Your Link to the Department of Civil Engineering

CE CONNECTION

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SACRAMENTO STATE
Department of Civil Engineering

CHAIR'S MESSAGE

Dear Colleagues and Alumni,

I hope your summer is going well and you are all staying safe. I am honored and humbled to be elected by my colleagues as the new chair of the Department of Civil Engineering at Sacramento State. First of all, I would like to thank the outgoing chair, Dr. Benjamin Fell, for his many noteworthy achievements and efforts during the last 5 ½ years to set up a strong platform for our students, and the continued success of our department. This success would not be possible without significant contributions and support from all of you. The Department of Civil Engineering at Sacramento State exists to serve our students and the broader professional community of civil engineers, and as such, I value and sincerely appreciate your efforts, assistance, and contributions to our program in every respect.

The Civil Engineering department has an outstanding tradition of providing an inspirational environment to develop well-prepared engineers who make immediate contributions to the local, state, and national engineering profession. As Chair, my priority will be to build on that tradition, focusing on the core mission of our program to provide an outstanding, practice-orientated education in civil engineering, while exploring new opportunities to adapt to the needs of the future challenges in our profession.

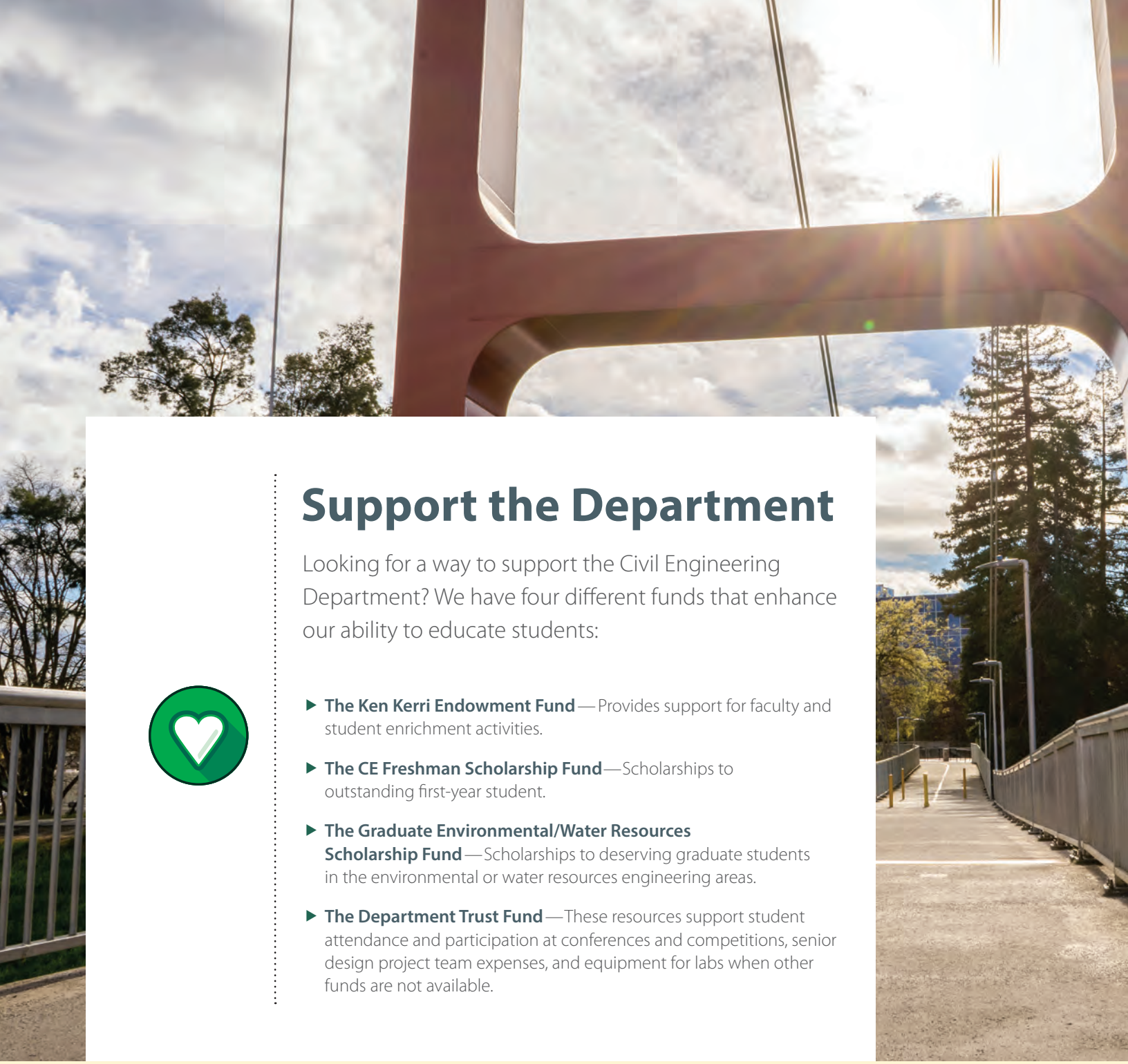
All this is only possible through the combined efforts of faculty, staff, alumni, and industry partners, aided by new and improved facilities within our department to continually improve the educational experience of our students. I hope to play my part by supporting, facilitating, and mobilizing everyone to ensure the continued strength and success of our program.

