

UNIVERSITY
OF
CALIFORNIA

Leadership Excellence
through Advanced
Degrees (UC LEADS)



2019-2020

ANNUAL REPORT

Preparing promising scholars for graduate education in science,
technology, engineering and mathematics (STEM) since 2000.

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Preparing Promising Scholars for Graduate School and Beyond

The University of California Leadership Excellence through Advanced DegreeS (UC LEADS) program engages and educates California's future leaders by preparing promising students for advanced education in science, technology, mathematics and engineering (STEM). UC LEADS identifies exceptional UC undergraduate students with great potential to succeed in these disciplines, but who have experienced situations or conditions that have adversely impacted their advancement in their field of study. UC LEADS Scholars embark upon a two-year program of scientific research and graduate school preparation guided by faculty mentors and UC LEADS staff. By providing valuable educational experiences for a diverse pool of graduate applicants, the UC system empowers a new generation of leaders.



The Year in Review

A MESSAGE FROM THE DIRECTOR



Michele Johnson

UC LEADS Statewide Director

This year, we celebrated 20 years of UC LEADS! We spent the year looking back at 20 years of UC LEADS Symposia on the UC LEADS social media channels, began planning for two UC LEADS Alumni Reunions, and celebrated our 20th Annual Koret UC LEADS Research and Leadership Symposium.

Pre-COVID-19 pandemic, we engaged alumni to help plan two reunions for the summer of 2020, but have since postponed until further notice. We look forward to connecting with all of our alumni when it is responsible to do so.

Our 20th Annual Koret UC LEADS Research and Leadership Symposium was hosted at UC Irvine in March 2020, just before campus operations were moved remote. In celebration of our 20th Anniversary, we recognized extraordinary leadership exhibited by students during their tenure as UC LEADS scholars with the inaugural ceremony for a Graduate Deans' Leadership Award.

I am so grateful for the UC LEADS campus leadership teams, who spent the spring re-envisioning

their summer programming to be offered virtually when research and workshops on campus would not be safe due to the pandemic. They worked hard to ensure their scholars would have the funding and professional development they were planning on, while emotionally supporting them through the isolating and uncertain transition. I would also like to thank the faculty who gave their time and mentorship at the UC LEADS Symposium, and who also spent their spring reimagining their research focus to engage scholars remotely.

Finally, I would like to thank outgoing UC LEADS Executive Steering Committee Chair and UC Santa Barbara Graduate Dean Carol Genetti. Carol's vision of UC LEADS focused on leadership, and her impact helped to coordinate that vision across the systemwide program. I wish her luck as the Vice Provost for Graduate and Postdoctoral Programs at New York University Abu Dhabi.

A handwritten signature in black ink that reads "Michele Johnson". The signature is written in a cursive, flowing style.

Leadership in scholarship

IMPACT THROUGH SCHOLARLY CONTRIBUTIONS

These 2019-2020 UC LEADS Scholars are already making an impact through their scholarly publications:

James Corbitt / UC San Diego

Spang MT, Lazerson TS, Bhatia S, Corbitt J, Sandoval G, Luo C, Osborn KG, Cabrales P, Kwon E, Contijoch F, Reeves RR, DeMaria AN, Christman KL. (2020). A New Form of Decellularized Extracellular Matrix Hydrogel for Treating Ischemic Tissue via Intravascular Infusion. bioRxiv.

DOI: <https://doi.org/10.1101/2020.04.10.028076>

Angela L. Gao / UC Los Angeles

Wenzhong Yan, Angela L. Gao, Yunchen Yu, and Ankur Mehta. Towards Autonomous Printable Robotics: Design and Prototyping of the Mechanical Logic. Proc. of the International Symposium on Experimental Robotics (ISER) 2018 (In press).

Anthony Garcia / UC Merced

Mao Z, Vang H, Garcia A, Tohti A, Stokes BJ, Nguyen SC. (2019). Carrier Diffusion—The Main Contribution to Size-Dependent Photocatalytic Activity of Colloidal Gold Nanoparticles. ACS Catalysis. 9 (5), 4211-4217. DOI: 10.1021/acscatal.9b00390

Emily Hill / UC Berkeley

Hill E, Velednitsky M. (2021). Rehearsal Scheduling: Developing An Optimization Solution With Practitioner Input. Proceedings of the 13th International Conference on the Practice and Theory of Automated Timetabling - PATAT 2021: Volume I. 41-57.

Evanejlin Mahmoodi / UC Santa Cruz

Elor A, Powell M, Mahmoodi E, Hawthorne N, Teodorescu M, Kurniawan S. (2020). On Shooting Stars: Comparing CAVE and HMD Immersive Virtual Reality Exergaming for Adults with Mixed Ability. ACM Transactions on Computing for Healthcare. 1, 4, 22. URL: <https://doi.org/10.1145/3396249>

Griselda Ruiz / UC San Diego

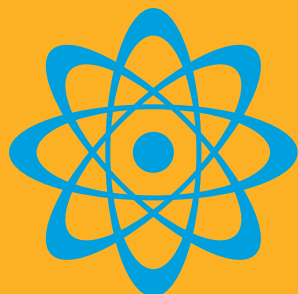
Marg LZ, Ruiz G, Chagolla F, Cabral A, Taylor J, Christensen C, Martin M, Picou B, Brown B. (2020). We are becoming older women and then we have two stigmas: voicing women's biopsychosocial health issues as they age with HIV. Journal of Women & Aging, 32:4, 365-388. DOI: 10.1080/08952841.2020.1751566

Catherine Seo / UC Riverside

Zhang C, Lin J, Nguyen N, Guo Y, Xu C, Seo C, Villafana E, Jimenez H, Chai Y, Guan R, Liu H. (2019). Antimicrobial Bioresorbable Mg-Zn-Ca Alloy for Bone Repair in a Comparison Study with Mg-Zn-Sr Alloy and Pure Mg. ACS Biomaterials Science & Engineering. URL: <https://doi.org/10.1021/acsbomaterials.9b00903>

Zhang C, Wen T, Razak K, Lin J, Xu C, Seo C, Villafana C, Jimenez H, Liu H. (2019). Magnesium-based Biodegradable Microelectrodes for Neural Recording. Materials Science and Engineering C. URL: <https://doi.org/10.1016/j.msec.2019.110614>

2020 UC LEADS
Koret Research And
Leadership Symposium



MARCH 7, 2020
UC IRVINE



The 20th Annual Koret UC LEADS Research and Leadership Symposium was held at UC Irvine in March 2020. UC Irvine Vice Provost of Graduate Education, Dr. Gillian Hayes, gave the morning welcome, and introduced Dr. Michael Dennin, UC Irvine Vice Provost for Teaching and Learning, for an engaging morning keynote. Seventy-one scholars presented their research posters to peers and 34 faculty judges.

