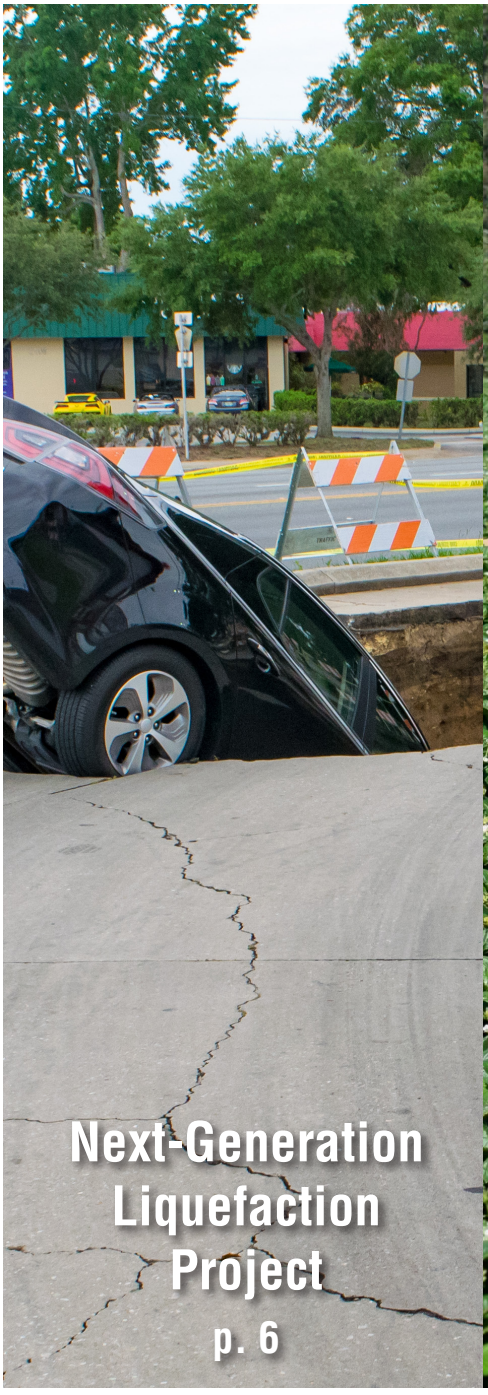
UCLA Civil & Environmental Engineering

UCLA HENRY SAMUELI SCHOOL OF ENGINEERING AND APPLIED SCIENCE | FALL 2017



Next-Generation Liquefaction Project

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Community Research in Environmental Risk

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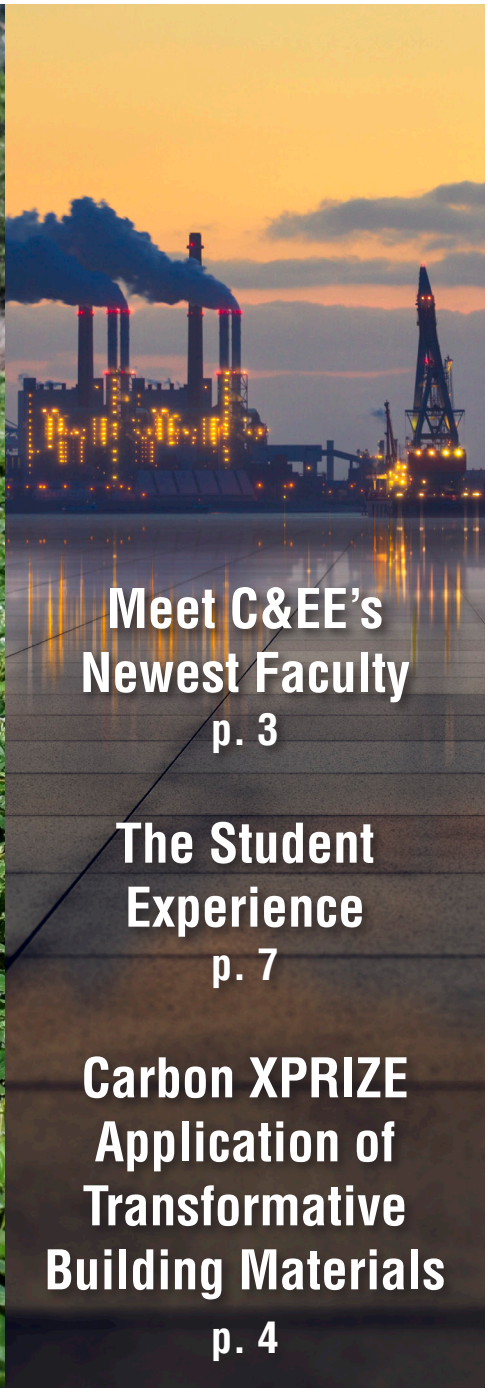

Meet C&EE's Newest Faculty

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The Student Experience

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Carbon XPRIZE Application of Transformative Building Materials

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Message from the Chair

— PROFESSOR JONATHAN P. STEWART —

Thank you for taking a few moments to read our Fall 2017 newsletter. I will highlight here some of the major developments in UCLA Civil & Environmental Engineering (CEE) over the past year.

