Welcome to the spring 2013 edition of *Engineering Technology News*. In this edition you will find information about program accreditation efforts, new faculty members joining the department, student professional organizations, and industry and community outreach activities.

One of the most exciting things to happen in the department in some time has been our successful bid to achieve American Council for Construction Education (ACCE) accreditation for our Construction Science and Management (CSM) program. We underwent our accreditation site visit in October 2012, and learned in February 2013 that we had been successful. Our CSM program becomes only the third in the state of Texas to have earned this distinction. An article about our efforts to achieve this important goal can be found on the cover page of this edition.

Our Concrete Industry Management (CIM) program will follow on the heels of the CSM program. An accreditation site visit has been scheduled for the CIM program from June 5 through 7 of 2013. On those dates, representatives of the National Steering Committee for CIM will visit our department. The members of this visiting team will review our curriculum and interview program faculty, students, industry partners, and department and university administrators.

An announcement of this upcoming accreditation site visit can be found on page 3.

Our department is honored to continue our relationship with the Ingram family and with Mr. and Mrs. Bruce and Gloria Ingram.

Continued on Page 3
At the TACA annual meeting in San Antonio 2011 I had the pleasure of visiting Paesanos restaurant off 1604 and Paesano parkway in San Antonio. I immediately noticed the beautiful concrete floors, counter tops, walls, ceiling and waiting area. Upon returning to the convention I met with the chairman of the Industry Promotion and Marketing committee. I suggested that TACA should have an award that spotlights excellent concrete jobs in Texas. He agreed and we quickly formed a subcommittee and came up with three categories: Residential, Commercial and Industrial.

We established the award to recognize innovation and aesthetic use of concrete by architects, engineers, contractors and owners. Once we had the framework of the award put together we contemplated the name. We agreed we did not want it to be just another industry award. We started looking at industry leaders who were innovative, worked or served on a local, state and legislative level, promoted education, gave back to the industry, and have high morals. One name kept rising to the top, so we introduced the inaugural Bruce Ingram Excellence in Concrete Award. Bruce has built a legacy in the Ready Mix Concrete Industry that is hard to rival, with 26 ready mix concrete plants in Texas. He has donated time and money to not only promote the concrete industry, but also brought the Concrete Industry Management (CIM) degree to Texas State University. There are only four programs in the U.S. Bruce also contributed to the Ingram School of Engineering.

The awards themselves will be built out of concrete by CIM students and will be a part of the annual curriculum.

The residential award: Patrick & Eric King in Houston, Texas. Architects: MC2 Structural; Engineer: Sigma Contractor: SiteCon Services.


I am grateful to Texas Lehigh for allowing me to be involved with an organization like TACA. I proudly serve on these committees to hopefully make a difference and to bring focus to a great industry. This award will reach out into our community and state and highlight one of the world’s most versatile and resilient building products. Concrete helps us build the best roads, bridges, dams and homes that can be built today.

The only product used more in the world than concrete is water!

CHAIR’S MESSAGE CONTINUED

Recently, the Texas Aggregate and Concrete Association (TACA) established an award to recognize innovation and aesthetic use of concrete by industry professionals. This award has been named in honor of Bruce Ingram. Each year, the physical awards will be constructed out of concrete by our CIM students. An article about the establishment of the annual Bruce Ingram Excellence in Concrete Award can be found above.

We continue our long-standing relationships with the Texas Chapter of the American Foundry Society (AFS) and the Foundry Educational Foundation (FEF). You’ll find an article on page 5 about the annual College Industry Conference of the FEF. Four students attended this important conference in Chicago, Ill., along with Dr. Vedaraman Sriraman and Dr. Laura Bartlett.

Dr. Bartlett joined the department in January. An article about Dr. Bartlett’s background and education can be found on page 4. Our student professional associations have remained active in both community outreach and scholarly endeavor. On page 4 you’ll find an article about a joint effort between our CSA and ACI student chapters and Texas Ramps to build a handicap access ramp for an area homeowner. In September 2012 two students attended the annual Precast/Prestressed Concrete Institute’s (PCI) National Bridge Conference. Marcus Flores, our ACI student chapter president, and Ashley Kotwal, a recent graduate of our master of science in technology (MST) program attended the conference with Dr. Yoo Jae Kim. Ashley also made a presentation at the conference. An article about the PCI conference can be found on page 6. News about the activities of the CSA can be found on page 7. Finally, several CIM students attended two important competitions since we published our last edition of Engineering Technology News. In February, eight students traveled with three faculty to the World of Concrete conference, held in Las Vegas. Also, five CIM students travelled with Dr. Yoo Jae Kim to the annual ACI Egg Protection Device competition, held in Toronto, Canada. This team of students won third place in the durability competition from among an international field of competitors.

