
# Engineering Technology News

Texas State University

VOLUME IV, Number 1 Spring 2015


## Construction Students Win First Place in Commercial Build Competition

*Commercial building team - James Holmes, AUI Contractors Rep; Oliver Moore; Lane Conaway; Mitchell Classen; Erik Sifuentes and Trevor Lundgren*

The 2015 ASC Region V and TEXO student competitions held February 28 through March 2, 2015, at the Crowne Plaza Hotel in Dallas resulted in a first-place finish for the commercial build team. The team competed against 11 other universities from Texas, Oklahoma, and Louisiana. The team consisted of Construction Science and Management seniors James Holmes, Trevor Lundgren, Mitchell Classen, Lane Conaway, Erik Sifuentes and Oliver Moore. They defeated The University of Texas at Austin and Texas A&M University in the competition.

Texas State was represented by two additional competition teams: Design/Build and Heavy Civil (first time). Replicating the real-life experience in a compressed timetable, teams were given the request for proposal (RFP) on Saturday morning, February 28, having until midnight to prepare the entire bid package (bid, construction schedule, safety plan, etc.). The teams then traveled to Dallas on Sunday, March 1, and attended dinner, where presentation times were drawn. On Monday, March 2, each team presented their bid package to a panel of professionals comprised of actual participants in the real-life project. This year's TEXO member sponsors in each division were: Commercial Building - AUI Contractors; Design/Build - The Beck Group; and Heavy Civil - Austin Bridge & Road.

The Awards Banquet was held Monday evening with the scholarship and grant awards presented, followed by the announcement of winning teams. This year Texas State received first place in the commercial build team competition, and Mitchell Classen won the third-place presentation award for the team.

A $4,000 grant was issued to Texas State by the TEXO Associtation in addition to the $1,000 prize given to each of the winning team members.

Mrs. B.J. Spencer and Mr. Vivek Sharma, senior lecturers from the Department of Engineering Technology coached the teams. The Design-Build Team included Karen Thomas, Ray Waggoner, Sarah Miller, Brian Giang, Devon Bieniawski and Zelda Azua. The Heavy Civil Team included Ethan Hughes, James Pearce, Marcus Ferree, David Haddad, Andrew Childs, Jose Quintanilla Jr. and Zachary Cooper.

*Design-Build Team*

*2015 Student participants of all three teams.*



TEXAS STATE UNIVERSITY

*The rising STAR of Texas*

## TABLE OF CONTENTS

## Bartlett Receives CMC Grant and Texas Chapter AFS Grant

In September 2014, Dr. Laura Bartlett received a grant in the amount of $5,000 from Commercial Metals Company, CMC, to establish a Metalcasting and Metallurgy Research Program at Texas State University. This research program was established to support industry relevant graduate and undergraduate research in the field of materials science of ferrous and non-ferrous alloys. This program is the first of its kind at Texas State and will help support Dr. Bartlett's research in advanced high strength steels and other alloys. This grant from CMC will help to encourage participation from other steelmakers and foundries in the Texas area as well as nationwide. We deeply appreciate CMC for their vision and commitment to Texas State in establishing this new program.

*Left to right: Dr. Sam Matson, Dr.Laura Bartlett and Mr. Rolando Davila of CMC Seguin.*

Dr. Sam Matson and Mr. Rolando Davila of CMC Seguin presented a check in the amount of $5,000 to help support an industrially funded Metalcasting and Metallurgy Research Program at Texas State.

*Students are pouring a novel high strength and lightweight steel alloy developed at Texas State University. The Metalcasting and Metallurgy Research Program will help to fund undergraduate and graduate student researchers that are interested in the materials science of advanced alloys.*

In November 2014, the Texas Chapter of the American Foundry Society awarded Dr. Bartlett a grant in the amount of $9,000 to help fund the Metalcasting and Metallurgy Research Program at Texas State. The focus of this research program is to support undergraduate and graduate research in the materials science of ferrous and non-ferrous alloys.

Through various resources, AFS supports our foundry program at Texas State and provides the transfer of innovative research and technology to the industry. The AFS Texas Chapter directly supports our foundry program by providing thousands of dollars in cash and in-kind donations each year. This grant will help to support metalcasting research and enable more students to be involved in meaningful industrial research projects. Dr. Bartlett would like to personally thank the Texas AFS Board of Directors for funding her proposal and helping to establish this new area of research at Texas State.

## CMC America to Collaborate with Texas State

In November 2014, the Department of Engineering Technology was honored to host Mr. Tracy Porter, president of Commercial Metals Company, for a discussion of our steel related curriculum and a tour of the Foundry and Advanced Materials Characterization lab. Mr. Porter has been the President of CMC Americas Division at Commercial Metals Company since April 19, 2010, and has been its senior vice president since July 2010. Mr. Porter has been with CMC for nineteen years and started his career with CMC at the Seguin, Texas, minimill. Mr. Porter holds BBA in Accounting from Texas State University. For the last two years, Texas State University and the Department of Engineering Technology have been working together to increase the number of students that choose a career in the steel industry. An internship program has been established between Texas State and CMC, and CMC recently helped to establish a Metalcasting and Metallurgy Research Program in the Engineering Technology Department. Mr. Porter heard of the recently established partnership between CMC Texas and the Engineering Technology Department and is interested in furthering collaboration.