The afternoon agenda featured a panel of UC LEADS alumni discussing the broad scope of career possibilities using their STEM degrees after UC LEADS, followed by a time for networking with alumni and faculty, and talking about graduate school with the UC LEADS campus representatives. A leadership activity was presented by UC Los Angeles UC LEADS Coordinator and Assistant Director of the Undergraduate Research Center – Sciences, Dr. Fernando Gomez. As always, we ended the evening with awards and a celebration of all the scholars' hard work. UC Irvine Assistant Dean of Access and

Inclusion in Engineering and Information & Computer Sciences, Dr. Sharnnia Artis, gave an honest and impactful evening keynote.

Finally, the inaugural Graduate Deans' Leadership Award was given to three scholars who exhibited extraordinary leadership during their tenure as UC LEADS scholars. Awards went to **Danny Attiyah** from UC Irvine, **David Ifediba** from UC Riverside, and **Mayia Vranas** from UC Berkeley. This \$500 award was selected by the UC LEADS Executive Steering Committee, lead by Chair Dr. Carol Genetti, and funded by the deans of all 10 UC Graduate Divisions. Honorable mentions and recipients of the Campus Leadership Awards were: Alexis Andre Palacios Duran (UCB), Gloria Navarro (UCD), Luis Ramirez (UCI), Jenna Molas (UCLA), Janice Nguyen (UCLA), Anthony Garcia (UCM), Ariell Smith (UCM), Partho Paul (UCR), Griselda Ruiz (UCSD), Jeffrey Rong (UCSB), and Jasmine Liu (UCSC).

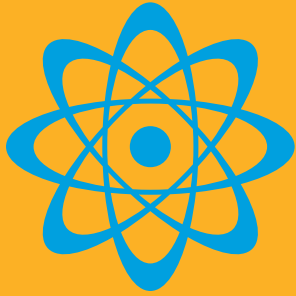


**UC LEADS
Campus
Leadership**



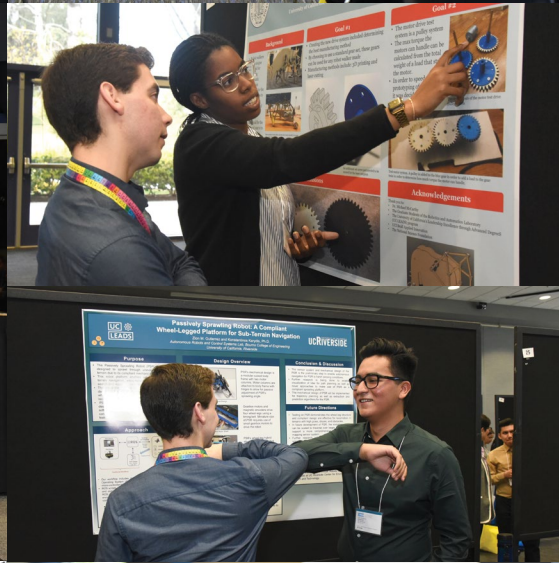
L to R: Daniel Fabrega, Mariela Menendez, Lynne Arcangel, Edgar Beas, Michele Johnson, Breana Musella, Xingci Situ, Emily Heng, Yuliana Ortega, Briana Muñoz-Flores, Fernando Gomez, Julia Clark, Diana Lizarraga, Maria Franco-Gallardo, and Jorge Arroyo

2020 UC LEADS
Koret Research And
Leadership Symposium



MARCH 7, 2020
UC IRVINE

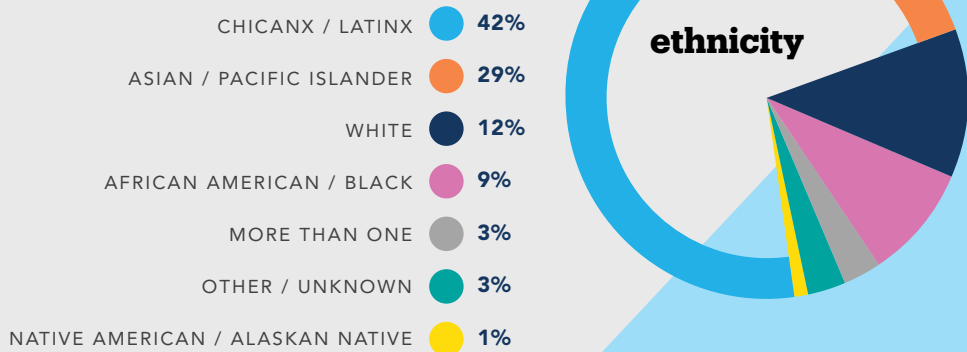
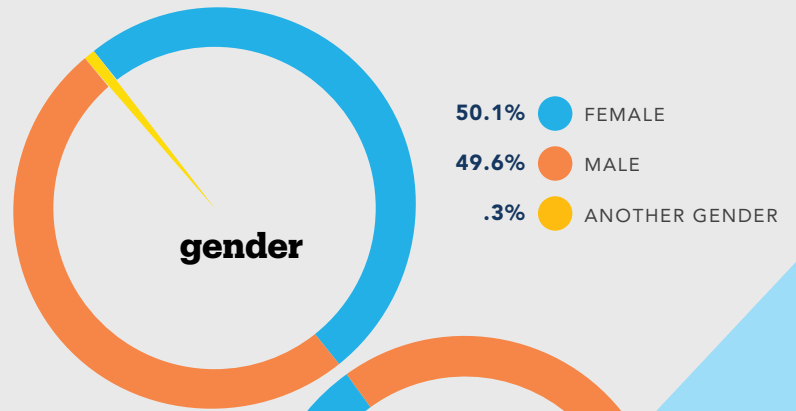




