

CIVIL ENGINEERING AND CONSTRUCTION MANAGEMENT



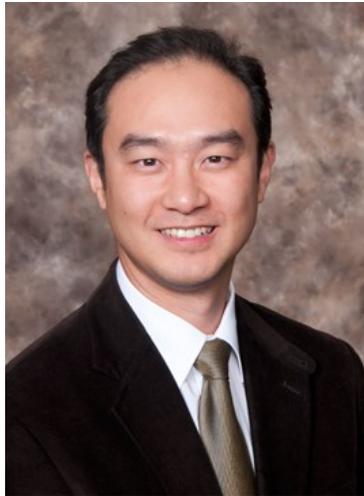
Fall 2017



Gordon and Jill Bourns College of Engineering

MESSAGE FROM THE CHAIR

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



There have been many changes and news from the Gordon and Jill Bourns College of Engineering and the Department of Civil Engineering and Construction Management (CECM).

First of all, there has been big progress on the construction for the new College of Engineering building. It is a 100,000 square foot building on the main campus with cutting-edge labs for students and faculty. We are expecting to start our Fall 2018 semester at the new building! Second, six programs including Civil Engineering had the ABET accreditation visit between October 30th and November 2nd. Throughout the process, we received great comments on the distinctives such as mandatory internships, great support from industry partners, cross-cultural experience, and suggestions for improvement. Those will be implemented to enhance our program and curriculum for students. Based on the CECM Industry Advisory Council's comments, curriculums for the Construction Management program was updated. I believe this change will help to attract more students in the Construction Management program in the future.

As you will see in the pages that follow, there is lots of exciting news for faculty and students. Dr. Yeeseok Kim was awarded a three-year grant (\$460,614) from the National Institutes of Health (NIH). Dr. Kim will

conduct collaborative research on the sub-cellular heterogeneity of cell protrusion with his background on artificial intelligence and machine learning algorithm. In the 2017 fall semester, two adjunct faculty joined us: Dr. Humberto Gallegos (Associate Professor at East Los Angeles College) for Surveying and Dr. Kwang Yeon Kim (Bridge Engineer at Caltrans) for Bridge engineering (MSCE). During the summer, Civil Engineering and Construction Management students participated in internships in public and private sectors such as County of Riverside, Caltrans, Granite, Parsons, and Rick Engineering. The ASCE chapter has been working on concrete canoe and steel bridge for next year's PSWC. In addition, three MSCE students' abstract was accepted to the 11th National Conference on Earthquake Engineering for presentation.

In closing, on behalf of the faculty, staff, and students, I extend our sincere thanks for your support. I am looking forward to another exciting semester. There are many future events that need your prayer such as the completion of the College of Engineering Building and smooth transition, and continuous enhancement on Civil Engineering and Construction Management program.

Blessings,

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

Department Chair / Associate Professor



In This Issue

- 04 Faculty highlights
- 06 Faculty Spotlight: Dr. Nalbandian
- 07 ASCE goes to PSWC
- 08 Student Spotlight: Paige Cooper
- 09 Student Spotlight: Chas Henley
- 10 Student Successes
- 11 Upcoming Events

FACULTY HIGHLIGHTS

From Science Fairs to International Conferences.

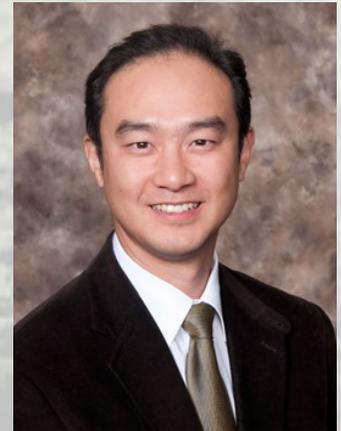


Dr. Jacob Avila,

Dr. Jacob Avila, Director of the Construction Management Program, served as an accreditation site team evaluator at Walla Walla University in Walla Walla, Washington and took a group of Construction Management students on a tour of the new building for the college of engineering with members of the team from Tilden-Coil Constructors. He is currently working on a study that will examine employee burnout and engagement within the construction industry in collaboration with a construction management faculty member at Purdue University.