*Mr. Tracy Porter (far left), president of CMC Americas, and upper management from CMC Texas met with faculty and students from the Engineering Technology Department to discuss increasing the collaboration between CMC Americas and Texas State University.*

## Fluor Contributes Second $10,000 Gift to CSM Program

Fluor made its second donation of $10,000 to the Construction Science and Management Program with the first donation being made during the 2013-14 academic year. The money is budgeted to provide $5,000 in construction scholarships, $2,500 for faculty development, $1,500 for student travel to competitions and $1,000 to proctor the American Institute of Constructors (AIC) Fall and Spring Certification Exams, for which Texas State University is a designated testing center. This donation will allow the CSM Program to fund additional activities that the current Departmental Budget cannot fund.

Mr. David Stayshich, Corporate Construction Engineering Manager from Fluor and also a member of our Construction Advisory Board was instrumental in establishing the donation to our CSM Program.

*For Mr. Stayshich's years of service, Dr. Winek presented him with an engraved plaque noting his dedication to the program. He will be deeply missed.*

## Mr. David Stayshich retiring from Fluor and Texas State Construction Advisory Board

Mr. David Stayshich announced he is retiring from both Fluor, where he had worked for more than 30 years, and the Construction Science and Management Program's Construction Advisory Board (CAB) on which he has served for eight years. Mr. Stayschich has accepted a position with the University of Houston to establish a new construction program at one of its satellite campuses. Mr. Stayshich has been instrumental in moving the CSM Program forward. His assistance through the past eight years, has helped the program to become American Council for Construction Education (ACCE) accredited in the spring of 2013. He has also been instrumental in shaping the CSM curriculum, such as moving our internship course from students' junior years to their sophomore years. Also, David has helped many of our students start careers at Fluor, and he is often one of the Fluor representatives at their recruitment booth at our Fall and Spring Construction and Concrete Industry Job Fairs held on campus. He also was responsible for the last two gifts of $10,000 to the program from Fluor.

## Faculty and Student honored by the Alpha Chi National College Honor Society

Dr. Vedaraman Sriraman and Mr. William Pool were honored as *Alpha Chi Favorite Professors for 2015* at the spring induction ceremony of Alpha Chi on Friday, April 24, in the Alkek Teaching Theatre. Also inducted into Alpha Chi from the Department of Engineering Technology is Construction Science and Management major Matt Bearden.

Alpha Chi National College Honor Society is a collegiate society whose purpose is to promote academic excellence and exemplary character. Students who have met academic qualifications to be members of Alpha Chi are honored at the induction ceremony. New student inductees may nominate faculty as Alpha Chi Favorite Professors.

## Welcome to Christina Lopez

*Mrs. Christina Lopez, Administrative Assistant II*

Christina Lopez joined the department of Engineering Technology in January 2015 as our Administrative Assistant II. Lopez has been an employee of Texas State University since September 1998. She started her employment in the Alumni Relations office for 12 years, then in Donor Services for four years.

Lopez is married to her high school sweetheart, Rick, and has three children, sons Ricky and Robert and daughter Ryann. She loves spending time with family and keeps busy as the Secretary of Holy Ground Church. As a native San Martian, she loves San Marcos and is happy to work at Texas State University.




*Steel industry representatives from CMC, Nucor, Gerdau, and Steel Manufacturer's Society networked with students during the Texas State Steel Industry Day on April 2, 2015.*

## First Annual Texas State Steel Industry Day

Texas State University and local steel manufacturers hosted the first annual Texas State Steel Industry Day on April 2, 2014. The goal of this event is to increase the number of young engineering and technical professionals that choose steel industry related careers. World steel production has increased from 851 Mt in 2001 to 1,606 in 2013, however the average age of today's steel industry professional remains in the mi-50s. Unfortunately, from the viewpoint of most high school and college students of the "tech" generation, the steel industry is often perceived as a "hot and dirty" job that is technologically outdated and bad for the environment. This is in stark contrast to industry reality. Technological advances in steelmaking during the last 30 years have reduced the energy required to produce one ton of steel by 50 percent and steel remains the most recyclable material on Earth. New lightweight steels, some of which are being developed right here at Texas State, are driving the automotive markets, and vehicle structures using advanced steels weigh up to 35 percent less than those made with conventional steel. The steel industry spends billions of dollars per year to invest in the latest technologies to streamline processes and improve product and efficiency ratings. Part of that investment is to attract talented young professionals from a wide variety of engineering and technical disciplines.

Made possible by a grant from the Association for Iron and Steel Technology, AIST, the first annual Texas State Steel Industry Day festivities began with an informal evening networking session and welcome dinner for steel manufacturers and students. The main event was the following day from 10 a.m. to 2p.m. and consisted of a campus-wide, outdoor networking event and information session in front of the LBJ Student Center. The event was hosted by AIST, Engineering Technology, and Career Services. Corporate sponsors included Commercial Metals Company, Gerdau Midlothian, Nucor Jewett, and Steel Manufacturer's Association. A free barbecue lunch was catered by Fuschak's Pit BBQ. In the evening, Lori Wharrey from AIST and Dr. Sam Matson from Commercial Metals Company gave a presentation on scholarships and careers in the steel industry. A pizza dinner was provided for interested students as well as a drawing for prizes. The Texas State Steel Industry Day event was a tremendous success, and hundreds of students stopped by the industry booths to find out more about how steel is made and to network with future employers. Plans are in the works to make this event even bigger next year with more participating companies.

*During the welcome dinner at Saltgrass Steakhouse, students were able to network with steel industry representatives in an informal setting.*

## Spring Construction and Concrete Industry Job Fair Sold Out!

For the second semester in a row the Construction and Concrete Industry Job Fair has sold out with 70 employers, the capacity of the LBJ Student Center Ballroom, where the event is held. The Job Fair is held from 1-4 pm and offers the employers a chance to interview students for summer jobs, internships and full-time employment. Prior to the start of the fair, employers received lunch and a brief update of the two programs by Construction Science and Management Director Dr. Winek, and Concrete Industry Management Program Director Dr. Schemmel. Construction Student Association (CSA) and American Concrete Institute (ACI) Student Chapter Officers made brief presentations.