Many exciting things are happening in the department. We hope you enjoy this spring edition of Engineering Technology News. Another edition will come out in the fall. If you should happen to find yourself in the San Marcos area, please take that opportunity to drop in and visit us.
To accomplish this, several major changes were made to the program including curriculum, faculty, establishing a Construction Advisory Board (CAB) and the implementation of an effective program evaluation plan.

Changes were made to the curriculum to meet the exacting requirements of the ACCE curriculum matrix. This included developing several new construction courses.

These new courses included:
- Introduction to the Construction and Concrete Industry
- Construction Materials and Processes
- Introduction to Construction Surveying and Site Layout
- Statics and Strength of Materials
- Structural Analysis
- Commercial Building Construction Systems
- Heavy, Civil and Highway Construction Systems
- Soils and Foundations
- Mechanical, Electrical, and Plumbing Systems
- Environmentally Conscious Design and Construction
- Construction Contracts, Liability and Ethics
- Senior Construction Capstone Course

In addition to modifying our major courses, 18 credit hours from business were required. These courses included the following:
- Accounting in Organizations and Society
- Legal Environment of Business
- Principles of Economics
- Management of Organizations
- E-Business
- Principles of Marketing

By selecting the above six courses, CSM students are able to add a minor in business administration to their degree.

ACCE requires the proper number of credentialed faculty to teach in the program. Currently, the CSM faculty consists of six faculty members, three of whom are tenured or tenure track and three are senior lecturers. The tenured or tenured track faculty are Drs. Soon Jae Lee, Kimberly Talley and Gary Winek, who is also the construction program coordinator. The three senior lecturers are Dr. Cassandrea Hager, Mr. Vivek Sharma and Ms. B.J. Spencer. Also, the CSM faculty receive help in teaching several of the CSM classes from the Concrete Industry Management (CIM) faculty, who have extensive construction backgrounds. The CIM Program was added in the spring of 2009 and has grown to more than 50 majors.

ACCE requires industry involvement in the program and through the years, a very strong and active 11-member Construction Advisory Board (CAB) was established. They provide both financial support and input on the future direction of the program. Currently, the CAB meets twice a year on campus and often holds a summer meeting off campus to plan for the coming school year. Their input has led to the creation of fall and spring construction and concrete industry specific job fairs, along with curriculum changes and financial support for the program.

ACCE stresses that all programs need an effective, closed-loop evaluation system to provide continuous program improvement. Therefore, the program has developed a five-year strategic plan, program learning outcomes, along with soliciting input from alumni, graduating seniors and employers on a periodic basis. This information is analyzed annually, and based on the findings, changes are made to the program.

The final self-evaluation study was submitted to ACCE in April 2012 and it was accepted without changes. Shortly thereafter, ACCE confirmed the program would have a site visit October 6-9, 2012. Three visiting team members thoroughly inspected all aspects of the program along with meeting key personnel from the university including the provost, dean, library representatives, admissions officers and individual faculty involved in the CSM Program. Based on their visit, they wrote an extensive report that was submitted to the ACCE board of trustees. The trustees met during the ACCE Mid-Year Conference in February 2013, and approved the accreditation of the program for five years. This is the maximum length a new program can be accredited with the second and subsequent accreditation periods being up to six years.

The advantage of ACCE Accreditation is that we now have a nationally recognized construction program that meets national standards. This adds more value to a student’s degree and more prestige to the program. It also increases the employment opportunities of our graduates, since several major construction companies will only recruit from an ACCE accredited program.

Concrete Industry Management Program to have National Steering Committee Site Visit Summer 2013

A Concrete Industry Management (CIM) accreditation site visit and National Steering Committee (NSC) annual board meeting has been scheduled for June 5 through 7, 2013. The CIM program at Texas State is entering its fifth year and has grown to 52 majors. The inaugural graduating class occurred just over one year ago, in December 2011. The CIM program at Texas State is one of only four in the nation, the other three residing at Middle Tennessee State University, California State University at Chico, and the New Jersey Institute of Technology. Being the newest of these four programs, the CIM program at Texas State will be the last to apply for and seek accreditation through the Education Subcommittee of the NSC. The accreditation team will visit the Texas State campus in early June to review the curriculum, and to interview program students, faculty, and university administrators.