Program Impact Summary

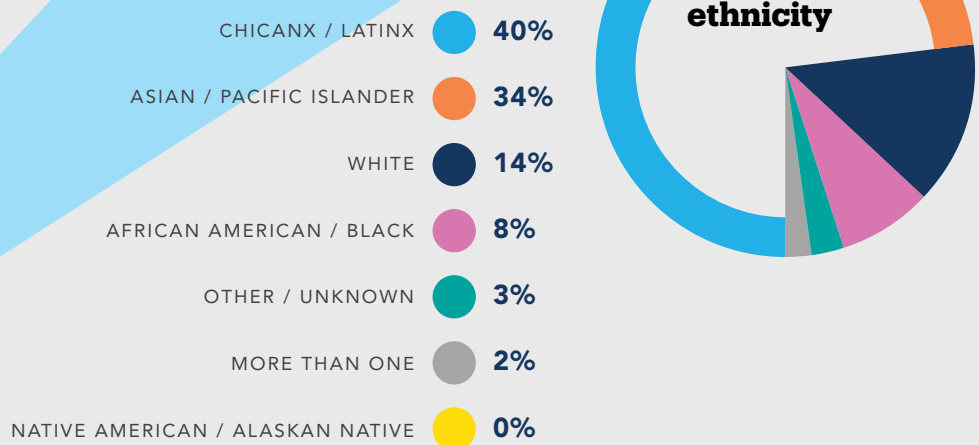
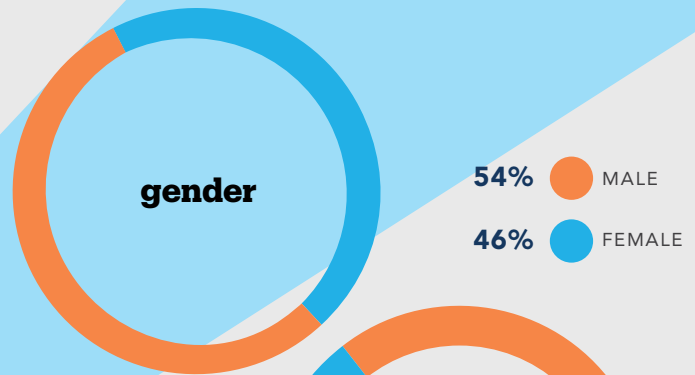
UC LEADS IN DIVERSITY

In 20 years, UC LEADS has supported 1107 scholars. This population consists of **53% first generation college students**, and 52% underrepresented minorities. Pictured are the gender and ethnicity breakdowns for these scholars.



UC GRAD SCHOOL BOUND

Of the scholars who matriculated into graduate school, 47% enrolled in a UC graduate program. These scholars are 54% first generation college students, 46% women, and 48% underrepresented minorities. Those who enrolled in non-UC programs cite reasons as funding packages, smaller institutions, and not being accepted into UC programs. Pictured are the gender and ethnicity breakdowns for these scholars who matriculated into UC graduate programs.



ACADEMIC PATHWAYS

An impressive 99% of UC LEADS Scholars have graduated with their undergraduate degree, and 76% of these scholars are either currently enrolled in graduate school or have already earned degrees in a master's or doctoral program. Thirty-seven UC LEADS alumni are now working as tenure track faculty, including eight within the UC system, while another 11 are employed in non-tenure track faculty positions and 11 hold other academic career positions. Others work around the world as industry and government scientists, teachers, medical doctors, and entrepreneurs.

1107

Scholars

99%

earn
undergrad
degrees

76%

pursue
graduate
degree

47%

attend a
UC grad school

24

PhD candidates
are working as
tenure track faculty,
including 6 within
the UC system.



UC

191



92



27



18



3



1

STEM PHD

STEM MASTERS

MEDICAL
SCHOOL

OTHER
PROFESSIONAL
SCHOOL

LAW
SCHOOL

OTHER
DOCTORAL
PROGRAM



non
UC

169



109



61



31



1



1



UC Berkeley | Year in Review

At UC Berkeley, our UC LEADS program, along with a few other diversity STEM programs, were able to officially become part of the physical space called the Cal NERDS STEM Student Center. This provides our scholars with a sense of belonging and positive campus climate as it serves as a hub of activity, including study space, advising, 3D printing, research poster printing, lunch STEM series workshops, a small food pantry and coding boot camps. We have been fortunate to have a few of our UC LEADS alumni connect with our scholars through research talks, outreach activities, and mentoring.

This included Dr. Andrew Ekelem (Evolution Devices, Chief Product Officer), Bonnie Lam (UCB BioEng PhD student), Anthony Salazar (UCB Material Science and Engineering PhD student), Liya Oster (UCB Physics PhD student), Newton Nguyen (Environmental Science and Engineering PhD student at Cal Tech), Donez Horton-Bailey (UCB Physics PhD student), and Steven Chavez (Univ. of Michigan Chemical Engineering PhD student). Our scholars demonstrated their leadership through hosting outreach activities to AVID 8th graders, co-leading our campus Mariachi band, and helping organize our SACNAS conference participation and UC Davis graduate school visit. Nine of our scholars successfully applied and were admitted to various UC and national STEM PhD programs with funding.