The cost of the job fair is currently $300 per employer with about $150 per employer coming back to a special department fund. This money is used to fund events, supplement faculty and student travel to conferences and purchase necessary supplies and equipment. Money from this fund was recently used to send student competition teams to the ABC Competition in Miami during the Fall of 2014 and the NAHB Competition held in Las Vegas in January 2015.

It is interesting to note that the Construction and Concrete Industry Job Fair, which is held specifically for the 308 CSM majors and 42 CIM majors has one of the highest employer to student ratios of any of the job fairs held on campus.

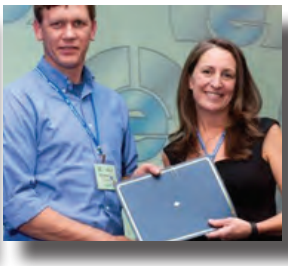
## ASME Student Chapter Attends International Mechanical Engineering Congress and Exposition

ASME – Texas State attended the International Mechanical Engineering Congress & Exposition (IMECE) in Montreal, Canada November 2014. IMECE is the largest mechanical engineering meeting in the world and plays a significant role stimulating innovation. In this meeting, Dr. Byoung Hee You, faculty advisor of the student chapter, received a recognition for the excellence in service for organizing the "Design and Fabrication Analysis, Processes, and Technology for Micro and Nano Devices and Systems" technical topic, and Juan Gomez, treasurer of the student chapter, prepared a technical presentation titled "Study on Stress and Thermal Contraction during Cooling and Demolding in Hot Embossing." This year, two students have already been accepted for technical presentations in IMECE 2015.


*Dr. Byoung Hee You with Dr. Keyoung Jin Chun, and Dr. Sung-Yong Park from the National University of Singapore*

## CIM Students Attend NRMCA and NPCA

In March Amy Ramos, Alex Burkhart and Dr. John Schemmel attended the National Ready Mixed Concrete Association (NRMCA) annual meeting in Orlando. Dr. Yoo-Jae Kim and Brian McAshan joined the group later for National Precast Concrete Association's (NPCA) Precast Show, also in Orlando. Dr. Schemmel met with the NPCA Education Committee and NPCA Foundation to discuss opportunities for increased collaboration. Mr. Burkhart was awarded the NPCA Foundation Scholarship.

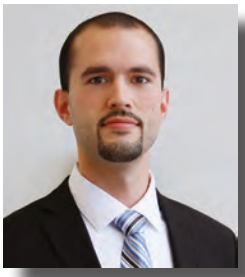
*Left: 2014 Texas State CIC delegates Michael Grams, David Coleman, James Rafferty, Aaron McGraw and Trevor Scott. Right: Michael Grams received a $2,000 Birtwistle scholarship.*

## FEF College Industry Conference

In November, Texas State students attended the annual FEF College Industry Conference at the Westin Hotel in downtown Chicago. Texas State is one of only 20 FEF accredited Metalcasting Programs in the United States. FEF provides thousands of dollars each year in scholarship opportunities and equipment to support our students. The College Industry Conference brings together what FEF is all about: students, professors, and industry leaders. Companies have a unique opportunity to meet the top engineering students in the country. The Career Information Session allows a company to interview or to acquaint future leaders with their products and services. More than $40,000 in special scholarships and grants is available to undergraduate and graduate students. Texas State Key Professor, Dr. Laura Bartlett attended this year's CIC along with AFS students Michael Grams, David Coleman, James Rafferty, Aaron McGraw, and Trevor Scott.

Special congratulations to Michael Grams, who won a $2,000 Ron & Glenn Birtwistle Memorial Scholarship. These scholarships were established in 1984 in memory of Ron and Glenn Birtwistle by their father, Don Birtwistle. Don is a former FEF Board member and President Lifetime Patron. Michael is the first Texas State student to win this scholarship and the first Texas State student to win a scholarship at CIC since 2010.

## Capitol Aggregates Research Grant



Capitol Aggregates is funding a study proposed by Ash Kotwal, Ph.D. candidate in the Materials Science, Engineering and Commercialization Program. To support his doctoral dissertation research, Mr. Kotwal also received a CoSE Research Fellowship, Graduate College Research Fellowship and ACI Student Fellowship. The investigation of cement replacement in concrete mixtures is considered to be of commercial significance in the construction industry. By intergrinding limestone with clinker, cement manufacturers can increase overall production volume and decrease material costs.

## Texas State Receives REENERGIZE: Recruitment and Retention Research Grant

In September, Texas State became part of the REENERGIZE project for recruitment and retention of students in STEM programs through a renewable energy research and education partnership with five minority institutions. This grant is sponsored by the U.S. Department of Education, Minority Science and Engineering Improvement Program. This is a three-year multifaceted project. In addition to Ingram School of Engineering, Engineering Technology, and the College of Education at Texas State University, five minority institutions of higher education are involved in this MSEIP special project "REENERGIZE". The partcipating minority institutions are two-year colleges that are the main feeders for universities and industry sectors. The $613,000 grant is for three years.

Texas State faculty participants include Dr. Bahram Asiabanpour, Dr. You Jae Kim, Dr. Semih Aslan, Dr. Hassan Salamy, Dr. Jesus Jimenez, Dr. Araceli Ortiz, and Dr. Vishu Viswanathan.