Dr. Jong-Wha Bai,

Dr. Jong-Wha Bai received the award for Outstanding Faculty Advisor for Student Groups from the ASCE (American Society of Civil Engineers) Los Angeles Section on Oct. 14. He has served as vice president of student activities for the ASCE LA Section between October 2015 and August 2017. In addition, Dr. Bai co-authored and presented two papers at the 12th International Conference on Structural Safety and Reliability in Vienna, Austria, on Aug. 6-10. *The titles were Vulnerability Assessment of Smart Bridge Piers due to Vehicle Collision and Probabilistic Model for Predicting Early Creep of Self-Consolidating Concrete Containing SCMs.*



Dr. Helen Jung,

Dr. Helen Jung received a microgrant to research 'Improving the flow predictions after extreme drought using HEC HMS and Runoff Ratio'. She also worked on two major surveys for ASEE: College of Engineering Profiles and ASEE Retention Survey with Office of Institutional Research. Dr. Jung also managed the college of engineering ABET accreditation visit in the fall. Her outreach activities involved 2 elementary schools, 3 middle schools, 3 high schools, and 8 additional events. She is currently serving on the Assessment Committee and Undergraduate Curriculum Committee and the college of engineering as an assistant dean.

FACULTY HIGHLIGHTS

From Science Fairs to International Conferences.



Dr. Michael Nalbandian,

Dr. Nalbandian's research interests revolve around environmental nanotechnology. He recently published a journal paper in *Science of Advanced Materials* on the synthesis and analysis of mesoporous alumina-hematite composite nanofibers towards heavy metal adsorption. He also represented at CBU's College of Engineering at the Science and Technology Partnership (STEP) Conference and Riverside's Long Night of Arts and Innovation, where he presented EGR 101 (Engineering from a Christian Worldview) projects. He is currently submitting a review paper on recent contributions of electrospun nanofibers towards environmental remediation.

Dr. Yeesock Kim,

In 2017, Dr. Kim published 11 peer reviewed research articles, including three book chapters, six journal, and two conference papers. He was awarded a three-year collaborative research grant from the NIH. With \$460,614, Dr. Kim will develop an artificial intelligence model for predicting the complex behavior of biological systems. Dr. Kim has served as an editor/associate editor of several journal articles: Intelligent and Fuzzy Systems; Sensors; and Advances in Mechanical Engineering.



Dr. Julian Mills-Beale,

Dr. Mills-Beale was appointed unto the Editorial Board of the International Energy and Comparative Environmental Law and Policy. He is a member of the American Society of Civil Engineers (ASCE) and the US National Association of Black Engineers (NSBE) and serves on the Advisory Board of Universal Pave Sdn Bhd, a Malaysian engineering firm that specializes in providing solutions and services to the asphalt pavement industry.

Dr. Fred Pontius,

In 2017 Dr. Fred Pontius visited and gave a presentation on microbiology in engineering to faculty and students at the School of Public Health, Qufu Normal University, Qufu, Peoples Republic of China. He visited and discussed research collaboration with faculty at the Department of Environmental Engineering, Chung Yuan Christian University, Chung Li, Taiwan, R.O.C. He presented a paper at the Second International Conference on Civil and Environmental Engineering, Suzhou, Peoples Republic of China. The paper titled 'Sustainable Infrastructure: Climate Changes and Carbon Dioxide' was published in the peer-reviewed American Journal of Civil Engineering.



FACULTY SPOTLIGHT

Equipping Students to Better the Environment

Dr. Michael Nalbandian, Assistant Professor of Civil Engineering, received his education in Environmental Engineering at the University of California, Riverside. After completing his bachelor's degree, he went on to pursue a doctorate in Environmental and Chemical Engineering.

Nalbandian's love for Environmental Engineering began in his undergraduate years with his study of chemistry. His passion for chemistry and related subject matter led to a year of undergraduate research eventually paving the way for his doctoral studies. His research primarily involved nanotechnology through electrospinning and its applications for water treatment and environmental remediation. Nanotechnology has remained one of Nalbandian's primary research interests allowing him to make connections with students considering related fields.

"It's exciting, it's relevant, and it's a topic that applies chemistry and physics towards bettering the environment."

While research is an important part of professorship, Nalbandian also uses his experience to pour in to his students' academic

success. Because of his passion for environmental engineering Nalbandian's favorite course to teach is Introduction to Environmental Engineering, the first environmental course for engineering students at California Baptist University. "I get to introduce students to environmental engineering, a topic which I am super passionate about" says Nalbandian, "it's exciting, it's relevant, and it's a topic that applies chemistry and physics towards bettering the environment." Students learn about enhancing the environment through air, soils, or water.



Along with his passion for research, Nalbandian became interested in the prospects of teaching late in his undergraduate years. Along with tutoring opportunities Nalbandian got a taste of what it would be like to be an educator by explaining problems to fellow students in upper division study groups. Though he considered pursuing industry after college, circumstance and passion led him to become a professor at California Baptist University. In the future Dr. Nalbandian hopes to begin the process towards creating a new environmental engineering major for new student to pursue. "I believe that an environmental engineering major could mix together aspects of both chemical and civil engineering" states Nalbandian, "creating a vibrant and unique major to equip future students".

