



Gordon and Jill Bourns College of Engineering



## **SPRING 2017 NEWSLETTER**

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# MESSAGE FROM THE CHAIR

*Jong-Wha Bai, Ph.D., P.E.*

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Welcome to the Spring '17 issue of the Civil Engineering and Construction Management (CECM) newsletter. Year 2016 has been another great year for our

department. First of all, The Construction Management Program has officially joined Civil Engineering to part of the new Department of Civil Engineering and Construction Management in the Gordon and Jill Bourns College of Engineering! With great support from the CECM Industry Advisory Council, we would like to see more active collaboration on projects to enhance the learning experience for our students and faculty. We believe that this change will help with recruiting students in both degree programs and will lead to more career opportunities after graduation.

There is much exciting news regarding the CECM students. During the summer, many of our students participated in internships with a diverse range of companies and government agencies such as HDR, Inc.; the County of Riverside; Caltrans; and Arizona Department of Transportation. In October 2016, CM students received an Outstanding Student Chapter Award at the AGC confer-

ence. In addition, the ASCE student chapter organized many activities including Pacific Southwest Conference (PSWC) meetings for steel bridge and concrete canoe competitions and a pumpkin carving event. In November, we had the Rite of Passage Ceremony for the junior class, at which they were officially admitted into their majors.

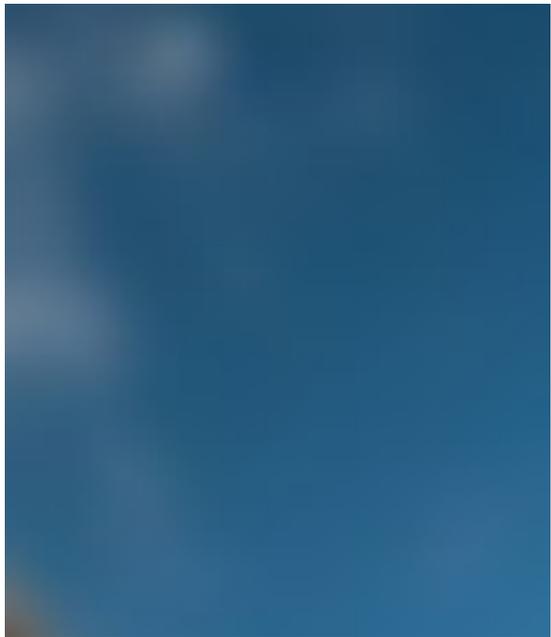
In the 2016 fall semester, two outstanding new faculty also joined us: Dr. Jacob Avila, as Program Director and Associate Professor of Construction Management, and Dr. Yeesock Kim, as Associate Professor of Construction Management and Civil Engineering. In the Faculty Highlights section of this issue, you can find more information on them, including publications, outreaches, accreditation visits, and more.

There are several future events that need your support and prayer: this year's ABET accreditation visit for the CE program, and the new College of Engineering building on the main campus. Please pray for the CECM Program and the Gordon and Jill Bourns College of Engineering at CBU.

Blessings,

Jong-Wha Bai, Ph.D., P.E.

Associate Professor and Department Chair



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# FACULTY HIGHLIGHTS

*From Science Fairs to International Conferences.*



**Dr. Jacob Avila**, Director of the Construction Management Program, served as an accreditation site team evaluator at Taylor University in Upland, Indiana and took a group of Construction Management students to the Associated General Contractors of California conference in Monterey, CA to receive an award for Outstanding Student Chapter. He was recently appointed to the board of directors for the Riverside Community Health Foundation and has been actively engaged with the Riverside/San Bernardino district board of directors for the Associated General Contractors of California.



**Dr. Jong-Wha Bai**, Associate Professor of Civil Engineering, co-authored a paper titled "Probabilistic Shear Capacity for Concrete Members with Internal Composite Reinforcement," which was published in the *Journal of Composites for Construction*. He also co-authored "Fragility Analysis of Bridge Structures Subjected to Collision Forces" with Dr. Yeesock Kim, Associate Professor of Civil Engineering and Construction Management. Dr. Bai presented the paper at the 5th International Symposium on Reliability Engineering and Risk Management in Seoul, South Korea.



**Dr. Helen Jung**, along with Dr. Grace Ni, Dr. Ziliang Zhou, and Dr. Anthony Donaldson, presented at the American Society of Engineering Education on June 24, 2016 in New Orleans, Louisiana. Dr. Jung presented her paper "Growing Together With the Community Through Service Learning." She also served in 16 different K-12 outreach programs, which reached 6 elementary schools, 3 middle schools, and 7 high schools. Dr. Jung was also involved in 13 major events in the county of Riverside.