## Texas State Construction Program Receives TEXO Grant Award

At the ASC V Regional Competition held in Dallas in February 2015, the department received a $4,000 grant to be applied to the purchase of an iPlan Table for use in the CSM program classes. The purchase would allow students to experience the current technology used in the construction field, ie. larger digital format of construction drawings used on the construction site. This table will be mobile and thus able to be shared among different classrooms and meeting rooms.

## Engineering Technology to receive Academic Computer Grant

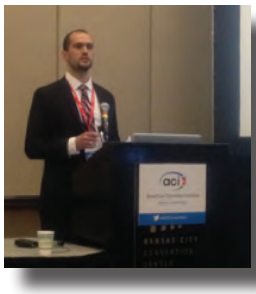
In April, the Department of Engineering Technology was notified that the department will receive a $43,924 Academic Computer Grant, to replace the 25 computers in RFM 4236 (the Architectural CAD Lab), with Engineering Workstations.

## CIM Students Present Research at American Concrete Institute Convention

*Brian Ledsinger at ACI Convention*

*Amanda Amaya and Amy Ramos*

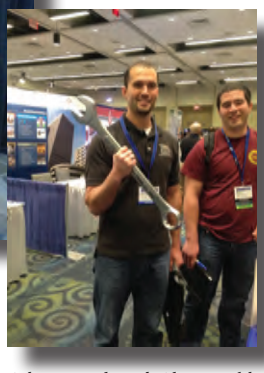
On April 12-13, 2015, Concrete Industry Management students Amy Ramos, Alex Burkhart, Brian Ledsinger, Amanda Amaya and Ash Kotwal joined Jiong Dr. Hu and Dr. John Schemmel at the ACI Convention in Kansas City, Missouri. Ledsinger made a research presentation on Eco-SCC with recycled concrete aggregate for the session "Undergraduate Research on Concrete Materials, Structural Design or Construction." Kotwal also interviewed for a very prestigious ACI graduate student fellowship. He later received notice that he has received the fellowship.



## CSA Receives NSF-Texas State STEM Rising Stars Mini-Grant

On April 8, 2015, the Construction Student Association was recognized as one of the spring 2015 award recipients of the NSF-Texas State STEM Rising Stars mini-grants. The grant money received was used toward the Boko's Builders home remodel project and various networking events including the mentorship program SLIC, Student Leadership in Construction.

*First-place winners, left to right: Amy Ramos, Alex Burkhart, Cole Pilgrim, Brian Ledsinger, Walt Flood, and Advisor Jiong Hu*



*Ash Kotwal and Alex Burkhart at ACI Fall Convention*

## CIM Team wins First Place at the ACI Convention

CIM students Brian Ledsinger, Alex Burkhart, Amy Ramos and Cole Pilgrim represented Texas State in the Mortar Workability Competition and the Egg Protection Device Competition at the ACI Fall 2014 Convention on October 26, 2014, in Washington, D.C.

The team took home the first place in the Mortar Workability Competition. The competition had 16 teams participating from the U.S., Canada, and Mexico.

## Concrete Industry Managment Students Participate at World of Concrete

*Travis Grebe and Amy Ramos at World of Concrete*

*Alex Burkhart Research Presentation at World of Concrete*

Texas State Concrete Industry Management students Amy Ramos, Alex Burkhart, Kevin Robbins, William Grebe, Derek Watson, Brian Ledsinger, Eric Adams, and Ash Kotwal; Patrons Earl Ingram, Victor Bretting, and Tim Mummey; and Dr. John Schemmel traveled to Las Vegas on February 1-6, 2015, to attend the World of Concrete (WOC). As part of the activities this year, nine students from the four CIM programs participated in a presentation competition. Alex Burkhart took second place for his research presentation on the use of foundry waste in concrete. Burkhart received an iPad for his accomplishment.


*Left to right: Dr. Gary Winek, Trevor Lundgren, Chase Jones, James Holmes, Andrew Childs, Ashton Allen and Mr. Vivek Sharma, team advisor.*

## Construction Students win Third Place in the Nation at the ABC Construction Management Competition

Texas State construction students won third-place overall at the ABC Construction Management Competition held November 6-12, 2014, in Miami, Florida. This was the team's first year to compete at this competition. Team members included Ashton Allen, James Holmes, Trevor Lundgren, Andrew Childs and Chase Jones. Texas State competed head-to-head with 28 top universities. Additionally, with the hard work of Trevor Lundgren, the team won third place in the estimating category.

## Construction Students Participate in NAHB Residential Construction Management Competition


*Left to right: Erik Sifuentes, Andrew Childs, Mr. Vivek Sharma (Advisor), James Holmes, Austin Woodruff, Tahnee Sauer and Lane Conaway.*

Texas State construction students competed against top construction programs in the nation at the NAHB Residential Construction Management Competition held January 18-22, 2015, in Las Vegas, Nevada. Team members included Erik Sifuentes, Andrew Childs, James Holmes, Austin Woodruff, Tahnee Sauer and Lane Conaway. While this was the team's second year at this competition, the continuity provided by this team will allow students in the future to benefit greatly from a well-established base. The team received some good feedback that can be used to improve our proposal and presentation for next year.