While Professor Nalbandian is thoroughly invested in the College of Engineering, he is also very active in his community. Nalbandian attends the Rock church in San Bernardino where he often serves on the worship team or in the bookstore. He also enjoys spending time with his wife at church, the zoo, and even on campus where she is also a professor. Whether personally or professionally, Dr. Nalbandian is always ready to invest in the students at CBU by helping to challenge them to work hard and pursue their passions so that they may succeed in all their endeavors.

ASCE GOES TO PSWC

Promoting coordination, collaboration, and community.

PSWC is a conference held every year and is hosted at a different school every time. This year it was hosted by UC Irvine and our ASCE student chapter went and competed. All of the events held pertain to civil engineering, helping to display the skills learned by each student throughout their time in their respective programs.

Our very own team from CBU competed in several events. One of the most significant events was a steel bridge competition. This competition involved design and on site constructed as seen in the picture below.) One of the other events involved water purification as done by a group of students who were tasked with creating clean drinking water in a natural disaster scenario. One of the

last events was to create a retaining wall using only Kraft paper in order to hold back 500 pounds of sand! ASCE CBU students competed in both technical events as well as sporting events. CBU took fourth place in the soccer tournament as well as the timber tower team. Alongside the sporting events, the CBU students worked very hard to show the techniques and skills that our students have acquired. These events were a great opportunity to practice skills that the students had learned, play sports, and network with students from several other universities and colleges. CBU's ASCE chapter is excited to participate at next years PSWC which will be held in Arizona!

Pictures and Information provided by: Jessica Glenn



STUDENT SPOTLIGHT: Civil Engineering

Paige Cooper Engineering Education Versatility

Paige Cooper, a Senior Civil Engineering student at CBU from Escondido California has a passion for sports, engineering, and education. By junior year of high school Paige knew that civil engineering was right for her. For a few years Paige considered architecture however she ultimately decided on civil engineering because of its versatility, analytical concentration, and academic diversity.

"You can do anything with an engineering degree" says Cooper, "I know people pursuing law, business, and even medicine with a background in engineering." Paige aspires to continue working for a transportation firm she connected with through an internship opportunity and hopes to continue working for after she graduates. While working in transportation she will be working towards getting teaching credentials so that she can pursue her goal of teaching higher level mathematics to students at a high school level.



"Transportation engineering is a place where the business side of design comes out" Paige stated, "water and structural are a bit complex but I love the simple yet important aspect of transportation design."

"You can do anything with an engineering degree! I know people pursuing law, business, and even medicine with a background in engineering."

One of Coopers favorite things about the College of Engineering is the community and professional development of the civil engineering club on campus. PSWC was a highlight for her as fellow students worked together on projects

and engaged in sports activities with other larger schools even coming in 2nd place in the soccer tournament. Paige has had the opportunity thrive at CBU by participating in the inter-mural sports.

While senior year is a time of reflection Paige is also looking forward to the numerous advancement to come for the engineering program. Paige is especially excited about the growing student body and new engineering building that will be opening in the fall. "It's just so exciting to see all the new opportunities and experiences the students are getting with each new year of progress!"

STUDENT SPOTLIGHT: Construction Management

Chas Hanley

Chas Hanley, a Junior at CBU and a Construction Management Major found his way here through his love of custom homes. In high school he had a job of framing custom homes and on the first day he was amazed by the skill and precision that the carpenters had. He felt a sense of satisfaction at the end of the day when he looked back and saw what he had done. That was his gateway into striving for the Construction Management degree that he will be finishing the Fall of 2018.

One of his most memorable classes was business law, which is required for CM majors. He said that the course and the professor were great examples of what makes CBU great. The professor had extensive knowledge in law and at CBU we are really fortunate to have professors that have real world industry experiences.

Chas has enjoyed being in the CM program and says that the program is set apart

because of the classes that are offered. CM majors are required to take both construction classes and business classes which helps the student prepare for their careers. He views the program as a family and is thankful for the feedback that he has received.

While at CBU Chas has participated in an AGC event, and also had an internship over the summer with Perra Construction and Design. This was a wonderful experience for him and he was able to use his education in the professional work environment which then helped him understand the importance of the education.