I am delighted that two outstanding new faculty have joined us. Professor Yousef Bozorgnia (structural engineering, earthquake risk characterization) comes from UC Berkeley, where he has a distinguished record leading major research programs at the Pacific Earthquake Engineering Research (PEER) center. He will continue PEER initiatives at UCLA while also contributing to the B. John Garrick Institute for the Risk Sciences. Joining us as an Associate Professor is David Jassby, a gifted teacher and researcher from UC Riverside, whose research group is working on problems in water quality engineering, surface chemistry, environmental electrochemistry, and open-access system design. These faculty recruitments continue the strong CEE faculty growth in recent years, which is part of overall growth in the Henry Samueli School of Engineering and Applied Science under Dean Jayathi Murthy. CEE growth is driven by our strategic plan, drafted in 2015, striving for leadership and research excellence in Water Security, Sustainable Urban Systems, and Infrastructure Risk Mitigation.

The 2016-17 academic year provides several examples of national and international leadership from our faculty on major projects and initiatives. You will find stories in this issue on several of these, including a Carbon X-Prize application on transformative building materials, the Next-Generation Liquefaction project, and community research in environmental risk. Work in these and other areas are buoyed by research institutes recently formed and under development in next-generation materials and community engagement in environmental engineering.

You will find here several stories about our undergraduate and graduate students, and the inspiring work they do through student organizations like ASCE, Engineers without Borders, and several others. Look for stories on student engagement in research, application of classroom learning to the real world through summer internships and initiative to develop fellowships for underrepresented student populations.

Once again, the 2017 applicant pool was truly exceptional, with 1491 seeking admission and 90 enrolling for Fall 2017. This extraordinary applicant pool mirrors that of UCLA, which for over two decades has been the most applied-to university in the United States. Of those admitted, 16% are from traditionally under-represented minority populations in engineering – more than double from our Fall 2016 admits. Moreover, 38% of our undergraduate students, and 34% of our graduate students are female, both above national average of 23%. We continue to recruit and enroll students of the highest caliber that reflect the populations they will serve as Civil & Environmental Engineers.

It is a great honor for me to serve this institution and the outstanding students, faculty, staff, alumni and friends of the department who make this place truly special. Please read on, and Go Bruins!

Jonathan P. Stewart, Ph.D., P.E.
Professor and Chair

By the Numbers

1st

Online Engineering Program
(US News and World Report, 2017)

C&EE enhances the MS Online curriculum by adding MS Engineering programs in Environmental and Water Resources as well as Earthquake Engineering.

14%

Freshman Admit Rate
(Fall 2017)

34%

Female Graduate Student Enrollment
(Fall 2017)

2

New Courses

C&EE expands the curriculum by offering new courses in Timber Design and Construction Management.

NEW FACULTY

Yousef Bozorgnia, Professor

Dr. Bozorgnia joined C&EE in Summer 2017. Previously he was a Professor in Residence at UC Berkeley and Executive Director of the Pacific Earthquake Engineering Research Center. He received his B.S. degree from Sharif University of Technology (Iran), and M.S. and Ph.D. degrees from the University of California, Berkeley. Dr. Bozorgnia's expertise includes earthquake engineering and ground motion hazard characterization. Dr. Bozorgnia is a licensed Professional Civil Engineer (PE) in the State of California, and has been a Fellow of the American Society of Civil Engineers (ASCE) since 1998.

David Jassby, Associate Professor

Dr. Jassby joins C&EE in 2017-2018. Previously he was an assistant professor in the Department of Chemical and Environmental Engineering at the University of California, Riverside. Dr. Jassby received his B.S. in Biology from Hebrew University (2002), a M.S. in Civil and Environmental Engineering from UC Davis (2004), and a Ph.D. in Civil and Environmental Engineering from Duke University (2011). Dr. Jassby is a recipient of the National Science Foundation's CAREER award, and the ACS Petroleum Research Fund's Doctoral New Investigator award. Dr. Jassby's research interests include water treatment and desalination, membrane separation processes, membrane material fabrication, electrochemistry, and environmental applications of nanotechnology. ■

FACULTY AWARDS, APPOINTMENTS, AND RECOGNITIONS

Assistant Professor **Mathieu Bauchy** awarded ASCE at UCLA Professor of the Year.

Assistant Professor **Henry Burton** recognized by the Structural Engineers Association of California for his contribution to the development of the design guide for the seismic retrofit of existing wood-frame buildings with soft, weak, or open-front walls.

The B. John Garrick Institute for the Risk Sciences was awarded the 2017 Faculty Development Award by the U.S. Nuclear Regulatory Commission. The grant will support Assistant Professor **Henry Burton**, under guidance of Professor **Ali Mosleh**, as a teacher-scholar in the area of probabilistic resilience assessment of nuclear facilities and their neighboring communities.