# INDUSTRY OUTREACH

*Bobcat Trail jobsite tour with Flynn Construction, September 28, 2014.*

*Moore Street Housing job-site tour with SpawGlass, March 6, 2015.*

*Jobsite tour at the Austin Central Library, 299 West Avenue in Austin with Hensel Phelps, October 24, 2014.*


*KB Home Tour with 35 CSM and CIM students and Dr. Gary Winek and Dr. Yoo-Jae Kim on October 28, 2014. Hunter Road and Stagecoach Drive, San Marcos*


*Austin City Hall Jobsite tour, February 20, 2015. USGBC Green House Tour. LEED Gold Standard*

## CSA Continues with Ramp Builds

CSA continues to promote community service through its partnership with Texas Ramps to provide ramps for citizens in need around the San Marcos area. CSA Community Service Committee Chair Javier Mendez would like to thank everyone who came out for the three latest ramp builds. The October 19, 2014; November 15, 2014; and February 14, 2015, builds were a great success. CSA would like to extend a huge thank-you to Bob Gardner with Texas Ramps for providing the opportunity to give back to the community.

*October 19, 2014, ramp build.*

*November 15, 2014, ramp build.*

*February 14, 2015, ramp build.*

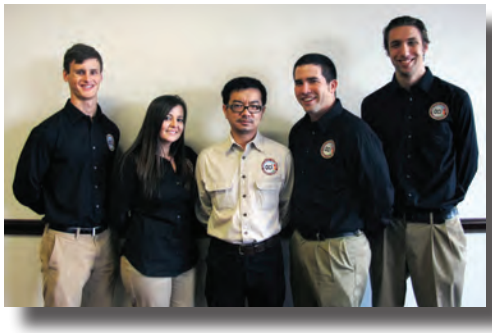
## Boko's Builders

Boko's Builders is a community service project where CSA students work in conjunction with the Texas State Student Chapter of the American Society of Interior Designers. This year's leadership, consisting of two ID majors and two CSM majors, located a home in need of repair, created a scope of work, and secured numerous donations

through the second annual **Bands for Building** (a benefit concert held at Tantra Coffeehouse to raise funds for the project). The team was then created an estimate, schedule, and managed the remodel of the home in the San Marcos area. While last year the project logged 1,200 man hours of community service and completed more than $17,000 of work in just three days, this year's team went above and beyond!

In just four days, with 90 volunteers, one family's life was changed forever. This year CSA and ASID teamed up with Rebuilding Together Austin and DPR Construction to make this dream come true. Go see the youtube video at Youtube.com and type in: "4 days - 90 volunteers - One family's life changed forever" to see what incredible work was completed.

The 2015 Boko's Builders event took place on March 27-30, at the Boyd/Baez home, 719 Centre Street, San Marcos, Texas. Sponsors include DPR Construction, Rainy Richardson Interiors, Moore Supply Co. and The Front Door Company.



*Texas State 2014-2015 ACI Student Officers (from left to right): Cole Pilgrim; Amy Ramos; Dr. Joing Hu, Advisor; Alex Burkhart; and Brian Ledsinger*

**American Concrete Institute**
**ACI Student Chapter**
**2014-2015 OFFICERS:**

President: Alex Burkhart
Vice-President: Amy Ramos
Treasurer: Brian Ledsinger
Secretary: Cole Pilgrim

It has been a very busy spring semester within the CIM Program at Texas State. We began 2015 by hosting TACAmp once again. A noteworthy change from last year was the addition of an advanced course held concurrently with the recurring beginner's course. The advanced course was offered in response to a request from CIM students who participated in TACAmp 2014.

In February, CIM students with Ash Kotwal; Patrons Earl Ingram, Victor Bretting, and Tim Mummey; along with faculty Dr. John Schemmel traveled to Las Vegas to attend the World of Concrete (WOC). See "Concrete Industry Managment Students participate at World of Concrete" article on Page 7. Upon returning to Texas, several CIM students attended the Construction and Concrete Industry Job Fair. As in the fall, more than 70 companies were represented at the spring fair. The CIM Program also hosted information sessions for several industry partners. Dr. Schemmel attended the Interlocking Concrete Pavement Institute (ICPI) and National Concrete Masonry Association (NCMA) joint conventions in San Antonio. The NCMA was kind enough to provide the CIM program with an information booth at their convention. Throughout February, Dr. Schemmel visited Harmony schools in Austin, San Antonio and Houston. He spoke to the San Antonio Chapter of ACI and the Precast Concrete Manufacturers' Association (PCMA) of Texas.

In an effort to recruit veterans to the CIM Program, Dr. Schemmel met with Mr. Fernado Conejo of the Texas Veterans Commission. The month ended with Dr. Schemmel spending a week in the Dallas/Fort Worth area visiting several high schools and meeting with patrons and other industry partners.

In March CIM students and Dr. Schemmel attended the National Ready Mixed Concrete Association (NRMCA) annual meeting in Orlando. Dr. Kim and Brian McAshan joined the group later for National Precast Concrete Association's (NPCA) Precast Show, also in Orlando. Later in March, Dr. Schemmel met with the Houston chapter of ACI. Following spring break, Amy Ramos and Dr. Schemmel represented the CIM Program at a veterans job fair and information session in San Antonio. Next up, Dr. Schemmel attended the TACA Short Course in College Station, where he provided an update on the CIM program.

In April, Dr. Schemmel made presentations to the South Central Texas Chapter of the International Concrete Repair Institute (ICRI), the Central Texas Chapter of ACI, and the Corpus Christi Chapter of the National Association of Women In Construction (NAWIC). He also attended the TACA Chat-n-Chew in Houston. Amy Ramos, Alex Burkhart, Brian Ledsinger, Amanda Amaya and Ash Kotwal joined Dr. Hu and Dr. Schemmel at the ACI Convention in Kansas City. See article "Texas State CIM Student Presents Research at American Concrete Institute Convention"on Page 6. Mr. Kotwal interviewed for a very prestigious ACI graduate student fellowship. Also in April, Dr. Schemmel visited the Cypress-Fairbanks High School presenting information on the CIM program to more than 100 students. April ended with the CIM program hosting about 40 students from the Harmony school in San Antonio. These students visited a quarry, cement plant, and the Texas State campus.