# FACULTY HIGHLIGHTS

*From Science Fairs to International Conferences.*



**Dr. Yeesock Kim** submitted an R21 proposal to the National Institutes of Health (NIH) entitled "Large-scale Spatiotemporal Coordination of Actin Regulators in Cell Protrusion Revealed by Deep Learning-based Quantitative Live Cell Imaging." He also submitted two journal articles, respectively: "A model updating method for the safety of steel frame structures using global and local responses" to the *Journal of Measurement*, and "Prediction model for holding capacity of offshore suction caisson anchors" to the *Journal Coastal Engineering*.



**Dr. Julian Mills-Beale**, Assistant Professor of Civil Engineering, published a journal paper titled "Asphalt Binders blended with High Percentage of Bio-binders: Aging Mechanism using FTIR and Rheology", and made a presentation at the 2nd International Conference on Energy, Environment and Agricultural Science on the topic "Warm Mix Asphalt Technology".



**Dr. Michael Nalbandian's** paper on electrospinning was published in *Environmental Science and Technology* (ES&T) and recognized as a Top 10 Sustainable Paper by *Chemical and Engineering News* (C&EN). He is the advisor for EGR101 (Engineering and the Christian Worldview) research project on the development of CBU's first electrospinning system. He represented CBU's College of Engineering at the Science and Technology Education Partnership (STEP) Conference, where he presented the EGR101 (Engineering from a Christian Worldview) projects.



**Dr. Fred Pontius** presented his paper, "Chitosan as a Drinking Water Treatment Coagulant" at the first International Conference on Civil and Environmental Engineering in Xi'an, China. His paper was published in the *American Journal of Civil Engineering*. Dr. Pontius also participated as an expert in science, technology, engineering and math at the Science Fair Expo for the Riverside County Office of Education (RCOE) in October, and participated as a judge in the Riverside County Office of Education RIMS Inland Science and Engineering on April 5 at the Bourns Technology Center in Riverside, California.

# FACULTY SPOTLIGHT

*Building relationships through research.*

**D**r. Jong-Wha Bai, Associate Professor and Department Chair, received his B.S. in Civil Engineering from Yonsei University in Seoul, South Korea in 2000. From there, he went on to receive his M.S. and Ph.D. at Texas A&M University, both in Civil Engineering as well.

Bai, however, had developed an enjoyment of building and constructing long before his college career. "I really liked Lego as a little kid...I thought building something was really cool," he recalls. Before entering college, Bai was encouraged to pursue civil engineering by his cousin, a professor of civil engineering.

A CBU faculty member since 2010, Bai now shares his enthusiasm of engineering with his students. While he enjoys teaching, Bai's involvement and passion stretches far beyond the

bounds of the classroom walls. As the Vice President for ASCE Los Angeles, Bai states that his favorite part of interacting with students is the regional

*"We're providing them an opportunity to join in research outside of the classroom setting."*

competitions. The two main competitions—the concrete canoe competition and the steel bridge competition—allow for hands-on, practical experience and professional feedback for students. "They are really growing through those projects," Bai states, "it's really meaningful."

Even when he is not working, Bai is interacting with students through research. "Because of my students' schedules, we came up with Sunday



afternoon to work together" Bai explains. Currently, they are working on experimental testing for self-consolidating concrete. Their intention is to measure the deformation under a certain amount of loading. This is no minor commitment. Bai expects the project to take at least one year, but believes that the effort put in is worth it: "I think doing research is really important for my students," he explains, "we're providing them an opportunity to join in research outside of the classroom setting."

In addition to his position at CBU and involvement with ASCE, Bai has also served as a reviewer and editor for multiple journal publications, and is on the praise team at East Sarang Community Church in Chino.

In just the few years that he has been at CBU, Bai has definitely made an impact on the engineering student body. His enjoyment of studying the built environment and passion for teaching are admirable, and they push students to pursue excellence and continue significant contribution to the engineering industry. ●

# ASCE STUDENT MIXER

*Promoting coordination, collaboration, and community.*

**A** SCE Young Member (YMF) Forum held its annual mixer this fall. The event was a networking event for various ASCE student chapters within the Los Angeles section. It connected student chapters within the region, creating an opportunity to build relationships with other future professionals.