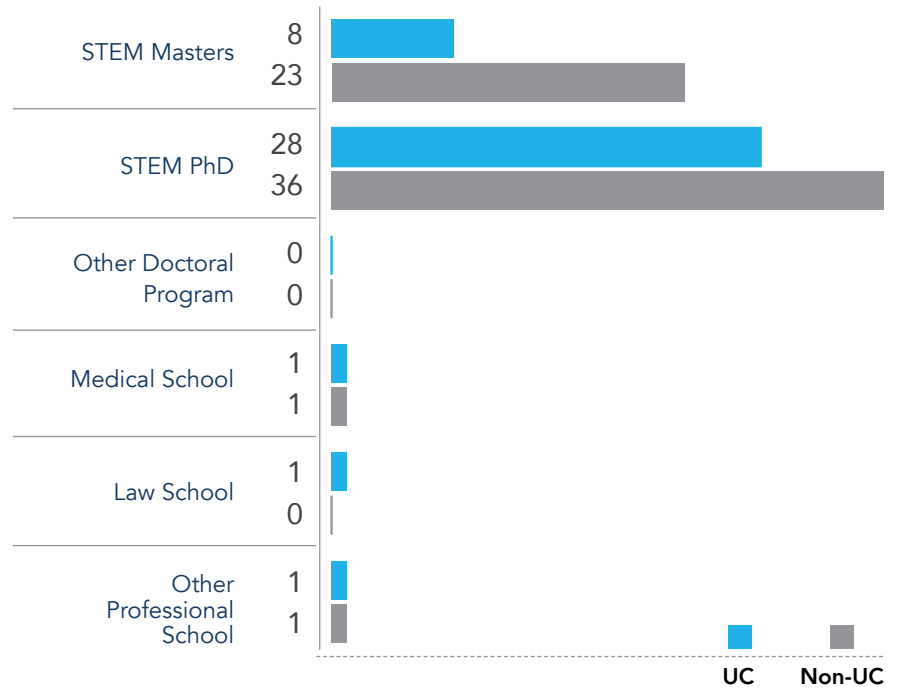
Figures

39

UC LEADS alumni from UC Berkeley have gone on to UC graduate programs (**39%**)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 12 UC Berkeley
- 8 UC Los Angeles
- 7 UC Irvine
- 6 Stanford University
- 5 University of Michigan
- 5 UC San Diego
- 5 San Francisco State University



Second Year Scholars

Andre Palacios Duran (Physics) did his second summer research at UC Los Angeles. Andre is a first generation college student. He presented a poster at the 2020 UC LEADS Symposium titled *Properties of Layered GaSxTe1-x Nanowires*. He graduated in fall 2019 and was accepted as a Biomedical Engineering PhD student at The University of Rochester. Andre demonstrated his leadership as a co-lead for UC Berkeley's Luz de Oro Mariachi band.

Camille Harris (Computer Science) did her second summer research at UC San Diego. She presented a poster at the 2020 UC LEADS Symposium titled *Exploration of Bias in Recommender Systems*. She also studied abroad in Japan. She graduated in spring 2020 and was accepted as Interactive Computer Programming PhD student at Georgia Tech. Camille demonstrated her leadership by serving as President of UC Berkeley's Student Club the Black Engineering and Scientists Student Association.

Emily Hill (Computer Science) did her second summer research at UC San Diego. Emily is a first generation college student. She presented a poster at the 2020 UC LEADS Symposium titled *Drapers: Learning to Design Search Ads with Personalized Examples*. She also had a conference proceedings publication for her work. She graduated in spring 2020 and was accepted as a Human Computer Interaction PhD student at Carnegie Mellon University. Emily demonstrated her leadership as a Cal NERDS

Student Director helping orchestrate UX design workshops, advocating for undocumented students, and food insecurity.

Evelyn Deagueros (Physics) did her second summer research at UC Santa Barbara. Evelyn is a first generation college student. She presented a poster at the 2020 UC LEADS Symposium *Mextal Oxide Catalyzed Epitaxy (MOCATAXY) Growth of β -(AlxGa1-x)2O3/Ga2O3 Heterostructures*. She graduated in spring 2020 and was accepted as a Physics PhD student at Case Western Reserve University.

Arismel Tena Meza (Chemistry) did her second summer research at UC Berkeley. Arismel is a first generation college student. She graduated in fall 2019 and was accepted as a Chemistry and Biochemistry PhD student at UC Los Angeles. Arismel demonstrated her leaderships as a co-founder of UC Berkeley's Chemistry Diversity Student Club Chem-Unity.

Mayia Vranas (Physics) did her second summer research at UC San Diego. Her poster, *Ruthenium Substitution in Beta-Lithium Iridate*, received top honors at the 2020 UC LEADS Symposium. She graduated in fall 2019 and was accepted as a Physics PhD student at UC San Diego. Mayia was selected by the UC Council of Deans for our Statewide Leadership award for her leadership in UC Berkeley's Student Club the Society of Physics Students.



First Year Scholars

Gael Flores (Physics) did his first summer research at UC Berkeley. Gael is a first generation transfer student. He presented a poster at the 2020 UC LEADS Symposium titled *Properties of Larpix: Pixelated Charge Readout*. He graduated in spring 2020 and was accepted as a Physics PhD student at UC Los Angeles. UC Berkeley News featured a story about Gael, which can be found here: <https://news.berkeley.edu/2020/05/13/student-gael-flores-on-his-journey-from-sheet-metal-worker-to-physicist/>

Vanessa Hernandez-Cruz (Mechanical Engineering) did her first summer research at UC Berkeley. Vanessa is a first generation college student. She presented a poster at the 2020 UC LEADS Symposium titled *State-Of-Charge Estimation in Battery Packs with Heterogeneous Cells*. She plans to graduate in 2021.

Jason Jiang (Applied Mathematics) did their first summer research at UC Berkeley. They presented a poster at the 2020 UC LEADS Symposium titled *Reduce and Recycle: Aiding Cleanup and Reuse in Computational Notebooks*. They plan to graduate in 2021.

Eshaan Pathak (Computer Science and Data Science) did his first summer research at UC Berkeley. He presented a poster at the 2020 UC LEADS Symposium titled *Deep Learning for the Analysis of Online Hate Speech*. He graduated in 2020.