Looking forward, the next National Steering Committee meeting will be held at the New Jersey Institute of Technology (NJIT) in early May. A group of students and faculty will be attending the NRMCA Sustainability conference in Miami. The second state conference for ICRI will be held in Bastrop. In June, NRMCA will be offering its Plant Manager course in San Antonio. Lastly, the spring meeting of ASTM will be held in Anaheim, California. Everyone in the CIM Program at Texas State is going to have to take a big breath and well deserved nap in June.

## 2014-2015 OFFICERS

President: Abel Ardis
Vice president: Aaron McGraw
Secretary: Sabra Serino

## Texas State Students attend AFS Meeting

On November 14, 2014, AFS students Michael Grams, Aaron McGraw, Heidi Oertli, David Coleman, and Cassie Elliot attended the AFS Texas Chapter meeting and dinner at Choctaw Casino Resort in Durant, Oklahoma. The dinner included a technical presentation on sand reclamation and a research presentation on the "The Effect of Heat Treatment of the Machinability of Advanced High Strength Manganese and Aluminum Steels" by Michael Grams. Michael received a speaker's award for his excellent presentation. Michael is currently a Graduate Research Assistant for Dr. Bartlett and is studying new high strength steal alloys for use in the military and transportation industries.

Michael Grams received a speaker award for his presentation entitled "The Effect of Heat Treatment of the Machinability of Advanced High Strength Manganese and Aluminum Steels" from Mr. Ryan Meyers, AFS Texas Chairman and President of Oil City Ironworks.

## Texas State AFS Students Host Open Foundry Days

In December 2014, Texas AFS students hosted 60 students, faculty members, and parents from Mountain Valley Middle School for an Open Foundry Day and mechanical testing workshop. AFS students demonstrated the lost foam casting process and poured brass bobcat heads as part of the day's events. Middle school students were also given a tour of our lab facilities and attended an information session by Dr. Laura Bartlett on the science of metalcasting.

*Mountain Valley Middle School students learn how brass is cast into useful shapes.*

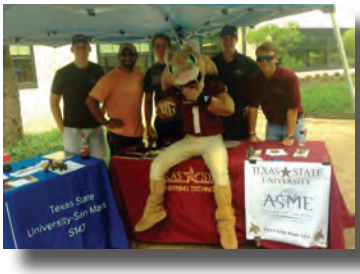
In February 2015, AFS students hosted an Open Foundry Day to melt and cast aluminum using the lost foam process. The event was open to all Texas State students. Students used hot wire foam cutters to make a pattern out of Styrofoam. They then surrounded the pattern with green sand and cut out the rigging system by hand. With the help of lab technical staff, AFS students melted and cast aluminum into the finished green sand molds. Parts solidified in only a few minutes and thus allowed students to take their finished castings home the same day. Materials for these activities are donated by AFS and FEF. Open Foundry Days are held once or twice per semester so watch out for your next opportunity to participate!

## ASME Student Chapter Activities

The Texas State University chapter of the American Society of Mechanical Engineers (ASME) is an opportunity to get to know your fellow Bobcat engineers. The student chapter of ASME at Texas State serves as a springboard into the world of engineering.

Throughout the fall and spring, ASME had numerous socials to obtain new members for the organization. Our socials presented our members with a chance to get acquainted with one another in a group setting outside the classroom. This resulted in quite a few new members and increased involvement. One of the greatest socials to date was the tailgate for the Texas State vs. Navy football game. At the tailgate, members of ASME, SME, AFS, and CSA were able to socialize, enjoy barbecue, and play games like washers and corn hole.

In October the university hosted a student organization fair where we set up a booth to spread the word about ASME. This was a great opportunity for us to reach




*ASME stand at the Student Involvement Fair*

out to freshman and sophomores and let them know of all the awesome things we had planned for the year. Through our socials, we were able to pick up involvement in the organization, which is what we set out to do at the beginning of the year.

On February 10, 2015, Lt. John Cavenaugh of the United States Navy spoke on the Navy Nuclear Propulsion Program at our ASME meeting. This program leads to an appointment of active duty as an ensign where you choose between being a Naval Reactors Engineer, Surface Warfare Officer, Submarine Officer, or a Naval Nuclear Power School Instructor. The program is unique in that it offers candidates an opportunity to travel, actively expand knowledge of the nuclear field, and potentially obtain further education provided by the U.S. Navy. At ASME, we were honored to have Lt. Cavenaugh present our members this opportunity, and we hope to have him back in the years to come.

In March, ASME was presented with a unique opportunity to participate alongside Red Bull to host its nationally recognized competition titled Paper Wings. Paper Wings is a relatively simple


*ASME – Red Bull Paper Wings finalists 2015*

competition where students must hand-construct paper airplanes without the aid of ripping, gluing, stapling, or ballasting. The competition consisted of three separate categories including longest flight time, furthest flight, and most impressive acrobatics. Across the USA about 76 universities and more than 2,000 competitors participate in the event. Here at Texas State, we hosted the event in the LBJ ballroom and had a great turnout. The winning competitors were presented with a chance to meet for the world championships in May hosted at Hanger 7 in Salzburg, Austria.