As we closed off the 2020-21 academic year at the end of the spring semester, it wasn't lost on me that we just ended an entire academic year operating virtually to deliver our curriculum and services fully online to all our students. While the year was incredibly challenging, and we may not be fully out of the woods yet, I am incredibly proud of the resilience and untiring efforts of all our faculty, staff, and students in adapting to the unique challenges of these uncertain times. Thank you!

Looking forward, with an improving budgetary outlook for the coming year, and as we emerge from the shadows of a once-in-a-lifetime pandemic, I see light at the end of the tunnel: a very bright future for our department, our students, and the greater Sacramento region. I invite you all to be part of this journey, and look forward to collaborating with all of you to continue our successes to better serve our community of civil engineers.

Yours sincerely,
Ghazan Khan, Ph.D.
Chair, Department of Civil Engineering

SACRAMENTO STATE
Department of Civil Engineering



Support the Department

Looking for a way to support the Civil Engineering Department? We have four different funds that enhance our ability to educate students:

- **The Ken Kerri Endowment Fund** — Provides support for faculty and student enrichment activities.
- **The CE Freshman Scholarship Fund** — Scholarships to outstanding first-year student.
- **The Graduate Environmental/Water Resources Scholarship Fund** — Scholarships to deserving graduate students in the environmental or water resources engineering areas.
- **The Department Trust Fund** — These resources support student attendance and participation at conferences and competitions, senior design project team expenses, and equipment for labs when other funds are not available.

To donate to any of these funds, go to **http://bit.ly/ceonlinedonate** and follow the directions for online donations.

- Or mail a check made out to the appropriate fund to:

  Attn: Ashley Mihok
  California State University, Sacramento
  Department of Civil Engineering
  6000 J Street, MS 6029
  Sacramento, CA 95819

- For additional questions on how to give, contact:

  Nebrisa Fish '05
  Director of Development
  (916) 278-2453
  nebrisa.fish@csus.edu

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Upcoming Events

October 15, 2021:

9th Annual Civil Engineering Golf Tournament
at Haggin Oaks, 7:30 am

November 2, 2021:

An Evening with Industry
format TBD

Please consider supporting the Department of Civil Engineering.

As we transition back to our in-person traditional events during the year, and on-campus classes, your dollars will be incredibly important to support the department.

http://bit.ly/ceonlinedonate

www.csus.edu/ecs/ce

Like us, and follow us to stay up to date on current CE News and Events!