Listed at #4, Professor **Eric Hoek** honored by WaterWorld Magazine as "Top 25 leaders in Water".

Associate Professor **Shaily Mahendra** elected to the Association of Environmental Engineering and Science Professors Board of Directors.

Adjunct Associate Professor **Daniel Pradel** appointed Professor of Practice at Ohio State University.

Adjunt Professor **Tom Sabol** Appointed Chair of American Institute of Steel Construction's Technical Committee 9, Seismic Systems and Member of University of California's Seismic Advisory Board.

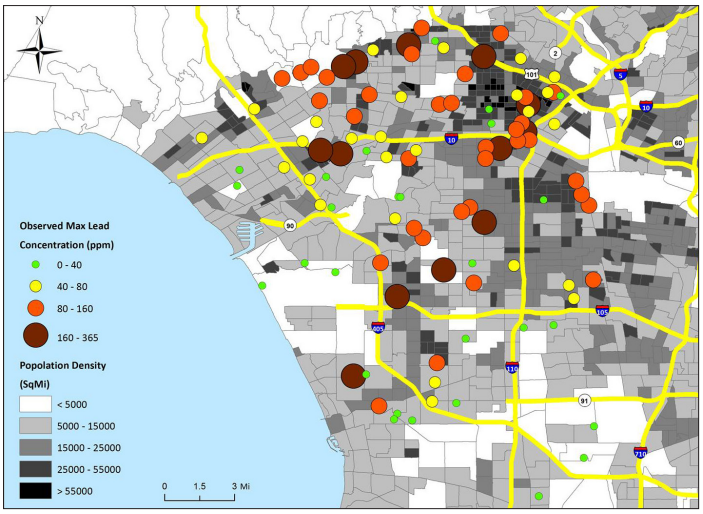
Associate Professor **Gaurav Sant** recognized as 2017 Gustavo Colonnetti Medalist by the Reunion Internationale des Laboratoires et Experts des Materiaux, Systemes de Construction et Ouvrages for outstanding scientific contributions to the field of construction materials and structures. Sant also presented testimony to the U.S. House of Representatives Committee on Science, Space and Technology as they reviewed private sector leadership in the next generation energy technology to increase efficiency, environmental benefits and consumer savings, and associated research and regulatory hurdles.

Professor **Michael Stenstrom** awarded Camp Applied Research Award recognized for his unique application of basic research or fundamental principles through the design or development of a wastewater collection or treatment system.

Professor **Jonathan Stewart** outlined threats to state water system at the National Academies of Science, Engineering and Medicine Distinctive Voices public lecture series. ■

RESEARCH HIGHLIGHTS

Please refer to faculty profiles at http://www.cee.ucla.edu/ for further information on these and other exciting research projects by CEE@UCLA students and faculty



Observed led concentration by population density.

The Center for Environmental Research and Community Engagement (CERCE) tackles issues of environmental justice in Los Angeles and the Central Valley.

Jennifer Jay, Professor

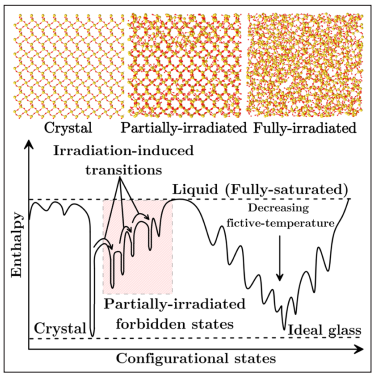
Housed primarily in C&EE by Director and C&EE Professor **Jennifer Jay**, CERCE brings together faculty and students across UCLA to address environmental concerns affecting underserved communities. Supported by Mark Cappellano of Skyscrape Foundation, CERCE studied lead in soils at LA parks with playgrounds. Lead poisoning is known to cause neurological, developmental, and behavioral disorders, with children being the most vulnerable. Of the 100 Los Angeles parks sampled, 46 had at least one of the three samples measure over 80 ppm, the CA human health screening level. Dr. Jay and Ph.D. student Wayne Hung discussed results with LA Department of Recreation and Parks. Next, CERCE will address antibiotic resistance in farmworkers and landscapers/gardeners, which are underserved groups facing multiple occupational hazards. Ph.D. Candidate Cristina Echeverria's publication shows dramatically varying levels of antibiotic resistance vectors in different areas of CA. Visit spark.ucla.edu to support CERCE.

Carbon XPRIZE receives $1.5M from Anthony and Jeanne Pritzker Family Foundation

UCLA is competing for the NRG COSIA Carbon XPRIZE by developing a process for capturing CO_2 and converting it into a material that can be used in building and construction. The team is led by C&EE Associate Professor **Gaurav Sant** and includes team members **J.R. DeShazo**, Director of the UCLA Luskin Center for Innovation, and C&EE Professor **Mathieu Bauchy**, C&EE Assistant Professor and other UCLA faculty members. The international competition was launched to encourage the development of breakthrough technologies to fight climate change. UCLA's Carbon Upcycling team has advanced to the semifinals by demonstrating a process for capturing CO_2 emissions from power plant smokestacks, the largest single source of greenhouse gas emissions. The trapped emissions will be used to create a CO_2–neutral building material called CO_2NCRETE, which can replace traditional concrete which is responsible for 9% of global CO_2 emissions.

