence, the AIChE newsletter is back and better than ever!

The 2013-14 Academic Year was an eventful year for the Swalm School of Chemical Engineering and the MSU AIChE student chapter. In the fall semester, we learned that our student chapter had received the 13th consecutive Outstanding Student Chapter award (one of sixteen chapters chosen among almost 200 active chapters around the world). The spring 2014 semester brought change in the School as Dr. Jason Keith, our Director, stepped into a new role as Interim Dean for the Bagley College of Engineering and Dr. Bill Elmore, our Faculty Advisor, assumed responsibilities as the Interim Director for the School of Chemical Engineering. Our chapter attendance at the fall AIChE Annual Student conference in San Francisco and spring Southern Regional Conference in Puerto Rico were outstanding opportunities to strengthen friendships and network among chemical engineering students from around the country and even from around the world with attendance by some international AIChE student chapters. Our chapter continues our strong emphasis on K-12 outreach and community service. In this edition of the newsletter, we highlight several areas of interest both within AIChE and the School of Chemical Engineering.

We invite your feedback and contributions for future editions.
The Chapmans

By: Julia Matson

Bonnie and Jim Chapman are very active alumni and are wonderful assets to Mississippi State and the Swalm School of Chemical Engineering. They have been active members of the Chemical Engineering Advisory Board for the past ten years. As Mrs. Chapman indicated, they have “loved seeing the program grow and develop into the outstanding Chemical Engineering school it is today.” Through interaction with the administration, faculty, and students of the department, they have offered feedback and guidance for the future of the program.

The Chapmans feel blessed to have had the opportunity to attend “one of the best Chemical Engineering schools in the southeast, if not in the nation”. They realized the school excels because someone before them donated their time, talents, and resources to support the program. Now, they are returning the favor. They encourage students to remember to “give back so that others may have the blessings you received”. Mrs. Chapman enjoys helping to improve things that were so important to her college experience. Likewise, Mr. Chapman promotes Mississippi State as a leading university for engineering at every opportunity. He always enjoys working with MSU students and seeing them excel. “This,” he says, “emphasizes that State has quality engineers in the workplace”.

As the University grows, they are amazed at the facilities the students now have. The most notable example for the chemical engineering program was the move from Ethridge—the former chemical engineering building just behind Carpenter to the classic architecture of the Swalm School of Chemical Engineering so prominently placed as a “bookend” to Lee Hall on the historic drill field. According to Mrs. Chapman, “we had to unplug the window AC units to hear the professor in Ethridge”. Although many things have changed since their time at State, the university still echoes its humble beginnings. “State still has that ‘People’s University’ feel, where everyone is welcome,” says Mr. Chapman. According to Mrs. Chapman, “Mississippi State is a place that becomes a piece of your heart that you will never forget.” Both are proud of the education and opportunities that Mississippi State gave them.

After many years living all over the south, the Chapmans returned to Mississippi and currently reside in Madison. Mrs. Chapman currently works for Ergon, Inc. in the Refining Planning and Economics group and Mr. Chapman currently works for Albemarle Corporation as a Key Account Manager in Refining Catalyst. The couple has two children, James and Audrey.
Dr. Neeraj Rai

By: John Blakely

Dr. Neeraj Rai obtained his undergraduate degree at Karnataka Regional Engineering College (now known as National Institute of Technology, Karnataka [NITK]) under Mangalore University in 2000, and obtained his Doctorate from the University of Minnesota in 2009. His research interests include Advanced Nuclear Fuel Cycle, Biomass Transformation, and Algorithm and Force Field Development.

For those who may not know, NITK is located on the Southwestern coast of India and boasts a pristine beach as part of its campus. The hot summer months in Starkville are reminiscent of NITK days with the exception of its proximity to the beach. Dr. Rai spent his undergraduate years in Mangalore and thereafter found himself in a somewhat alien environment when he attended the University of Minnesota. This was not necessarily unwelcome, as it provided Dr. Rai with the opportunity to experience snow.