Laboratory Loading:

An Update on the APWA-Funded Research Laboratory

In November 2019, the Concrete Durability Research Laboratory (CODREC), along with the Advanced Laboratory for Infrastructure Materials Research (ALIMAR), was unveiled at a ceremony with faculty, students, and industry representatives in attendance. The labs will be housed within the Sustainable Technologies Optimization Research Center (STORC) at Sacramento State. A grant from the Sacramento Chapter of the American Public Works Association (APWA) of $25,000 made the lab possible. More than fifty attendees toured the new space, and with contributions from local companies, including Odin Construction which is a major sponsor of STORC, the lab was on target for official use by the end of Summer 2020.

More than a year later, despite the challenges and difficulties surrounding the pandemic, work has continued on procurement of equipment. Meanwhile, as campus repopulates in the coming months, several students have expressed interest in research and are eagerly waiting for the chance to start working in the lab. Dr. Jose Garcia, whose idea it was to petition the APWA for the grant, touched base on the CORDEC's development, including its expected finalization and implementation.

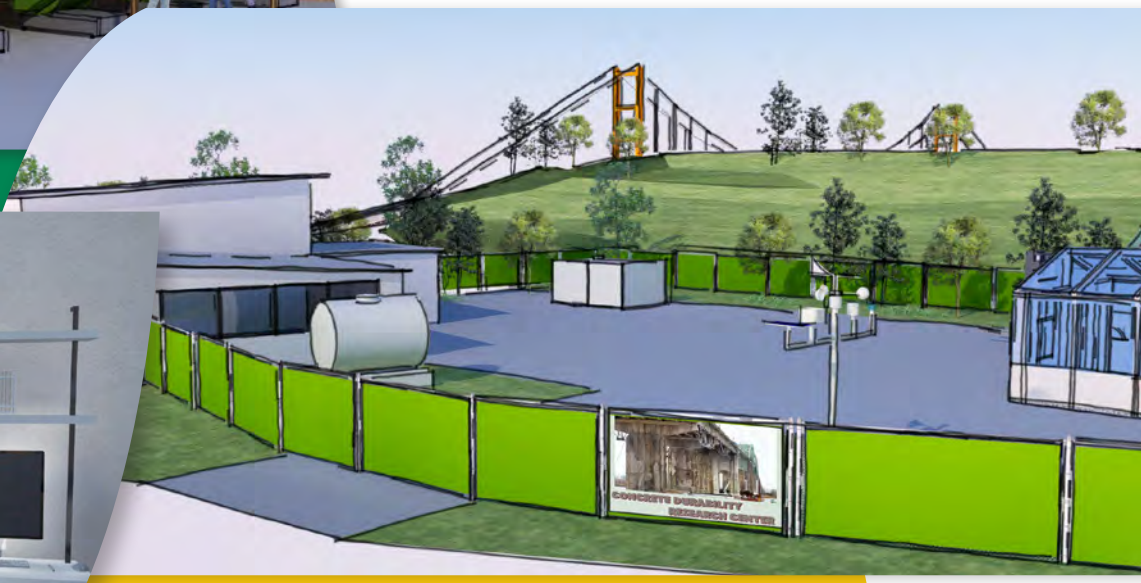
THE LAB WILL PROVIDE A PLACE FOR ONGOING, STATE-OF-THE-ART RESEARCH.

The laboratory's main purpose is to study the way concrete reacts in different exposure environments, explains Dr. Garcia. "The lab will allow us to expose the concrete to high and low temperatures. There are several different chemical reactions that take place inside of the concrete; some reactions prefer the colder temperatures, and some others prefer the warmer temperatures. It's nice to be able to study what's happening at both sides of the spectrum."

THE LAB WILL ALSO BE ACCESSIBLE TO BOTH GRADUATE AND UNDERGRADUATE STUDENTS.

"The idea is that the facility would be used for both research and teaching. I see graduate and undergraduate students who are interested in doing research and getting involved. I would like for them to come in with me and work on projects, and then we can work on submissions to different journals, to see the research published. It will help the students out in their careers, especially if they are trying to get into graduate school, because they will already have a publication under their belt.