Fate of irradiated minerals is to turn into frozen liquids

Although materials subjected to radiations remain solid, a recent study from PostDoc **N. M. Anoop Krishnan**, Project Scientist **Bu Wang**, Doctoral Candidate **Yingtian Yu**, and Assistant Professor **Mathieu Bauchy** suggests that their atomic structure becomes identical to that of a liquid. Under irradiation, materials undergo significant damage, ultimately leading to some alterations in their properties, e.g., density, stiffness, or reactivity. Understanding the origin and upper limit of irradiation-induced damage is critical to ensure the safety of nuclear power plants or the immobilization of nuclear waste. This study showed that the effect of irradiation on materials is controlled by their "energy landscape". Based on reactive molecular dynamics simulations of quartz, irradiation affects



Fate of materials subjected to radiation.

local topography of the energy landscape. Irradiated quartz gradually adopts the smooth energy landscape of a liquid wherein atoms can freely flow from minimum to minimum facilitating relaxation and, thereby, prevents the accumulation of any further damage. Overall, this work offers a consistent description of the fate of materials subjected to radiations, which can be used to predict the upper limit of irradiation-induced damage.

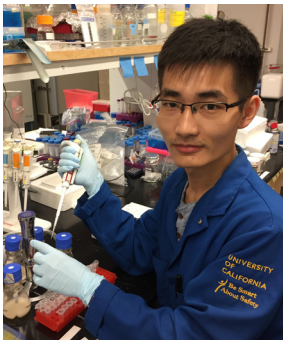
Beach affects backshore vulnerabilities such as flooding and risk of infrastructure damage

Assistant Professor **Timu Gallien** working with a team of both graduate and undergraduate researchers are studying how daily changes in beach morphology, due to tides, waves and the seasons, affects coastal infrastructure resistance to storm surge. Dr. Gallien's research aims to answer many pressing coastal management questions by extensive work in the field and provide scientific literature of how beaches perform when beach management techniques are applied.

Timu Gallien, Assistant Professor

Innovative nano-bio-technology for water treatment

Work by graduate students **Meng Wang**, **Shashank Kalra**, and **Anjali Lothe** and Associate Professor **Shaily Mahendra** involves working with enzymes, which are natural biocatalysts that mediate nearly all reactions in living cells. However, their limited stability requires frequent replenishment, which increases the costs of environmental applications. In this research, specific enzymes will be produced, purified, and packaged into vault nanoparticle cages in a single step, and evaluated for treating water contaminants, which are not efficiently removed by current technologies. Mahendra and her students are collaborating with Leonard Rome, Professor Biological Chemistry, whose laboratory was the first to discover vaults - naturally-occurring particles found in a wide range of organisms. Vaults can be custom-produced on a large scale, and incorporated into existing treatments of drinking water, wastewater, and water reuse systems. In addition, if one or more enzymes involved in biodegradation of multiple co-contaminants are packaged in vaults, such vaults can potentially be a "one stop shop" for producing clean water. The research is funded by the Department of Defense's Strategic Environmental Research and Development Program and DowDuPont Company.


Meng Wang, Ph.D. Candidate

Adding iron filings and biochar to topsoil to facilitate natural water treatment

Assistant Professor **Sanjay Mohanty** and his collaborators, including M.S. student **Alexander Berger**, are investigating how to remove contaminants from wastewater by enriching topsoil with substances typically thought of as waste products, like biochar, a type of charcoal produced by burning biomass such as wood, grass, or manure in a low-oxygen environment. They've conducted laboratory experiments showing that biochar boosts the growth of some contaminant-eating bacteria and fungi. Fungi grow naturally in soil in very tough conditions such as droughts and can degrade many contaminants. His team is exploiting this biological process to clean stormwater. One of the key challenges facing the team is that their natural biofilters have limited lifetimes, like any filter. The researchers are working on methods to recharge the filter materials in the ground.

Improving the seismic design of buildings with configuration irregularities

It is commonly accepted that structural configuration irregularities can negatively affect seismic performance; therefore U.S. codes and standards contain requirements related to structural configuration, which tie prohibitions, analysis requirements, and design requirements to various triggers. Managed by the Applied Technology Council and funded by FEMA, Adjunct Professor **Tom Sabol** worked with a team examining code triggers, the significance of structural irregularities (in terms of collapse probability), and the effectiveness of related code provisions. Analyses confirmed the necessity of explicitly considering some structural irregularities while suggesting that other irregularities and their triggers have an insignificant impact on performance and can be relaxed.