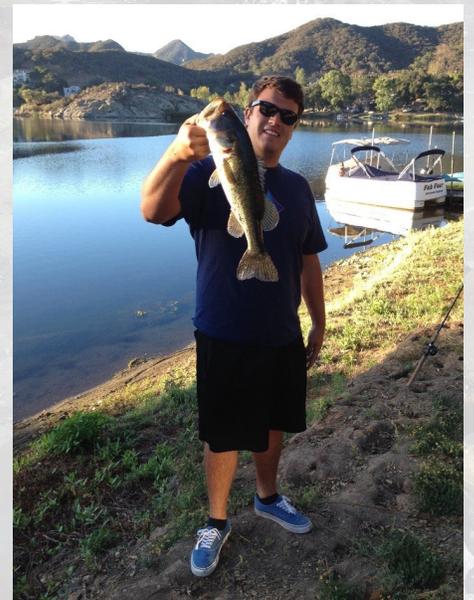
When Chas is not in class he likes spending his time outdoors. He likes to fish and hunt with his Dad and his friends. He says this helps him clear his head and connect with the world around him.

After graduation Chas plans on seeking out a job as a superintendent for a commercial contractor and hope

that later in life he can start his own construction company.

Chas would like to say that the CM program at CBU is unique and really prepares the students for future career goals. He hopes to see the CM program grow as the school grows. He would also like to thank Dr. Avila and Dr. Kim for stepping into roles in the program and providing quality instruction in their courses

Lastly, one of his fun memories that he has is looking back at what the school was like when he first came to what it has become. He enjoys watching CBU grow.



STUDENT SUCCESSES

CE students visit construction site of CBU Engineering Building.

A total of 31 students from two classes (EGR 351 Structural Analysis, EGR 455 Structural Design II) with Dr. Yeesock Kim visited the construction site of new Engineering building. Ryan Kahrs from Tilden Coil guided a tour. Students were able to visit classrooms and technical labs, still under construction until next summer. It is a 100,000 ft² state of the art facility organized as a three story building and situated on the main campus. The building is conceptualized as a distinctive synthesis of form and function: Two blocks of classroom, faculty and administrative space rendered in the campus vernacular, bracket a voluminous engineering hall that provides multipurpose space for labs, projects, exhibits, presentations and student collaboration.



Three MSCE students (Ricky Carrillo, Bartlomiej Pankowski, and Lauren Rither) co-authored an abstract titled *Seismic Fragility Estimates for High-Rise Building with an Adaptive Damping System* with Drs. Yeesock Kim and Jong-Wha Bai. It has been accepted for presentation at the 11th National Conference on Earthquake Engineering in Los Angeles, CA, on June 25-29, 2018.



**11th National Conference
on Earthquake Engineering**
Integrating Science, Engineering & Policy
June 25 - 29, 2018

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 jbai@calbaptist.edu.

Upcoming Events:

December 15, 2017 — CBU Fall 2017 Commencement (Event Center)

February 7-10, 2018 — ASC Regions 6 & 7 Student Competition at Nugget Casino Resort, Sparks, NV

April 12-14, 2018 — Pacific Southwest Conference (PSWC) at Arizona State University, Phoenix, AZ

April 2018 — Engineering Architect & Construction (EAC) Career Forum

May 2018 — CECM Industry Advisory Council meeting

MAKE A GIFT

I would like to partner with CBU's Civil Engineering & Construction Management Program!

I would like to invest a recurring gift of:

- \$50
- \$25
- Other \$ _____

My recurring gift is:

- Monthly
- Annually
- My gift is a one-time gift

I would like to pledge this gift for:

- 5 years
- 3 years
- Other _____ yrs.

I prefer to give by credit card (circle one):

VISA MasterCard AMEX Discover

Name on card _____

Credit Card # _____

Exp. ___/___ Phone ___-___-_____

Billing Address _____

Email _____

- My company will match my gift. I am enclosing the matching gift form.
- I prefer to give by check, along with this tear-out, payable to **California Baptist University**. (Please note **Department of Civil Engineering & Construction Management** in the memo line)

Mail checks to:

Office of University Advancement

8432 Magnolia Avenue

Riverside, CA 92504

**If you prefer to give online, please go to www.calbaptist.edu/university-advancement/guide-giving/give-now*



CBU

GORDON AND JILL BOURNS

College of Engineering

CIVIL ENGINEERING AND CONSTRUCTION MANAGEMENT



Credits

<p><u>Publication Supervisors</u></p> <p>Jong-Wha Bai, Ph.D., P.E. Jacob Avila, D.P.P.D</p>	<p><u>Contributing Writers</u></p> <p>Ashley Huckaby Nathaniel Small</p>
<p><u>Graphic Designer & Editor</u></p> <p>Ashley Huckaby Nathaniel Small</p>	<p><u>Contributing Photographers</u></p> <p>Jessica Glenn</p>