"But at the same time, the lab was also established to help with teaching. Even if they aren't interested or have time to get involved with research, CE 196H 'Concrete Technology' covers the equipment that is used in the lab, as well as different tests, material properties of the concrete, and the effects of high/low temperatures on the properties of the material. Once we return to 'normal,' my hope is that I can take the students enrolled in that class to the lab, show



"I have one grad student working with me, and eventually he'll need to get into the lab, but by the time that happens, we both hope to be vaccinated. We'll both feel much safer about getting in, calibrating the equipment, and using it, while still following all the safety protocols that will be in place."

—DR. JOSE GARCIA

them around, and run a few quick tests for them to get introduced to the equipment and to complement the lecture."

MUCH OF THE EQUIPMENT HAS ALREADY BEEN PURCHASED.

A refrigerator, ovens, a giant table for the middle of the room as a multiuse work space…these are just some of the things that have already been ordered for the lab. Dr. Garcia has also purchased several computers for the laboratory that he and other researchers can access to analyze data.

"Unfortunately, we were in the middle of getting the equipment for the lab when the pandemic broke out," laments Dr. Garcia. "A lot of the items were heavy, and didn't arrive until mid-March, 2020, which is when the first stay-at-home orders were issued."

THERE ISN'T A RUSH TO GET THINGS OPERATIONAL.

Out of concern for the safety of his students, Dr. Garcia is adamant about waiting until the pandemic is more under control before taking students inside for classes, even if it means that the deadline for full operations is pushed out past the summer. "I have one grad student working with me, and eventually he'll need to get into the lab, but by the time that happens, we both hope to be vaccinated. We'll both feel much safer about getting in, calibrating the equipment, and using it, while still following all the safety protocols that will be in place." It may still be some time before his class gets brought in, however. "This is the second semester Concrete Technology has been taught, and there are about 33 students enrolled. If we kept the recommended six feet apart, I could only allow three or four people maximum in the lab at a time."

DR. GARCIA IS MOST EXCITED TO SEE THE LAB ONCE EVERYTHING IS FINALIZED AND PROPERLY SITUATED.

"Once I walk in there and I see that the lab is being used, with testing taking place, I'll be very happy," Dr. Garcia says enthusiastically. "We have some really cool pieces of equipment in the lab, just waiting to be used. I ordered a lot of chemical glassware, and I purchased some cabinets that are going to be mounted to the wall to store the chemical glassware. Just being able to see that, and all of the other equipment in place is going to be so satisfying."

Structural Laboratory

Meets for In-Person Instruction

While the majority of all campus classes are currently held via Zoom, student gatherings have been allowed when a subject could not be adequately covered online. Such was the case with CE160L, the Structural Engineering class offered by Dr. Eric Matsumoto. Together with lecturer Alex Harrison, who is also a Senior Bridge Engineer at Jacobs Engineering, he worked to create a memorable yet safe experience for both the undergraduates and participating staff.

According to Dr. Matsumoto, preparations for the in-person instruction were multi-faceted. "Most of the labs for the class were virtual. Concrete Fabrication and Reinforced Concrete Beam testing were in person, because of the critical importance of student hands-on experience. There was lots of coordination with the lab techs, along with the Department Chair. We had to come up with a plan for sanitization, group rotations, and student volunteers. We also had to stress the importance of social distancing, wearing masks, etc."

Mr. Harrison added,

"We supplied masks and nitrile gloves, as well as eye protection. There were spray sanitation bottles so that the students could clean up after the experiments were done."

Social distancing precautions were in place to protect all parties involved, including determining how many people could fit into the lab at one time. Six feet of distance was maintained, save for brief occasions where temporary closeness was unavoidable.