Next Generation Liquefaction (NGL) Project

Earthquake-induced liquefaction is the sudden loss of strength and stiffness exhibited by some saturated sandy soils during strong ground shaking. Engineers have developed procedures for predicting the onset and effects of liquefaction, but these procedures are highly uncertain as a result of limited observations from field case histories. Led by Professor **Jonathan Stewart**, with collaborators in the PEER center and the Southwest Research Institute, the NGL project was launched to (1) improve and expand the case history database, (2) undertake supporting studies to augment case history data for important conditions, and (3) provide an open, collaborative process for model development. Professor **Scott Brandenberg** was recently named as the lead for the database team, with also includes alumnus Dr. **Dong Youp Kwak** and current Project Scientist **Paolo Zimmaro**. See http://uclageo.com/NGL for more information.

Database on reinforced concrete walls (UCLA-RCWalls)

Professor **John Wallace** and Ph.D. Candidate **Saman Abdullah** have developed a comprehensive, robust, database with more than 900 tests on reinforced concrete walls. UCLA-RCWalls, unlike most existing databases that use a spreadsheet, is developed and designed using sophisticated software and framework that enables use of a database structure with a user-friendly interface and a powerful and secure storage such that it is easy to manipulate data. UCLA-RCWalls is capable of recording a substantial amount of detail about a specimen, which allows evaluating behavior of walls against a wide variety of potential parameters. UCLA-RCWalls can serve as a valuable tool for the structural/earthquake engineering community to assess behavior of RC walls and address issues associated with their performance, develop empirical models, and validate analytical studies. UCLA-RCWalls database will soon be published on a server providing access to the international research community. ■

CONFERENCES

18th IWA International Conference on Diffuse Pollution & Eutrophication, Los Angeles, California

Hosted at UCLA with Conference Chairs Professor **Michael Stenstrom** and Dr. **Mi-Hyun Park**, the conference sponsored urban themes in diffuse pollution control which includes approximately 20 years of efforts of the City and County of Los Angeles to reduce both the volume and contamination of urban runoff. DIPCON addresses the latest and innovative approaches to fundamental and applied research. Among its specific interests are stormwater management, monitoring and modelling, pollution control and best management practices (BMPs), sustainable urban drainage systems, reuse and resource efficiency, climate change adaptation related to diffuse pollution and eutrophication. DIPCON strives to broaden international recognition on the subject as a leading platform for advancing and diffusing scientific knowledge.

...

2016 Central Italy Earthquake: Lessons from the Field, Los Angeles, California

On August 24, 2016, a destructive earthquake occurred in Central Italy, followed by a long-lasting series of events. As a result, Geotechnical Extreme Events Reconnaissance (GEER) Association mobilized a post-earthquake reconnaissance mission. Main results of the reconnaissance and preliminary analysis of the data collected were presented at a workshop organized and hosted at UCLA, which was coordinated by Project Scientist **Paolo Zimmaro** and Professor **Jonathan Stewart**.

...

UCLA C&EE faculty, alumni, and students at PBD-III International Conference.

PBD-III International Conference, Vancouver, Canada

A large contingent of current and former UCLA C&EE students, faculty, and associated researchers attended the 3rd International Conference on Performance-Based Design in Earthquake Geotechnical Engineering. Professor **Scott Brandenberg** served as moderator for an expert panel session and Professor **Jonathan Stewart** presented an invited theme lecture. Other attendees and presenters included Ph.D. candidates **Sean Ahdi** and **Yi Tyan Tsai**, Research Scientist **Paolo Zimmaro**, and Professor **Ertugrul Taciroglu**, UCLA C&EE research presented at the conference ranging in topics from interaction of underground structures and foundations with the earth during earthquakes, ground motion prediction, and multi-hazard performance evaluation and reliability analysis of levee systems and other distributed infrastructure. ■

STUDENT EXPERIENCE

Marie-Pierre Delisle

Q&A: Marie-Pierre Delisle

- UCLA C&EE Rising Senior
- UCLA Swim Team, Fly/Back
- Athletic Director's Honor Roll Fall 2016-Spring 2017
- Pac-12 All-Academic Second Team
- Named CSCAA Scholar All-America Honorable Mention Selection 16-17

Q: Why Civil Engineering?

A: Since I was little, I always had a passion for math, but I knew that I wouldn't be happy crunching numbers all day long. I was considering different career paths when I went on a service trip to South Africa in high school, and that's when I knew I wanted to pursue C&EE. While on my trip, I was shocked by the lack of clean water available and immediately knew that was a problem I wanted to solve. C&EE allows me to do what I love and with a focus on coastal engineering, I will hopefully one day be able to fulfill my dream of making power and clean water more accessible to developing countries.

Q: Why UCLA Engineering?