German Perea Lopez (Civil Engineering) did his first summer research at UC Berkeley. German is a first generation college student, who is also a transfer student parent. His research poster was entitled *Smart Learning Pilot for Electric Vehicles Charging Stations*. He graduated spring 2020 and will be applying to Engineering PhD programs this fall.

Alumni Spotlight



Kirsten Howley

UC LEADS 2002-2004

B.A. Physics and Astrophysics

After finishing her B.A. at UC Berkeley, Kirsten Howley attended UC Santa Cruz where she worked under Dr. Raja Fuhathakurta. After completing her PhD in Astrophysics, she was hired to serve as a full-time physicist at the Lawrence Livermore National Laboratory. Kirsten currently recruits and mentors STEM students and serves as her division's representative on the board for diversity and inclusion.



I actively recruit and mentor STEM undergrads, graduates, and post-graduates from underrepresented backgrounds for postdoc and staff positions at Lawrence Livermore Lab. I also serve as my division's representative on the board for diversity and inclusion. I believe it is through diversity of thought and innovation that we will solve the most complex problems facing national security today and in the future.



UC Davis | Year in Review

Every year, the scholars continue to be outstanding and inspiring as evidenced by their perseverance and enthusiasm to explore and diversify their research interests. The theme amongst our second year scholars this year was family, faith, trust, and, as always, leadership. As first-generation students with numerous responsibilities to family, each scholar faced unexpected challenges related to loss, health, finances, and citizenship; all of which, were overcome because they trusted in themselves, their faith and support systems. Managing academics, work, and research while dealing with these life events did not deter their paths. Each one stayed the course and made progress in their research and graduate school planning. For example, Karen Cornejo had been in the same lab for nearly three years, so she felt accomplished by graduation which solidified the discipline in which she plans to pursue graduate school.

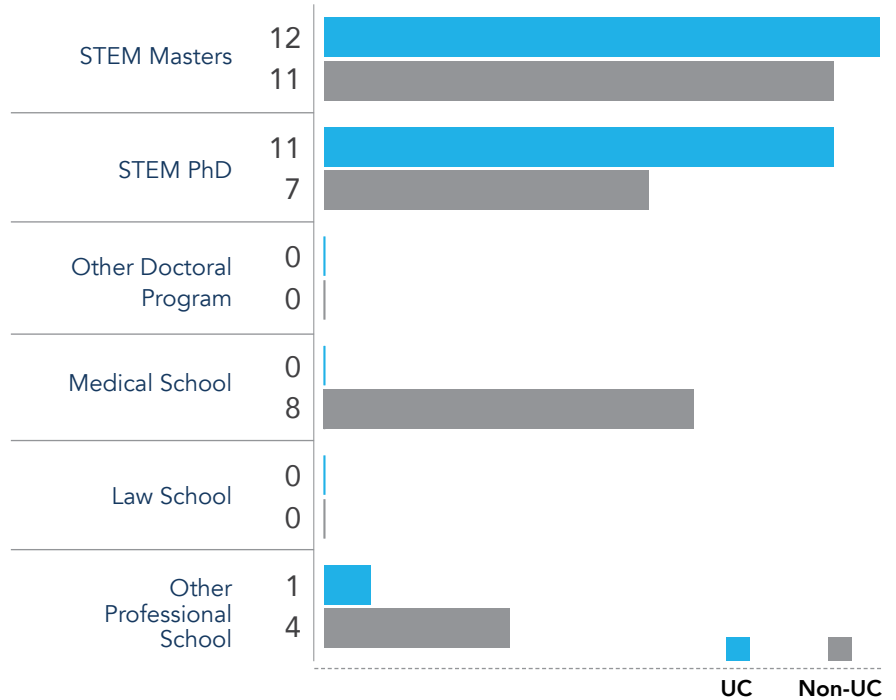
Meanwhile, Gloria Navarro's second summer experience at UCLA shed light on other areas within the field of Mechanical Engineering that she hopes to pursue in the future as it relates to graduate school and career possibilities. Tina Nguyen's second summer research project at UCSB reaffirmed her passion for Marine Biology. She completed the summer feeling even more excited and motivated to start graduate school in the fall. Emmanuel Vazquez Arreola's remarkable ability to multi-task and time-manage while always smiling and exuding positivity and encouragement to his cohort was such a joy. Overall, the scholars had an eventful year filled with many successes and less desirable moments, however, they did so with conviction and determination – true examples of leaders!

Figures

24 UC LEADS alumni from UC Davis have gone on to UC graduate programs (44%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 16 UC Davis
- 5 University of Southern California
- 3 UC San Diego
- 2 San Francisco State University
- 2 Stanford University
- 2 UC Riverside



Second Year Scholars

Karen Cornejo (Neurology, Physiology, and Behavior) did her second summer research at UC Berkeley. Her poster, *Elucidating molecular cues that guide subtype-specific synaptogenesis in the retinal direction selective circuit*, received an honorable mention at the 2020 UC LEADS Symposium. She graduated in spring 2020 and was accepted as a Quantitative and Systems Biology PhD student at UC Merced, where she was raised nearby in Merced County.

Gloria Navarro (Mechanical Engineering) did her second summer research at UC Los Angeles. She presented a poster at the 2020 UC LEADS Symposium titled *Vertical thrust stand for hot-fire testing mid-power hybrid rocket motors*. She plans to graduate in spring 2021 in hopes of staying in Davis with her husband and plans to apply for graduate school in fall 2021 in Engineering.

Tina Nguyen (Marine and Coastal Sciences) did her second summer research at UC Santa Barbara. She presented a poster at the 2020 UC LEADS Symposium *Investigating the Interactive Effects of Diet and Temperature on Omnivorous Temperate Fish*. She graduated in spring 2020 and was accepted as a Marine Biology PhD student at The University of Southern California. Raised in the Bay Area, she looks forward to life in a big city again, yet in Southern California.