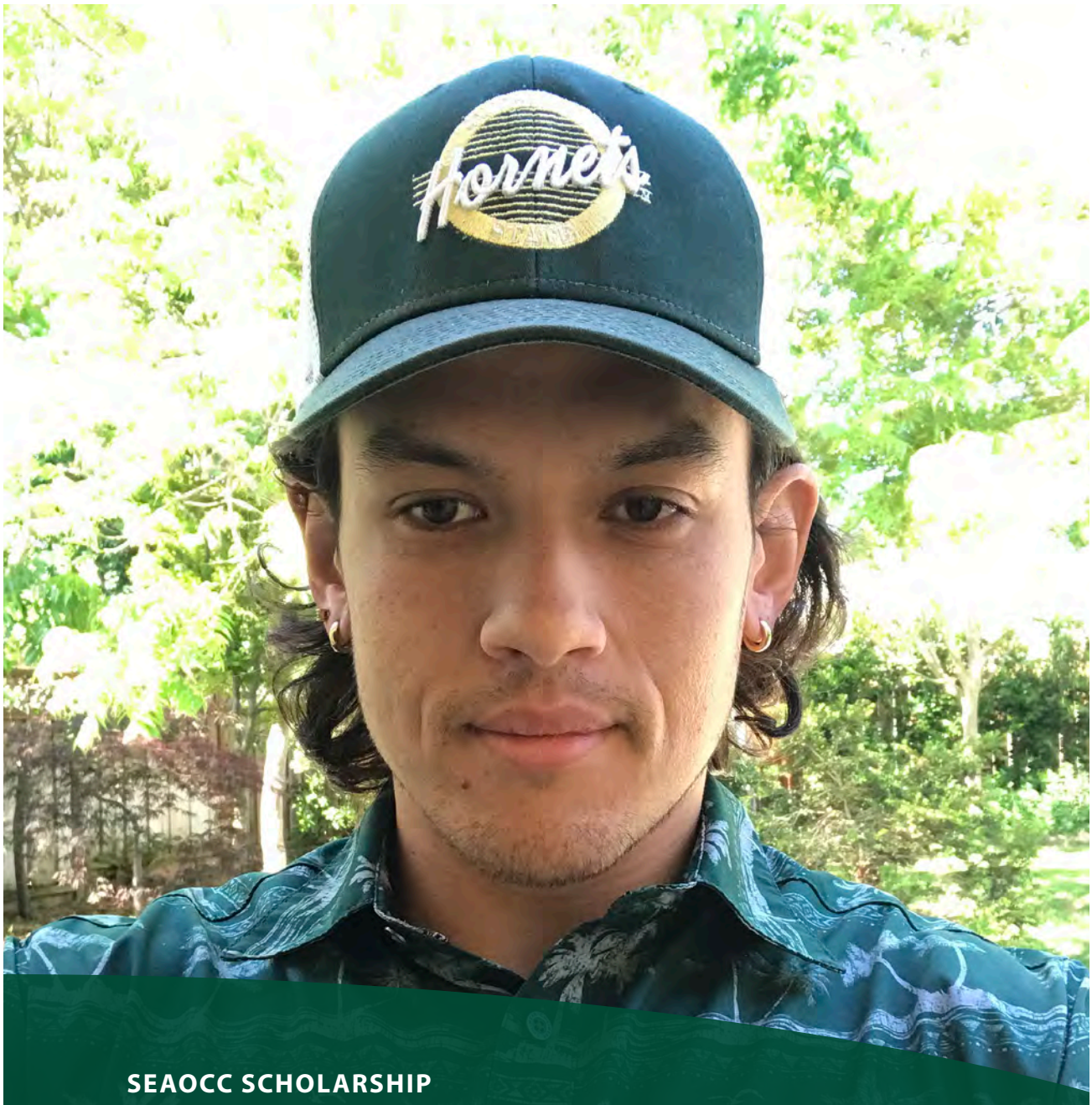
There were other unique difficulties to organizing the instruction day. "One of the challenges was to get students to come to the class," explained Mr. Harrison. "They had to coordinate their other Zoom classes and their daily travel. We required students to utilize their Sac State app and access a pre-health screening before they could come to campus—and some of students had never been to campus before."