We look forward to the opportunity to achieve accreditation for our CIM program and will update readers as to the outcome of the accreditation visit in our next edition of Engineering Technology News.
Community Outreach

On December 15 at the end of the fall semester, a group of Construction Student Association (CSA) members, and Concrete Industry Management (CIM) majors, and faculty member Dr. Kim, joined hands with the Texas Ramps group to build a handicap ramp. The house was located in Buda not far from Cabelas, and the homeowner was no longer able to make it up and down the stairs. Without the means or funds to have the ramp built, she contacted Texas Ramps and was fortunate enough to be selected to have a new ramp built, at no cost to her. Before the build date, Texas Ramps gathers volunteers to build the modules in a warehouse in San Marcos. On build day the group of volunteers assembled the ramp at the house, and added decking and handrails to complete the project.

NEW FACULTY

Laura Bartlett, Ph.D.
Assistant Professor

Laura Bartlett was born and raised in Hayti, Mo., a sleepy little farming community near the banks of the Mississippi River. In January 2013 she joined the Engineering Technology Department as Texas State’s newest assistant professor specializing in metals casting and heat treatment.

Prior to joining Texas State, she attended college at Missouri University of Science and Technology where she received her bachelor’s degree in metallurgical engineering in December 2008. She attended graduate school at Missouri S&T and received her doctorate in metallurgical engineering in December 2012. During her career at Missouri S&T, she received the prestigious G.A.A.N.N. fellowship, which is given to outstanding graduate students pursuing a doctorate in materials science and engineering who plan to develop a career in academia. She was director of the mechanical testing lab and taught numerous classes at Missouri S&T including metals microstructural development and mechanical behavior of materials labs. In the spring of 2012 she was awarded the Boots Clayton Award for outstanding teaching in the field of metallurgical engineering. This was the first time this award was given to a graduate student and the first time it was given to a woman. Laura emphasizes a hands-on approach to teaching and good communication skills when reporting results from lab activities. Laura’s research is in the development of high strength cast steels for high energy absorbing capabilities. These steels are high in manganese and aluminum and are up to 17 percent less dense than traditional steels with twice the fracture toughness. Possible applications for these steels include military P900 armor plate and automotive body frames. Laura has published numerous articles in the field of cast steel research and won the 2011 and 2012 best paper awards during the American Foundry Society’s annual Metalcasting Congress. Her expertise is in casting, heat treatment, mechanical processing, mechanical testing, and failure analysis of both ferrous and nonferrous alloys. She hopes to bring her love of foundry and materials science to the Engineering Technology program to get students interested in metals casting and heat treatment.
**INDUSTRY OUTREACH**

**PCI Convention & National Bridge Conference**

Concrete is commonly poured into forms and cured on site. However, this versatile building material can also be cast off site in a controlled environment to closely monitor its quality. After curing, the precast concrete is transported and installed, allowing for greater control and workmanship.

In September of 2012, the Precast/Prestressed Concrete Institute hosted the PCI Convention & National Bridge Conference in Nashville, giving experts the opportunity to present the latest developments in the design, construction and research of precast concrete. Dr. Yoo Jae Kim, Ashley Kotwal and Marcus Flores attended the conference to gain knowledge regarding the latest advances, technical knowledge and solutions for concrete manufacturing and construction. Ash also presented the results of his study entitled, "Partially Confined Concrete: Value Engineering & Performance Analysis," which was well-received by university and industry professionals. In addition to this outstanding learning and networking opportunity, the faculty member and students also visited Middle Tennessee State University, founding school of the Concrete Industry Management program. The MTSU faculty share the goal of producing broadly educated graduates grounded in business management, who are knowledgeable in concrete technology and techniques.

**Construction Advisory Board News**

The Construction Advisory Board (CAB) for the construction science and management program was established in 2007 and is comprised of 11 member companies who are actively involved in the development of the program and hiring of students for internships and entry level opportunities upon graduation. The CAB supports the program in a variety of ways: offering periodic review of the program curriculum, providing guest lecturers and speakers, sponsoring student competitions, conducting jobsite field trips, supporting faculty research and providing regular guidance and input to the department. We are actively pursuing other avenues of integrating the students and faculty with industry to promote and develop the program.