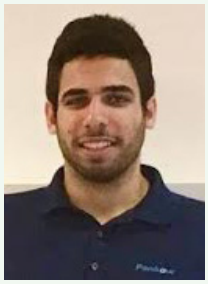
A: My favorite part about UCLA Engineering is the faculty and staff. Whether it is my academic counselor, my PI, or my professors, they go above and beyond to ensure that I am supported in every way possible. They also work hard to present students with invaluable opportunities that no other university could offer. ■

Checking-in with UCLA-Hohai 3+1+1

In Spring 2017, UCLA C&EE graduated the first class of UCLA-Hohai 3+1+1 students who spent 3 years of their undergraduate program at Hohai University, transferred to UCLA to finish their 4th year, and then continued to the one year MS degree. During the undergraduate year at UCLA each student participates in research under the guidance of faculty. Program participant Yufei Liu expresses, "I was encouraged to work independently to perform the research tasks, where my problem-solving skills and critical thinking ability were greatly improved. My research focuses on snow reanalysis in High Mountain Asia (HMA), which aims to characterize the large-scale spatiotemporal patterns of snowpack and forecast future changes in this region." Three students in the first graduating cohort will be staying at UCLA C&EE to pursue their Ph.D. Another student, Jinshu Li, notes, "UCLA as a prestigious university, in which many world-famous professors in my field are working, is certainly my dream school to do my Ph.D. research relating to hydro power systems optimization." In 2015, UCLA C&EE established an academic and research partnership with the College of Hydrology and Water Resources at Hohai University which is a top-ranked program for water resources in China and an international leader in this field of study. UCLA C&EE welcomes the third cohort in Fall 2017 bringing the total number of students participating in the UCLA-Hohai 3+1+1 program to seventeen.

Students in the field

Omar Issa, *Undergraduate*



Omar Issa

Interning at Pankow this summer was a life-changing opportunity. I focused on multiple projects simultaneously coordinating with project engineers, project managers, and subcontractors. I learned how to use BIM software to perform clash-detection tests with different coordination models to produce a 3D model.

Arastoo Dasmeh, *Graduate*

I worked at WSP USA as part of the bridge engineering group in developing California High-Speed Railroad Seismic Design Criteria. We work closely with Caltrans' engineers as well as engineers from several leading consulting firms to provide the most efficient, affordable and safest transportation facility for Californians. ■

STUDENTS AND POSTDOCTORAL AWARDS

Ada Chang, B.S. student, received Simpson Strong-Tie Scholarship to help support her education and encourage the design and building of safer structures in the community.

Cristina Echeverria, Ph.D. Candidate (Environmental, advisor Dr. Jennifer Jay), worked closely with the student organization IDEAS at UCLA, as well as other undocumented student organizations across the University of California system to design a recently launched fellowship for UCLA Undocumented Graduate Students who qualify for AB540.

Seyedfarid Ghahar Postdoctoral Research Associate (*Structures, PI Dr. Ertugrul Taciroglu),* received Honorable Mention for the 2017 UCLA Chancellor's Award for Postdoctoral Research.

Laurie Huning, Ph.D. 2017 (*Hydrology and Water Resources, advisor Dr. Steven Margulis*), received the NSF Earth Sciences Postdoctoral Fellowship. Laurie will attend UC Irvine where she will carry out her proposed research. She also received the UCLA C&EE Outstanding Ph.D. Student Award among other university fellowships.

Xin Li, M.S. student (*Civil Engineering Materials, advisor Dr. Mathieu Bauchy*), received the Corning Glass Age scholarship. The scholarship is awarded to one student annually and provides an opportunity to work closely with Corning scientists on a research project to help guide academic glass science research.

Austin Park, B.S. 2017, elected to the Phi Beta Kappa (PBK) honors society in recognition of his outstanding academic achievements. Austin majored in C&EE and minored in Environmental Systems and Society.

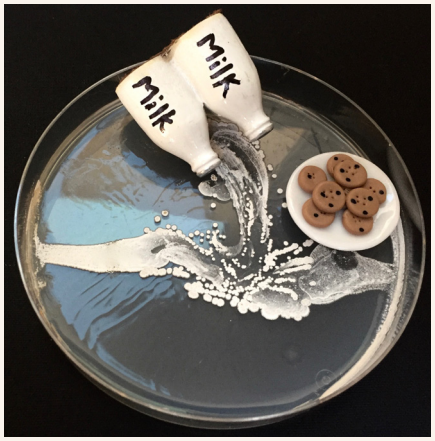
Grace Parker, Ph.D. Candidate (*Geotechnical, advisor Dr. Jonathan Stewart),* received the student presentation award at the Seismological Society of America Annual Meeting for her excellent talk titled "Recommended Central and Eastern North America Seismic Site Amplification Models for USGS Map Applications".

Yingtian Yu, Ph.D. Candidate (*Civil Engineering Materials, advisor Dr. Mathieu Bauchy),* received the international award Norbert J. Kreidl Award for Young Scholars from the American Ceramic Society for his research excellence in glass science. Yingtian's research focuses on the relaxation of glass. Relaxation induces some variations in the dimensions of glass panels, which can cause some pixel misalignments in large LCD/OLED screens. In practice, this limits the size and resolution of TV screens.