### ASME Officers 2014 – 2015

President - Sean Moore
Vice president - Devanda Lek
Secretary - Sean Syring
Treasurer -Juan Gomez


*Daniel Witt from Tesla Motors at ETS15*

Texas State student chapter president and treasurer, Sean Moore and Juan Gomez respectively, were invited to the Energy Thought Summit (ETS15) in Austin, Texas. ETS brings the world's thought leaders together to discuss the state and future of energy and its impact in our society. It provided great networking opportunities with speakers and student organizations from different universities. The main keynote was from Dr. John B. Goodenough, a distinguished professor of The University of Texas at Austin and creator of the lithium-ion battery. Dr. Goodenough shared his views on the technological and scientific leaps of energy and the need for a super-battery. Daniel Witt, senior manager of business development and U.S. policy of Tesla Motors joined the conversation about next-generation energy systems.

The student chapter was invited by the Latinos in Science and Engineering Society (MAES) to join the Science Extravaganza as co-organizers on April 11, 2015. Science extravaganza is a one-day event, hands-on academic experience for middle and high school students. The main goal is to develop an interest in science, technology, engineering, and mathematics (STEM) among young students. ASME prepared a machining demonstration using a 3D printer, CNC mills, and CNC lathes. The purpose of the workshop was to introduce manufacturing techniques by comparing additive and subtractive manufacturing in the hopes of inspiring future engineers.

## Construction Student Association News

### 2014-2015 OFFICERS

President 2014: Ashton Allen
President 2015: James Holmes,
Vice President: Karen Thomas
Treasurer: Lane Conaway,
Secretary: Trevor Lundgren,
ABC Ambassador: Matt Bearden
AGC Ambassador: Mitchell Classen
NAHB Ambassador: Erik Sifuentes
USGBC Ambassador: Maya Shebesta
Special Events Leader: Oliver Moore
Continuing Education Leader: Cameron Huser
Community Outreach Leader: Javier Mendez
Information Technology Leader: Andrew Childs

## CSA Hosts PlanGrid


On April 14, 2015, in an effort to educate students and faculty on the PlanGrid software, Roya Sabeti, a member of the PlanGrid group, flew in from California to provide CSA members an opportunity to learn about the software. Ms. Sabeti gave information on how the software is beneficial in the construction field. The event was very successful with a high attendance rate, an iPad prize giveaway and Plucker's catering the event. We would also like to acknowledge industry members who attended and gave feedback on the program: Bartlett Cocke, Joeris and McCarthy. Interested in getting your students familiarized with PlanGrid in the classroom? Read more at http://www.plangrid.com/en/education.

## 10th Annual CSA Golf Tournament

The 10th Annual CSA Golf Tournament was held on April 17, 2015. The CSA's golf tournament serves as its largest fundraiser every year and is a great opportunity for students and employers to interact. Teams are composed of two students and two industry sponsors, which allows students to become familiarized with a company of interest, while industry sponsors get to learn more about our students and program at Texas State University. This year's tournament had a record number of teams and construction industry sponsors.

The sponsors included: Rogers O'brien, SpawGlass, Archer Western, CenterPoint Energy, A-Lert Roofing Systems, Hill & Wilkinson, Convergint Technologies, Hensel Phelps, DPR Construction, JE Dunn, KB Home, Meritage Homes, Bartlett Cocke, Cadence McShane, Joeris, Kiewit, McCarthy, Western Waterproofing, Whiting-Turner, Wisenbaker Building Services, and Ryan Companies. These sponsors, along with two Texas State faculty teams, accounted for a total of 27 teams.


The winners of the tournament this year were:
First – Wisenbaker Building Services
Second – Rogers O'brien
Third – Archer Western
Longest Drive – Cody Adams (Hensel Phelps)
Closest To The Pin – Jose Quintanilla (Texas State University – student).

# Awards Day 2015


The Department of Engineering Technology held the annual awards day ceremony on April 24, 2015. The department recognizes students for academic excellence, leadership, service and research. Also, the many departmental scholarship recipients were acknowledged at this ceremony. Faculty, staff, students and family enjoyed the ceremony and refreshments.

*Academic Excellence Award Recipients.*

Academic Excellence awards were presented to students who have displayed above average academic skills. This year's recipients were Evan D. Humphries, Alolika Mukhopadhyay, Seth M. Arnold, Zoltan David, James D. Holmes, Jaime L. Hutton, Joshua D. McGoldrick, Kyle A. Willson, Erikpreet S. Kooner, Cole M. Pilgrim, Joseph G. Powell, Cole Jacob Strauss and Andrew R. Childs.

The Leadership Award recipients are students who have exhibited superior leadership skills, particularly in professional organizations. The recipients of the leadership awards were: Ashton S. Allen, Abel Ardis, Alexander W. Burkhart, Mitchell R. Classen, Ricky Lane Conaway, Juan Andres Gomez, James D. Holmes, Cameron Huser, Christopher R. Johnson, Brian J. Ledsinger, Devanda R. Lek, Trevor Lundgren, Francisco Javier Mendez, Oliver Moore, Sean Alexander Moore, Amy J. Ramos, Sabra C. Serino, Erik Sifuentes, Sean J. Syring and Karen E. Thomas.

*Leadership and Service Award Recipients.*

The Service Award recipients are students who have contributed to making the Department of Engineering Technology exemplary at Texas State University. The recipients included: Eric W. Adams, Reuben Charles Barr, Alexander W. Burkhart, Andrew R. Childs, David H. Coleman, Mallory E. Frazier, Juan Andres Gomez, James D. Holmes, Evan D. Humphries, Christopher R. Johnson, Brian J. Ledsinger, Devanda R. Lek, Trevor Lundgren, Mithil Mazumder, Francisco Javier Mendez, Sean Alexander Moore, Alolika Mukhopadhyay, Cole M. Pilgrim, Amy J. Ramos, Harnish Sharma, Sean J. Syring, Kelli Ann Watson and Peyman Yazdizadeh Shotorbani.