ASCE YMF seeks to establish familiarity for engineering students to the civil engineering community and provides opportunities for them to get involved in ASCE early in their career.

The event was hosted by Benjamin Baker, YMF L.A. University Outreach Chair, and Jong-Wha Bai, who serves as the Vice President of Student Activities for ASCE L.A. section.

While the primary purpose of the event was to create enthusiasm, involvement, and community,

the event also had a major emphasis on Measure M, which was passed this November. Measure M will “authorize a Los Angeles County Traffic Improvement Plan through 1/2 ¢ sales tax and continued 1/2 ¢ traffic relief tax” ([theplan.metro.net](http://theplan.metro.net)).

Students collaborated in small groups to share ideas regarding how to improve chapter events, membership, and preparation for the 2017 Pacific Southwest Conference (PSWC).

“[The student mixer] provided student officers a chance to see how other chapters ran their organization,” expressed student Ryan Gibeault, “and created an environment for sharing ideas and information that could benefit the ASCE organization as a whole.”

The ASCE YMF also hosted a multi-regional leadership conference in January. ●



# STUDENT SUCCESSES

*CM students celebrate AGC chapter award and visit CBU's arena.*



As part of their Construction Planning and Scheduling course (CON 460), CBU's Construction Management (CM) senior class of 2017 visited the CBU Event Center, still under construction until the following summer. Peering into the inner workings of Sundt (the general contractor for the project) and the new addition to CBU's ever-growing campus, the CM students witnessed the half-built interior of the new arena, as well as some of the planning process and design considerations that have been in effect for almost a decade.

*Dominic Nelson, Victoria Triepke, and Matthew Mc Cloud, joined by Dr. Jacob Avila, received the Outstanding Student Chapter award on behalf of the College of Engineering's Associated General Contractors (AGC) Student Chapter. This award is given for significant contribution to AGC's foundation and workforce development efforts. They were honored with the award by AGC of California in Monterrey, CA on October 20, 2016.*



# STUDENT SPOTLIGHT

*Nick Shearer follows his family's footsteps.*

**N**ick Shearer, junior at CBU and Construction Management major, has been surrounded by successful professionals in the construction and service industries since he was a child. He lists off a few people in his life that have been examples: "My uncle owns an air conditioning company...my brother's a California certified electrician, my dad owns a glazing company, and my other dad owns a hardware store."

He remembers being in his dad's hardware store, Sunnymead Ace Hardware in Moreno Valley, as early as five years old, and attributes most to his knowledge from working there since he was 16 years old.

But even though Shearer was surrounded by construction professionals from a young age, it wasn't his initial choice. "I started off as a mechanical engineer, going that route," he explains. But when a classmate recommended switching to Construction Management during his first year, Shearer explained, "that's just where my life needed to go."

The more Shearer has learned about Construction Manage-



ment, the more he comes to enjoy it. While most students will tell you their favorite classes or areas within the industry that they enjoy, Shearer says he can't choose. "I like it

*"I like it all.  
There's not one  
thing I don't like  
about it."*

all," he shares, "there's not one thing I don't like about it." Outside of the classroom, Shearer serves as the Vice President of the Construction Management Club, a role in which he helps to organize competitions and events and

keep everyone in the club informed. He hopes to become the president of the club when the current president graduates. "My hope is to get people more involved," he explains. He goes on to present his goals for the club, stating that he wants to create a balance between competitions and fun events to create a "more communal feel" in the classroom.

When Shearer is not studying or working at the hardware store, he spends most of his time racing motocross.

After he graduates, he hopes to get a job and accelerate his career. Long-term, he considers possibly following his family's tradition and opening his own hardware store. ●



*“I get to talk to people and work with people...make their day better.”  
– Nick Shearer, junior*

## Want to be featured in the next issue?



Have you or someone you know achieved a recent professional success? We want to hear from you! CBU

Civil Engineering and Construction Management is looking to feature the many accomplishments of our Civil Engineering and Construction Management Program.

Please send your short article (200-500 words) to [javila@calbaptist.edu](mailto:javila@calbaptist.edu).

## Upcoming Events:

### March 3, 2017 (3pm)

ASCE President-elect visit (Staples room)

### April 6-8, 2017

Pacific Southwest Conference (PSWC) at University of California, Irvine.

### April 10, 2017

Engineering Architect & Construction (EAC) Career Forum

### May 5, 2017 (12pm)

CoE Graduation Ceremony (Van Dyne Gym)

### May 17, 2017

CECM Industry Advisory Council meeting

## MAKE A GIFT

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