Emmanuel Vazquez Arreola (Civil Engineering) did his second summer research at UC San Diego. He presented a poster at the 2020 UC LEADS Symposium titled *Investigating Web Shear Development in Post-Tensioned Box Girders*. He graduated in spring 2020 and was accepted as a Civil Engineering PhD student at UC Davis. As a first-generation, transfer student with numerous family responsibilities, among classes and research he works part-time in the construction industry and appreciates combining his hands-on experience with his love for Structural Engineering. He is also an ambassador and representative for the College of Engineering's LEADR Program (Leadership in Engineering Advancement, Diversity and Retention).



First Year Scholars

Kelly Chau (Biotechnology) did her first summer research at UC Davis. She presented a poster at the 2020 UC LEADS Symposium titled *Overexpression of Human RNase H1 in B cells Induces R loops*. She plans to graduate in spring 2021.

Lay Heng Teng (Biomedical Engineering) did her first summer research at UC Davis. Her poster, *Investigation of Immune-Cell Spreading on Different Types of Pathogen Surfaces*, received top honors at the 2020 UC LEADS Symposium. She plans to graduate in spring 2021.

Giovanni Lara (Pharmaceutical Chemistry) did his first summer research at UC Davis. He presented a poster at the 2020 UC LEADS Symposium titled *Examining Phosphorylation of DVL2 in Wnt Signalling*. He plans to graduate in spring 2021.

Rebecca "RJ" Millena (Entomology) did her first summer research at UC Davis. She presented a poster at the 2020 UC LEADS Symposium titled *Paternal care and the risk of maternally-vectorized pathogens: *Ammophila* transmit Strepsipteran parasites to their young*. She plans to graduate in spring 2021.

| Alumni Spotlight



Destinee Cooper

UC LEADS 2001-2003

B.S. Environmental Toxicology

Destinee Cooper completed her B.S. in Environmental Toxicology at UC Davis before achieving a second degree in Cell and Molecular Biology at San Francisco State University. She has worked at UC Berkeley and Stanford to recruit students for higher education, and now serves as an Environmental Scientist in the U.S. Environmental Protection Agency.



UC LEADS gave me a family at college that supported me through college as a first generation college student. Via UC LEADS, I met other students like me, gained a support network, got guidance and support for being diagnosed with a learning disability, and figured out which avenue for graduate school I wanted to take.



UC Irvine | Year in Review

UC Irvine hosted the 20th Annual UC LEADS Symposium, which culminated with the inaugural Graduate Deans' Leadership Awards. UCI scholar Danny Attiyah was a recipient of this award for his demonstrated leadership as an undergraduate. Danny co-mentored incoming Physics students as part of the Resonance Program, in addition to being a Learning Assistant for an upper division Physics course.

Stephanie Herrera and Danny Attiyah were accepted to UC doctoral programs and received Eugene Cota Robles fellowships to support their doctoral education. Second year scholars hosted a workshop on the process of applying to graduate school and the impact of networking. The goal of the workshop was for second year scholars to offer guidance and tips first year scholars could use to reduce the stress of applying to graduate school, manage their time, and maximize on the networking the UC LEADS community offers.

Throughout the year, scholars participated in professional development opportunities, networking and outreach events. This year, they connected with UCI UC LEADS alum Josh Yee to learn about industry opportunities after obtaining a graduate degree. Scholars also presented their research at national conferences like ABRCMS and SACNAS.

Figures

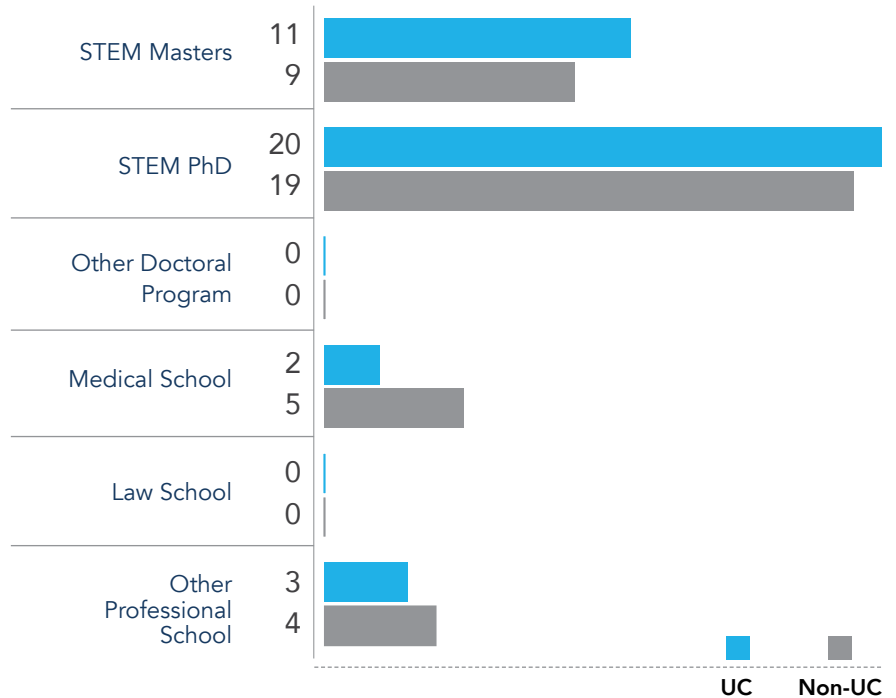
36

UC LEADS
alumni from
UC Irvine

have gone on to UC graduate
programs (49%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 11 UC Irvine
- 9 UC Los Angeles
- 6 UC San Diego
- 5 UC Davis
- 5 University of Southern California



Second Year Scholars

Danny Attiyah (Physics) did his second summer research at UC San Diego. He presented a poster at the 2020 UC LEADS Symposium titled *Constructing External Compressor Setup for High Intensity Light-Matter Interactions*. Danny presented research at the Society for Advancement of Chicanos/Hispanics and Native Americans in Science in the Fall of 2019. He graduated in spring 2020 and is now enrolled as a Physics PhD student at UC Irvine.