The CAB played an active role in the program’s successful pursuit of ACCE accreditation, through its involvement in reviewing and giving input to the self study submitted to ACCE, as well as accompanying the ACCE visiting team during its initial accreditation visit to Texas State last fall. A fundamental element in the achievement and maintenance of ACCE accreditation is the involvement and contributions of a strong advisory board or council made up of industry members.

The CAB wants to expand its membership to include a larger group of companies who have an interest in the program, and offer involvement to those interested in working with the program to further develop the curriculum, scholarship opportunities, endowments, membership and the overall profile of the program.

We invite you to join us by contacting Sylvia Salinas, Department of Engineering Technology Administrative Assistant II, at ssalinas@txstate.edu or filling out this form:

- **Contact Name:** ______________________________________
- **Company:** __________________________________________
- **Construction emphasis:** ______________________________
- **Address:** ____________________________________________

- ____________________________________________
- **Phone:** _____________________________________________
- **E-mail:** _____________________________________________

**CIC SCHOOL GROUP**

The 2012 Foundry Educational Foundation (FEF) College Industry Conference (CIC) was held in Chicago, Ill. on November 15 and 16. A key event was the “Career Information Session,” which was held on November 15. During this session more than 40 North American metal casting-related companies hosted booths where students could explore internships or job opportunities. The student delegates from Texas State included the following: Nick Hirsch (industrial technology-manufacturing technology); Steven Speer (industrial technology-manufacturing technology); Derrick Meyer (industrial technology-manufacturing technology); and Amy Stamm (manufacturing engineering). Dr. Vedaraman Sriraman, FEF Key Professor and Dr. Laura Bartlett attended the event. Dr. Bartlett joined Texas State in January 2013. Her area of expertise is in metal casting.
The Construction Student Association (CSA) founded to provide professional opportunities for students who plan to enter the construction industry upon graduation. It also serves as a link between the educational and real-world frontiers. CSA offers the opportunity of real-world and professional experience, networking with potential employers, building upon students’ resumes, and the chance to give back to the community.

The CSA continues to operate multiple committees to better facilitate members’ personal, professional and career growth. The Community Outreach Committee coordinates projects around San Marcos in order to give back to the community that supports our students and the university. These projects give students the opportunity to learn to work as part of a team, to build their individual leadership skills and gain useful hands-on experience in a construction environment. This year’s activities include the installation of wheelchair access ramps at homes where they are needed and the chance to give back to the community.

The Continuing Education Committee provides members additional learning and training opportunities outside the classroom. Each semester multiple job-site tours are scheduled to allow participants the chance to see first-hand the practices and operations of a live construction project. Also, throughout the semester, the CSA hosts guest speakers who make presentations that keep members up-to-date with current industry practices and technologies. In order to make our members increasingly marketable, OSHA 10-hour and OSHA 30-hour certification classes are scheduled to assist in furthering professional careers.

The Special Events Committee plans and coordinates the annual Homecoming Tailgate and Spring Golf Tournament. The Homecoming Tailgate allows students, professors and alumni a chance to mingle informally outside the classroom. Additionally, industry professionals are involved with our program. The Annual Spring Golf Tournament is a great opportunity for students and potential employers to network. Students get to interact with companies they are interested in working for after they graduate, and companies get to meet with students in a recreational setting.

The Construction Student Association is a thriving organization dedicated to professional development, moving our department and university into the future and giving back to our community. We look forward to this year and the opportunities and challenges ahead of us.

CSA NEWS

2012-2013 CSA OFFICERS

Front (L to R): Amber Austin - Secretary, Robert Staples - AGC Ambassador, and Jesus Pena. Back (L to R): Jason Daves - Treasurer, Travis Calhoun - Vice President, Stad Tomlinson - President, Andrew Chistopher, ABC Ambassador; and Austin Everett - NAHB Ambassador.

1st place: Travis Lamonte, Daniel Solis (Students), Dwayne York, and Tom Brimer (TDIndustries)

2nd place: Marcus Ferree, Andrew Huffman (Students), Andy Stockdale (Brandt Engineers), Mr. Bench (Floor Corporation)

3rd place: Isaac Harris, Derrick Stavinoha (Students), Justin Nelson and Chris Tiemann (Architectural Division 8) and guest Annie Tremaine

8th Annual CSA Golf Tournament

The Construction Student Association (CSA) held their 8th Annual CSA Golf Tournament April 5, 2013 at the prestigious Onion Creek Club in Austin, Texas. This event allows members of CSA to partner up with industry professionals as a networking opportunity for possible future employment. This year, 64 students and industry professionals participated. CSA would like to thank all of the student and industry participants who helped make our biggest fundraiser of the year such a success, as well as, Chuck Nash Auto parts for the donation of a free 2012 Chevrolet Silverado for a hole in one, Michael Grams and Ole' Betsy Barbecue for catering some of the best barbecue in town, Equipment Depot for the sponsorship of a Spider Lift, Onion Creek Club for hosting this tournament, and all faculty and staff. All proceeds support CSA community outreach events, continuing education events, and organization activities.
NAHB STUDENT COMPETITION

Texas State University competed in the National Association of Home Builder’s Residential Construction Management Competition, held in Las Vegas during the International Builders Show January 22-24, 2013.