Alex Polasko, Ph.D. student (*Environmental, advisor Dr. Shaily Mahendra*) selected as a finalist in the American Society for Microbiology Agar Art Contest for her submission, "Don't Cry Over Spilt Bacteria" (see below).

Alex also placed 3rd at the UCLA GrandSlam competition for her presentation, "A Hero for Water: Finding and Growing Bacteria to Clean our Water".

Pseudonocardia dioxanivorans CB1190 spends its days and nights eliminating a drinking water contaminant called 1,4-dioxane. 1,4-Dioxane is a carcinogenic compound that is found in everything from detergents and shampoos to solvent stabilizers. This pollutant has seeped into our water via leaking barrels and improper disposal. CB1190 is gaining a lot of press lately because of its ability to clean contaminated water found everywhere from California to New York. It is considered a drinking water hero among the bacteria community because of its ability to grow stronger by degrading 1,4-dioxane. Its powers were only recently discovered in an industrial waste stream but have already been put to use to save H_2O molecules in distress. Although CB1190 came from lowly, waste beginnings, its color is as pure and white as milk. Everybody who's ever had warm cookies knows you can never have too much milk, When it comes to 1,4-dioxane contamination – we never cry over spilt bacteria!



STUDENT ORGANIZATIONS

American Society of Civil Engineers at UCLA

President: Allison Woodworth | http://ascebruins.org/

2016-17 Awards and Recognitions

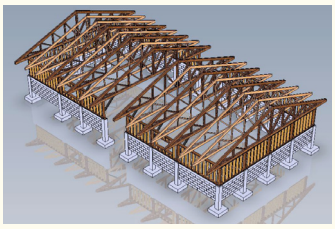
ASCE Distinguished Chapter Award, Region 9
ASCE Community Service Finalist
ASCE LA Section Outstanding Chapter of the Year Award
2nd Place at Pacific Southwest Regional Conference (PSWC)
UCLA ESUC Engineering Student Group of the Year

ASCE President Allison Woodworth

ASCE at UCLA is one of the largest and most active student groups on campus. Current president Allison Woodworth notes, "The progress we have made is a stepping stone towards what we hope and plan to accomplish going forward. Looking at next year, members can expect to see a variety of new events and the refinement of existing events. I look forward to facilitating the growth and further development of our club with the support of our amazing Officer Board!"

Engineers Without Borders

President: Ellen Key | http://www.ewbucla.org



Nicaragua schoolhouse design.

EWB-UCLA is involved in several international projects in developing countries. Through their projects, they help students develop engineering skills and shape them into international humanitarians. Current projects include designing and building a library equipped with solar panels to provide electricity for an e-learning center in the village of Sm'echa-Zala, Ethopia, designing a low-cost, permanent off-grid water system on a Navajo Native American reservation in Arizona, and remodeling a schoolhouse structure in San Sebastian, Nicaragua.

EWB-UCLA is a non-profit student run organization. Supporting the chapter means supporting their mission to meet basic human needs throughout the global community. Donate by visiting the chapter website.

Graduate Student Water Resources Group

Co-Founders: Maryam Ghajar and Sonali Abraham
sonaliabraham@ucla.edu | maryamghajar@ucla.edu

GSWR exists to inform graduate students of UCLA in the multidisciplinary field of water. GSWR attempts to advance, through advocacy and programs, the awareness and knowledge of current and future graduate students who want to pursue a degree or launch on a career in the field of water and are interested in addressing water challenges such as water scarcity, sustainable water infrastructure, water supply and demand management as well as water quality. GSWR also provides opportunities for field trips, info sessions and networking between students and faculties.

California Geotechnical Engineering Association

http://calgeobruins.org/

CalGeo at UCLA is the bridge between students and professionals in the geotechnical engineering industry. We host information sessions, field trips, conferences, socials, BBQs, and many more!

Chi Epsilon

https://sites.google.com/site/chiepsilonatucla/

XE is a national civil engineering honor society dedicated to the purpose of maintaining and promoting the status of Civil Engineering as an ideal profession.

Earthquake Engineering Research Institute

uclaeeri@gmail.com

EERI is dedicated to the advancement of earthquake engineering education and research for the purpose of reducing seismic hazard worldwide.

Institute of Transportation Engineers

https://iteucla.wordpress.com/

ITE is an international association educational and scientific association of transportation professionals who are responsible for meeting mobility and safety needs.

Society of Women in Engineering

http://www.seas.ucla.edu/swe/

SWE is a not-for-profit educational and service organization that empowers women to succeed and advance in the field of engineering, and to be recognized for their life-changing contributions as engineers and leaders.