At the end of the day, despite the difficulties and the extra precautionary measures, the day was a success.

"The students were extremely receptive," reported Dr. Matsumoto. "I have video interviews of students afterwards testifying to the importance of the meetup, both educationally and mentally, as well as psychologically and socially."

Harrison agreed. "The students said it felt really good to be on campus again, and the topics made more sense upon seeing them demonstrated in person. It's a very visceral experience for them, as they get to practice what they'll be doing as part of their careers after graduation. It was very tangible for them."

Dr. Matsumoto stressed the importance of hands-on demonstrations by saying, "In-person labs are critical from both an educational perspective and for the well-being of students. The number of in-person experiences can be limited, but NOT eliminated." Bringing the students to campus, though difficult, provided a chance for students to learn valuable techniques, understand important safety implications of structural technology, and network with their fellow future engineers. It was a priceless opportunity, and one that faculty will continue to bring to students, no matter the obstacles.



SEAOCC SCHOLARSHIP

Sac State Senior Wins 2021 SEAOCC Scholarship

Matthew J. Roloff, a senior undergraduate, was named the recipient of the 2021 SEAOCC Scholarship earlier this year. A student always interested in STEM subjects, Roloff was encouraged by his high-school teachers to apply to university. He applied to several last minute, and upon acceptance to CSUS, decided he would leave home to fully immerse himself in the student experience. It wasn't until Roloff arrived on campus that he realized, "I had the freedom to develop myself into the student and the person I wished to be." Below, Roloff discusses winning the scholarship and his experience as an undergraduate engineering student.

1 When is your anticipated graduation date?

My anticipated graduation is Spring 2021.

2 How did you hear about the scholarship? Did anyone encourage you to apply for it? What made you decide to give it a shot?

I am familiar with SEAOCC, but the flyer for this scholarship came from one of my structural engineering professors, Dr. Jose Garcia (CE164-Reinforced Concrete Design). He created and advertised a whole page with scholarship opportunities (through our Canvas page for the course. He sent out a message when he published it and mentioned it during one of the lectures). I figured I may have a chance at this one because I am pursuing a career in structural engineering and had some involvement with our SEAOCC Student Chapter.

3 Tell me what this award means to you personally.

This award was a great reassurance that my career pursuit and goals are valid, and that I am on track to success. It can be hard to judge how well I am doing on my path, especially when comparing myself to other students. It's great to know that others see the same capabilities and potential that I see in myself.

4 Tell me about how your school year has been shaped by the current health crisis.

It can be hard to tell how important or significant our coursework is while performing in an online environment. I am very strong in an individual setting, so my degree progress was not disrupted. I truly miss seeing friendly faces in the classroom and around campus more than anything. That is what created some of my best memories at CSUS.

5 What does it mean to you to be part of the student body at Sac State, even though you are physically apart from your professors and peers?

I know that I still represent Sacramento State no matter what environment I am in. I am glad that I was involved with student organizations and met enough CSUS members to form a network that I was able to stay in touch with.

6 What are your current academic and career goals?

I am committed to a career within the structural engineering realm of civil engineering. I plan to obtain my Professional Engineering License, as well as my Structural Engineering License in California. Through my undergraduate program, I have been aligning my efforts with becoming a structural designer. This has directed me towards taking certain CE electives, participating in student clubs, and applying to SE graduate programs.

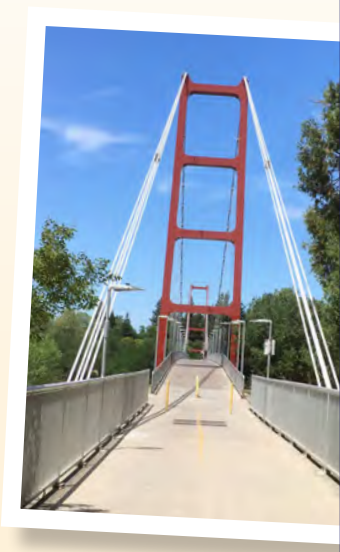
7 Is there anything you would like to share with other students reading this article?