Stephanie Herrera (Mechanical Engineering) did her second summer research at UC Los Angeles. She presented a poster at the 2020 UC LEADS Symposium titled *Open Surgery Dexterity Assessment via Bilateral Instrument Pose Tracking*. She graduated in spring 2020 and now attends UC Santa Cruz to pursue a PhD in Electrical and Computer Engineering.

Jinnen Masri (Biological Sciences) did her second summer research at UC Davis. She presented a poster at the 2020 UC LEADS Symposium titled *Natural Killer Cell Extracellular Blebs for Cancer Therapy*. She graduated in spring 2020.

Luis Ramirez (Mechanical Engineering) did his second summer research at UC Santa Barbara. He presented a poster at the 2020 UC LEADS Symposium titled *Vine Inspired Soft Robot for Endotracheal Intubation*. He plans to graduate in 2021.

Alexander Rodriguez (Biological Sciences) did her second summer research at UC Davis. She presented a poster at the 2020 UC LEADS Symposium and at ABRCMS titled *Natural Killer Cell Extracellular Blebs for Cancer Therapy*. She graduated in spring 2020.



First Year Scholars

Emily Barragan (Chemical Engineering) did her first summer research at UC Irvine. She presented her research at ABRCMS and presented a poster at the 2020 UC LEADS Symposium titled *Solar-Driven Water Desalination: Designing a Portable, Efficient Device*. She plans to graduate in 2021.

Robert Bloom III (Mechanical Engineering) did his first summer research at UC Irvine and presented at ABRCMS for the first time. His poster, *Improving the Motor Learning Benefit of Haptic Guidance*, received an honorable mention at the 2020 UC LEADS Symposium. He plans to graduate in 2021.

Myia Dickens (Mechanical Engineering) did her first summer research at UC Irvine. She presented a poster at the 2020 UC LEADS Symposium titled *The Optimization of a Drive System for a Robot Walker*. She plans to graduate in 2021 and pursue a doctoral degree in Mechanical Engineering.

Jorge Karam Padilla (Aerospace Engineering) did his first summer research at UC Irvine. He presented a poster at the 2020 UC LEADS Symposium titled *Electrospinning PVA Nanofibers for 3D Hydrogels*. He plans to graduate in 2021.

Jorge Mendoza (Biological Science) did his first summer research at UC Irvine. He presented at ABRCMS, and his poster, *A nonspatial auditory task to investigate the memory for sequences of events across timescales*, received an honorable mention at the 2020 UC LEADS Symposium. He plans to graduate in 2021.

Alumni Spotlight



Adam Yuh

UC LEADS 2003-2007

B.S. Biomedical Engineering

Adam Yuh Lin graduated from UCI with a B.S. in Biomedical Engineering before joining the MSTP at Baylor College of Medicine where he earned his Master's. After obtaining his PhD at Rice University, he matched into the PSTP at Northwestern University. This summer, he is joining the lymphoma and hematopoietic stem cell transplantation groups as an attending physician with his experience in Cancer Therapeutics.



Diversity is absolutely important for the STEM fields. Currently, I am working on making videos and lectures to help encourage middle school and high school students in Chicago to go into the STEM field as part of a Northwestern University's program called "A Day in the Life of a STEM-itist."



UC Los Angeles | Year in Review

UCLA's UC LEADS program remains unique in its design as a two-year capstone experience in which all senior students submit a thesis proposal at the end of their tenure in the program. Between 2019-2020, the scholars represented UCLA well while presenting at conferences. Jenna Molas (Chemistry), Janice Nguyen (Physics), and Jose Guerrero (Aerospace Engineering) were awarded Top Honors at the 2020 UC LEADS Symposium. Ila Castro (Chemistry) received the prestigious 2020 Summer CARE-SEM fellowship to continue funding her research. We are immensely proud of all our scholars' accomplishments and look forward to their future endeavors.

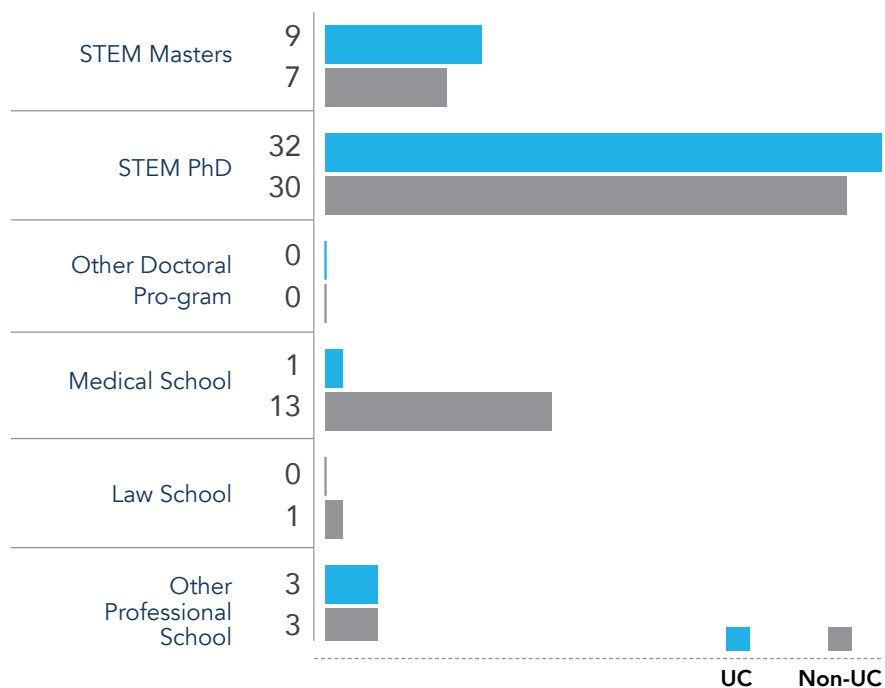
Figures

45

UC LEADS alumni from UC Los Angeles have gone on to UC graduate programs (45%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 16 UC Los Angeles
- 6 Stanford University
- 6 UC San Diego
- 5 UC Berkeley
- 4 UC Santa Barbara
- 4 MIT
- 4 UC San Francisco