Dr. Rai has a fundamental concern for the preservation of natural resources through recycling and process redesign of existing technologies in order to improve energy efficiency and yield. A key area of his interest is nuclear waste reprocessing in order to recover usable fuel. Dr. Rai cites France’s spent fuel reprocessing initiative as an example by which U.S. nuclear waste may be minimized and recognizes the merits of public education in such areas. Dr. Rai sees the need for public enlightenment in this area of debate as it relates to nuclear energy in that fear should not be the governing factor when the future of mankind is involved.

In relation to biomass processing her co-op terms, she learned about process units and controls, saw the business side of engineering, and developed professionalism in the workforce. She had the opportunity to work throughout the country ranging from Ohio to Louisiana. Her co-op experience allowed her to see the relevance and applications of her coursework, proving that chemical engineering is the right path for her. Since Kelsey worked with distillation columns during her co-op and she saw the applications of her separations class in the industry, separations with Dr. R became her favorite class. Kelsey also interned with ExxonMobil in Fairfax, Virginia this past summer. Her business oriented internship showed her another career option available for chemical engineers. In fact, she recently accepted a full time job with ExxonMobil completing work similar to her internship.

Outside of the classroom, Kelsey is involved in various activities. She became active in AIChE during her first semester. Last year, as vice president of the club, Kelsey helped ensure that events ran smoothly. Because volunteering is one of Kelsey’s passions, one of her favorite parts of AIChE is the service events. She enjoys the opportunity to make new friends while serving others. Her favorite service events involved sparking young people’s interest in engineering. Kelsey is also a Presidential Endowed Scholar at Mississippi State. Through this scholarship, Kelsey has the opportunity to interact with leaders from Mississippi and thank them for their support of the school. Since her freshman year, Kelsey has been a part of the Catholic Student Association at St. Joseph’s. Recently, she started cooking dinner for students at the Tuesday night dinner. She is also a member of the Tau Beta Pi Engineering Honors Fraternity, which is a service oriented group for juniors and seniors. Kelsey says that Tau Beta Pi has offered her the opportunity to interact with engineers of other disciplines. Away from campus, she enjoys traveling to away football and baseball games. Kelsey’s extensive involvement is a contributing factor to her great college experience.
In the coming months, AIChE is gearing up for several new projects and events. Not only will AIChE members continue to participate in service projects with the Palmer Children’s Home Thrift Store and Habitat for Humanity, they will have few new projects. Coming up in the spring is Engineering Week, or E-Week, in which AIChE members will compete with members of other engineering disciplines fun contests. With previous success in mind, AIChE hopes to claim another victory.

Last but not least, members of AIChE look forward to this year’s annual conference. AIChE will continue to work with the Palmer Home Thrift Store and Habitat for Humanity, as well as begin working on new service projects. One of the projects in the planning stage is a cookout fundraiser in the drill field. All proceeds from the cookout will go to the St. Jude Hospital. AIChE is also planning projects with Starkville Parks and Recreations and the Boys and Girls Scouts. Dates for the projects are not yet set, but AIChE is definitely looking forward to helping the Starkville community more in the coming year.

Each year, AIChE chemical engineering student members have the opportunity to earn service points to attend conferences the following year. Recent venues have included Pittsburgh, Salt Lake City, Philadelphia, Minneapolis, San Francisco, and Cincinnati. Costs for attending the conference fluctuate depending upon availability of funds, travel costs, etc. but they generally run $200-$300 (supplemented by support from AIChE). The conferences for the 2014-2015 academic year include the national conference in Atlanta, Georgia during the fall of 2014 and the regional conference at the University of South Florida in Tampa during the spring of 2015. At conferences, members get to interact with CHE students from around the country and around the world. Career workshops, research poster and paper competitions, the AIChE car competition, and more are just a sample of things going on—plus the chance to enjoy great cities and venues.