Tau Beta Pi

http://engineering.ucla.edu/student-clubs/

TPB is a national engineering honor society offering free drop-in tutoring and review sessions for lower division math and science courses, organizing engineering competitions, and planning mentorship and outreach events. ■

C&EE PhD Graduates Fall 2016-Summer 2017

Yazhou Xie
Advisor: Jian Zhang
Seismic Modeling, Quantifying and Protection of Highway Bridges Considering Shaking and Lateral Spreading

Laurie Huning
Advisor: Steven Margulis
Improving the understanding of the spatiotemporal variability of hydrometeorology across the Sierra Nevada using a novel remote sensing reanalysis approach

Michelle Miro
Advisor: Jay Famiglietti
Science-based approaches to water resources management: Studies in remote sensing, groundwater and California's Central Valley

Shu Zhang
Advisor: Shaily Mahendra
Biodegradation of 1,4-Dioxane in Co-Contaminant Mixtures

Kioumars Afshari
Advisor: Jonathan Stewart
Observation-informed methodologies for site response characterization in seismic hazard analysis

Christopher Segura
Advisor: John Wallace
Seismic Performance Limitations of Slender Reinforced Concrete Structural Walls

Faculty Positions/Promotions Obtained by PhD Graduates and Postdoctoral Scholars 2014-17

Kamil Bekir Afacan, Ph.D., '14
Assistant Professor, Eskisehir Osmangazi University
Advisor: Scott Brandenberg

Richard Gash, Ph.D., '15
Assistant Professor, United States Military Academy, West Point
Advisor: Ertugrul Taciroglu

Nalinkanth Ghone, Postdoc, 2008-09
Professor, Sri Venkateswara College of Engineering
Advisor: Eric M.V. Hoek

Seongwon (Jason) Hong, Ph.D., '14
Assistant Professor, Korea National University of Transportation
Advisor: Jiann-Wen "Woody" Ju

Kristijan Kolozvari, Ph.D., '13
Assistant Professor, California State University, Fullerton
Advisor: John W. Wallace

Aditya Kumar, Postdoc, 2012-15
Assistant Professor, Missouri University of Science and Technology
Advisor: Gaurav Sant

Ji Yun Lee, Postdoc, 2016-17
Assistant Professor, Washington State University
Advisor: Henry Burton

Mary Laura Lind, Postdoc, 2008-10
Associate Professor, Arizona State University
Advisor: Eric M.V. Hoek

Sonya Lopez, Ph.D., '12
Assistant Professor, California State University, Los Angeles
Advisor: Terry Hogue

Sami Maalouf, Ph.D., '14
Assistant Professor, California State University, Northridge
Advisor: William W-G. Yeh

Saber Moradi, Postdoc, 2016-17
Assistant Professor, Ryerson University
Advisor: Henry Burton

Seyedali Nojoumi, Ph.D., '16
Clinical Assistant Professor, Loyola Marymount University
Advisor: Ertugrul Taciroglu

Peerapong Pornwongthong, Ph.D., '14
Associate Dean for Research and Development, King Mongkut's University of Technology
Advisor: Shaily Mahendra

Thien Tran, Ph.D., '12
Assistant Professor, University of Da Nang
Advisor: John W. Wallace

Eric Yee, Ph.D., '11
Associate Professor, KEPCO International Nuclear Graduate School
Advisor: Jonathan P. Stewart

Samuel Yniesta, Ph.D., '16
Assistant Professor, Ecole Polytechnique de Montreal
Advisor: Scott J. Brandenberg

Tadeh Zirakian, Ph.D., '13
Assistant Professor, California State University, Northridge
Advisor: Jian Zhang

Alumni Spotlight

Michelle Miro
Associate Engineer,
RAND Corporation
Ph.D. '17
Advisor: Jay Famiglietti

Michelle's current position involves working on applied policy research, developing decision-making tools and integrating hydrologic analyses with long-term management plans. Michelle notes, "I am leveraging my technical water resources background honed through my work as a UCLA C&EE PhD student and focusing it on policies and regulations related to environmental and water resources sectors."

Nolan Lenahan
Associate and California Engineering Operations Manager. DLR Group
B.S. '07, M.S. '09

Nolan was recently named *Consulting Engineer's 40 Under 40*. Winners are identified as the 'best and brightest in the building industry'. Nolan writes, "UCLA HSSEAS provided the foundation of skills that have allowed me to excel in my career. As a research-oriented institution, UCLA provides the type of in-depth technical education that is crucial to understanding and solving the complex problems that we as engineers face every day. Even more valuable in my opinion are the core values learned at UCLA, particularly those of community, service, compassion, honesty, optimism, fairness and excellence. I have found strength in these values and have used them as a guide to navigate my professional career to successful ends."

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IAB

The Industrial Advisory Board met with C&EE faculty in Spring 2017 to review the department's strategic plan and SWOT analysis as well as to provide guidance about department growth and organization in addition to faculty recruitment. IAB met with new faculty, ASCE and heard from the department's new research centers: The Risk Institute and the Center for Environmental Research and Community Engagement. Dean Wesel presented about undergraduate curriculum and transfer student initiatives.

Read more here:
http://www.cee.ucla.edu/industry/.

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