I am headed to UC San Diego in the fall for a Master's in Structural Engineering! I am very grateful for the amazing faculty in the CE department. Many of them offered great advice and support towards my goals. Resources are readily available for almost anything a student may need, so don't be afraid to reach out and use them. You control your college experience, so make the most of it. My four years flew by. #MadeAtSacState

Gratitude

AN INSPIRING MOMENT SHARED BY ONE OF OUR FACULTY

"During one of my lectures, I suddenly lost my internet connection. After ten or more minutes of trying to connect again to Zoom, I expected that none of the student would still be there, but I had a small gleam of hope, so I kept trying. When I finally logged in, a pleasant surprise awaited me. My students were not only still on the Zoom call, but they had taken action in order to make use of the class time effectively! One of them had pulled out my class slides and shared their screen with the rest of the class, another one that had some familiarity with the topic started explaining the concept to the rest, and they were having a discussion when I finally logged in. You can imagine how proud I felt of our students, of their commitment and engagement in their education, even under these difficult circumstances."



— DR. ZOI DOKOU —

From our Civil Engineering faculty and staff, thank you to our amazing students. Together, we will get through this!

EVENT UPDATE

9th Annual Civil Engineering Golf Tournament

Friday, October 15, 2021 | 7:30 am

LOCATION

We are excited to announce that our Tournament will be held at

Haggin Oaks
3645 Fulton Ave,
Sacramento, CA 95821

Each firm will be asked to purchase a foursome, send between 1 to 4 players, and will be matched with students interested in the general area of the firm's business. Proceeds support the Sacramento State Department of Civil Engineering.

For more information or to register please contact Ashley Mihok at ashley.mihok@csus.edu.

Want to sponsor the event or our department?
Visit our webpage at www.csus.edu/ecs/ce for more info.

Photo: Thomas Park

Student Spotlight: Outstanding Scholar Award Recipient

Darya Yekta

The winner of this year's Outstanding Scholar Award is Darya Yekta, a senior graduating in May 2021.

Darya Yekta's family and friends are Sac State alumni, and she decided to attend the University after hearing about their positive experiences. "On top of that," she states, "it allowed me to be at home and spend more time with my family." Yekta always enjoyed math and science courses, and intended to pursue a career as engineer, but she wasn't sure which engineering discipline she intended to pursue. "I chose Civil Engineering by chance," she continues, "but ended up loving it."

That desire was in part sparked by a Statics class taken in Fall 2018. Yekta remembers, "It was in this class that I found an interest in Structural Engineering, and began pursuing this path. I never realized how fun and enjoyable it can be to spend time learning and studying a topic you have a passion for, and made me excited for the rest of my undergraduate education courses."

Earlier this year, Yekta was notified of her nomination for the Outstanding Scholar award. "[I] had to send in a statement highlighting my academic and professional achievements to apply. When I was told that I had been chosen by the CE Department faculty to receive the award, I was extremely happy, and felt proud that my hard work over the course of my undergraduate education had paid off."

There are many professors that Yekta credits with guiding her along in her educational journey. "A few professors who helped me along the way…include Professor Jose Garcia, Professor Eric Matsumoto, and Professor Masoud Abadi. A particular memory I have with Professor Matsumoto was fabricating reinforced concrete beams in the structural lab. This was a very hands-on learning experience I had not had the chance to do until then."

Post-graduation, Yekta has a few ideas of what she would like to pursue next. "I plan to pursue a graduate degree in Structural Engineering from UCSD," she says. "My current career goals include working as a Structural Engineer for a firm, or even pursuing a career in academia. I would like to perform research related to structural engineering while teaching students those fundamentals…in courses such as Statics and Mechanics of Materials."

Darya, we congratulate you on your success and wish you well in all your future endeavors!