The objective of the competition was to prepare a proposal for the development of a subdivision located in Utah. The proposal included land development, product design, schedules, estimates, cash flow, and risk analysis. The competition team was made up of construction science and management students with different backgrounds, ranging from freshmen to seniors. The team participants were: Austin Everett (senior), Robert Staples (senior), Amber Austin (senior), Daniel Olson (senior), Jesus Pena (junior), and Mitchell Classen (freshman). One of the most valuable learning experiences that the participants noted was the opportunity to present their ideas in front of judges, and the opportunity to hear their feedback.

This year the team was able to prepare the proposal without help from a sponsoring company. Many of the other schools had a sponsoring company to assist, and evaluate their ideas. If we can acquire help from the industry to guide next year’s team, it would allow us to compete at a higher level. Being the first time for Texas State University to compete in the competition and to bring home the Rookie of the Year award; we are looking forward to participating in this particular competition for years to come.

ASC STUDENT COMPETITIONS

The Associated Schools of Construction held the region 5 annual student competitions on February 11 in Dallas at the TEXO office. Texas State University competed in the Commercial Building and the Design Build competitions. The students are given 16 hours to put together their proposals for the problem statement. The proposals included the material needed for each project delivery method required. After the 16 hours of work, students drive to Dallas to present their ideas in front of the panel of judges consisting of professionals from the sponsoring company. These competitions give the students the opportunity to test their skills, while competing against other universities. One of the most beneficial learning outcomes of the competitions is the opportunity to work as a team and come up with a proposal. This year Dustin Rowe, the Design Build team captain, received recognition as third place Best Presenter, out of all Design Build competitors. The participation is voluntary and is not a requirement of the degree. Texas State University looks forward to competing in this regional competition in the years to come.
American Concrete Institute
ACI Student Chapter
2012-2013 Officers

Dr. Jiong Hu, faculty advisor; Texas State ACI student officers (from left to right): Mr. Eric Adams, Mr. Hayden Mitchell, Mr. Marcus Flores, Mr. Nicholas Nelson, and Mr. Kevin Su.

ACI NEWS

Egg Protection Device Competition

During the fall semester, the Texas State ACI Student Chapter and CIM program sent five students (Marcus Flores, Kevin Clare, Eric Adams, Cody Houser, and Nathan Grosch), along with faculty advisor Dr. Yoo Jae Kim, to Toronto, Canada, to compete in the 2012 Egg Protection Device Competition. The competition proposes a challenge to structural engineering and concrete construction students all over the world. Schools from countries including Mexico and Brazil attended and placed among the top teams in the competition. The challenge involves protecting a raw egg from the smashing force of a freefalling weight using nothing more than a wire reinforced concrete bridge-like structure. The students had eight weeks to work on designing their egg protection device using the tools and materials available to them in the Texas State concrete testing lab. This included designing the device’s shape, size, and reinforcement, as well as creating a proper concrete mix from raw materials. The competition sets regulations on the design and shape of the device, allowing a maximum height of 250 mm (10 in) and is judged in the categories of performance and durability. Texas State took home third place in the durability competition and has paved the road for the next order of Texas State competitors. The students succeeded in representing Texas State with a high degree of knowledge and ability in the concrete and structural design field.

WORLD OF CONCRETE - Las Vegas

World of Concrete is the annual international event led by the concrete and masonry construction industry suppliers. More than 1,300 companies from more than 100 countries attend the event. The event was held at the Las Vegas Convention Center in Las Vegas, Nevada, from February 4 to 8, 2013. This year three faculty (Drs. Winek, Sriraman, and Kim) and eight CIM students (Scott Perez, Brent Pruski, Kenneth Raney, Kevin Su, Paxton Parker, Eric Adams, Nick Nelson, and Marcus Flores) attended the CIM national events, and seminars, and demonstrated pervious concrete.