*Research Award Recipients.*

Research Awards are presented to students who have gone above and beyond assisting the Engineering Technology faculty with their research projects and in some cases have also contributed some of their own research and presented it in either journals or at professional meetings. Recipients included: Eric W. Adams, Reuben Charles Barr, Alexander W. Burkhart, David H. Coleman, Ramsey Z. Doany, Mallory E. Frazier, Juan Andres Gomez, Armel J. Hager, Evan D. Humphries, Brian J. Ledsinger, Devanda R. Lek, Mithil Mazumder, Sean Alexander Moore, Alolika Mukhopadhyay, Duy L. Nguyen, Amy J. Ramos, Kevin C. Robbins, Sabra C. Serino and Kelli Ann Watson.

Students who received departmental scholarships were recognized by the following categories (see next page):

*CIM Scholarship Award recipients.*

The CIM Scholarships were presented to students by Mr. Bruce Ingram, Dr. Robert Habingreither and Dr. Andy Batey. Recipients included Alexander W. Burkhart, Braden R. Byrd, Chase A. Hubbert, Jake C. LaLanne, Brian J. Ledsinger, Cole M. Pilgrim, Amy J. Ramos, Justin P. Sullivan, Ramon Vargas and Declan P. Ward.

*Left to right: Dr. Habingreither, Brian Ledsinger, Alex Burkhart, Cole Pilgrim, Amy Ramos and Dr. Batey.*

The ACI Central Texas Scholarship recipients were Alexander W. Burkhart and Cole M. Pilgrim.

The ACI San Antonio Scholarship recipients included Alexander W. Burkhart, Cole M. Pilgrim and Amy J. Ramos.

The ICRI South Central Texas Chapter Scholarship recipients were Alexander W. Burkhart, Brian J. Ledsinger and Cole M. Pilgrim.

The National Precast Concrete Association Foundation Scholarship recipient is Alexander W. Burkhart.

*Dr. Robert Habingreither and Mr. Bruce Ingram help with the presentations of awards.*

*FEF Scholarship Award recipients.*

The FEF Education Foundation Scholarships were presented by Dr. Robert Habingreither, Dr. Laura Bartlett and Dr. Andy Batey. Recipients were Abel C. Ardis, Bryan R. Avila, David H. Coleman, Cassie J. Elliott, Aaron McGraw, Robert Payne, Joseph G. Powell, Merrit Preis, James Robert Rafferty, Trevor Scott and Sabra C. Serino.

Other Departmental Scholarship recipients included: Bryan R. Avila, Cassandra Cantu, David H. Coleman, Jon L. Diaz, Jacob Hammack, Miguel Hurtado, Erikpreet S. Kooner, Francisco Javier Mendez, Andy Roberts, Cole Jacob Strauss and Kyle A. Willson.

Faculty, staff, students and family enjoyed the ceremony and the delicious refreshments.



## CIM Class Visits Boral Material Lab in San Antonio

On September 9, 2014, Dr. Yoo-Jae Kim hosted 14 CIM majors from the CIM 4310 Senior Lab for a lab visit to Boral Material Lab in San Antonio, Texas. Participants included Joel Carpenter, James Del Frate, Zachrey Garcia, Alfredo Gonzalez, William Grebe, Christopher Livingston, Eric Martin, James McNeill, Blake Meuth, Garrett Quick, Zachary Schroeder, Paul Skogen, Santos Verdin and Derek Watson.


## CIM 4310 Senior Lab Hosts Guest Speaker

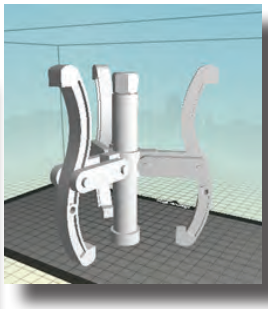
On November 4, 2014, Dr. Yoo Jae Kim hosted guest speaker Dr. Derek Cong, Associate Principal at WJE. Dr. Cong spoke on the topic Ask the Concrete: Concrete Petrography and Case Study.


## CIM 4310 Senior Lab Hosts Guest Speaker

On November 11, 2014, Dr. Yoo Jae Kim hosted guest speaker Mr. Riley Bench, principal construction engineering specialist, Fluor. Mr. Bench spoke on the topic What's in the Mix? He also introduced his project in Ulan Bator, Mongolia.


## CIM 4310 Senior Lab Hosts Guest Speaker

On October 28, 2014, Dr. Yoo Jae Kim hosted guest speaker Mr. Chris J. Lechner, executive director at Precast Concrete Manufacturers' Association of Texas. Mr. Lechner spoke on the topic Discover High Performance Precast, Precast/Prestressed concrete and the construction industry in Texas, and the PCI certification exams and job openings.



## Manufacturing and Mechanical Engineering Technology Students Tour Solid Concepts Plant

Texas State students attended a tour of Solid Concepts in north Austin. Solid Concepts (a Stratasys Direct company) is the largest dedicated provider of additive manufacturing, 3D printing, rapid prototyping, tooling and injection molding services in North America. This field trip was organized as a part of a special topics course focused on Additive Manufacturing technologies taught by Dr. Ameri. In their course project, students reverse engineered a tool to be printed using Fused Deposition Method (FDM) and Selective Laser Sintering (SLS) technologies. Harvest Technologies (another Stratasys Direct company located in Belton, Texas) provided printing and engineering support services for this project. One of the objectives of the Manufacturing and Mechanical Engineering Technology programs is to provide students with the knowledge of digital manufacturing technologies that are going to shape the future of the manufacturing industry.