A particular memory I have with Professor Matsumoto was fabricating reinforced concrete beams in the structural lab. This was a very hands-on learning experience I had not had the chance to do until then.

Alumni Spotlight: A Conversation with Erin Crandall

When reflecting on the beginnings of her Civil Engineering journey, Erin Crandall recalls that, initially, her career goals had nothing to do with that discipline.

"I was undecided for a while," she confesses, having considered interior design and architecture as career alternatives. Eventually she searched the U.S. Bureau of Labor Statistics Occupational Outlook Handbook and discovered the world of civil engineering. "I thought it would be a good fit because it might require the creativity and technical skills necessary for both interior design and architecture, while possibly allowing me to work outdoors."

Crandall (then Marquis), who graduated in 2010 with a B.S. in Civil Engineering and then in 2016 with an M.S. in Civil Engineering (with an Environmental Engineering focus), has never regretted her choice in career. As an undergraduate, she interned as a Student Assistant at both the California Department of Water Resources and the Regional Water Quality Control Board. She was also an intern at ProTech General Services, where she completed on-site water treatment of construction sites. Extracurricular activities included becoming a team member and co-captain for the Mid-Pacific Student Conference Water Treatment Team, a member (and eventual President) of the CSUS Society of Women Engineers, and a member of the school's chapter of Engineers Without Borders.

"Being involved in Engineers Without Borders during my first semester at CSUS solidified my choice to become an engineer and really got me excited about the program,"

Crandall remembers. "I wanted to work in a career that would help people access clean and safe water to make their lives better."

During her time in school, she took every opportunity to learn from her professors. In particular, she credits Dr. John Johnston, who was the Faculty Advisor of her undergraduate Mid-Pac Water Treatment team (which she later got to advise as Chair during the Mid-Pac conference in 2011). "He was a tough professor," she recalls, "but he cared that we learned the material. We were lucky to have him as our advisor." Crandall also thoroughly enjoyed the variety of hands-on lab classes, and also the seminar class overseen by Dr. Ramzi Mahmood, where industry professionals were invited to discuss engineering careers and different areas of focus.

Crandall felt very prepared upon graduation from both her Bachelor's and Master's programs. "I would say that the professionalism, approachability, practical experience, and advice from the faculty were key," she says. "Professors expected thorough work from us, including calculations AND clear communication, both in our writing and our presentations, just like our employers do now."

Since completion of her program, Crandall has worked for CH2M Hill (acquired by Jacobs Engineering), the State Water Resources Control Board, and for the Department of Water. She was recently promoted and is now a Senior Water Resources Engineer for the Department. "My office is responsible for implementing 2014's historic Sustainable Groundwater Management Act (SGMA)," Crandall explains. "It's historic because California is the last western state to regulate groundwater."

As her agency is the main regulator for local groundwater managers, Crandall finds herself extremely busy, providing outreach assistance and continuous reviews of technical plans, models and datasets, all while working to meet statutory deadlines. It's a job that has not let up in spite of the stay-at-home orders regarding the Covid-19 emergency. Within days of those orders, Crandall says her Department was telecommuting. Her office was able to release guidelines to assist local agencies in developing their own techniques for hosting virtual public meetings.

Reflecting on her time at university, Crandall says the one thing she is most proud of is completing her programs. "As someone who did not have a passion for math or engineering before stumbling on it in college, I am proud of myself for sticking with it. I made some great friends, learned a lot, and got through a tough program, and then was able to get my Master's degree." To future engineering students, Crandall offers this piece of advice: "Build a network of friends, peers, and mentors that you can rely on to help you achieve your goals (and be a good friend/mentee to them). Get an internship if possible, to start building up your technical resume. Give back when you can through organizations and clubs, or by mentoring younger students, and don't forget to have some fun as well!"

"Professors expected thorough work from us, including calculations AND clear communication, both in our writing and our presentations, just like our employers do now."

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California State University, Sacramento
Department of Civil Engineering
6000 J Street, MS 6029
Sacramento, CA 95819
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