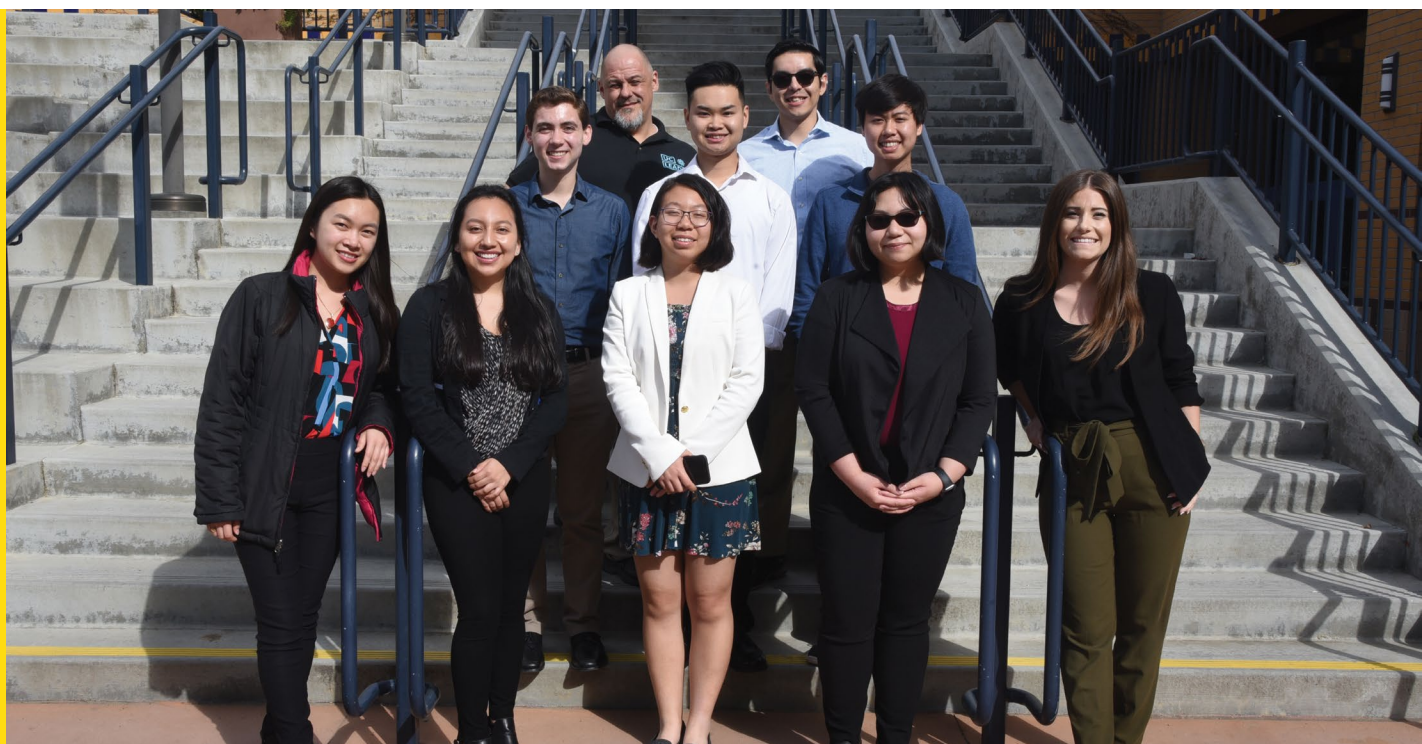
Second Year Scholars

Ila Castro De La Torre (Chemistry) did her second summer research at UC Riverside. She presented a poster at the 2020 UC LEADS Symposium titled *The Optical and Electrical Characterization of $\text{Mo}_x\text{W}_{(1-x)}\text{S}_2$ from Metal Tetrathiol Precursors*. She plans to graduate in 2021.

Isaac Diaz (Chemistry and Materials Sciences) did his second summer research at UC Santa Barbara. He graduated in spring 2020.

Jenna Molas (Chemistry) did her second summer research at UC Davis. Her poster, *Enantioselective Targeted Synthesis of Cycloartobioxanthone*, received top honors at the 2020 UC LEADS Symposium. She graduated in spring 2020 and was accepted as an Organic Chemistry PhD student at Yale University.

Janice Nguyen (Physics) did her second summer research at UC Riverside. Her poster, *Comparing the Effectiveness of Different Image Denoising Filters on Improving the Performance of Automated Computer-Aided Detection of Lung Nodules in Low-Dose CT Images*, received top honors at the 2020 UC LEADS Symposium. She graduated in spring 2020.



First Year Scholars

David Dang (Physics) did his first summer research at UC Los Angeles. He presented a poster at the 2020 UC LEADS Symposium titled *Hybrid Permanent Quadrupoles for Time Resolved Electron Microscopy*. He plans to graduate in 2021.

Luke Elissiry (Chemistry) did his first summer research at UC Los Angeles. He presented a poster at the 2020 UC LEADS Symposium titled *Silica Sol-gel Microbead Encapsulation of Symbiotic Microbe Inoculant*. He plans to graduate in 2021.

Angela Gao (Mechanical Engineering) did her first summer research at UC Los Angeles. She presented a poster at the 2020 UC LEADS Symposium titled *Calibration of Tendon-Driven Robot Finger with Rich Sensation*. She plans to graduate in 2021.

Jose Guerrero (Aerospace Engineering) did his first summer research at UC Los Angeles. His poster, *Thermo-acoustic Instabilities Present in the Combustion of Laminar Diffusion Methane Flames*, received top honors at the 2020 UC LEADS Symposium.

Andy Nguyen (Biochemistry) did his first summer research at UC Los Angeles. His poster, *Investigating the Binding of Spire/Myosin-V Binding in *Drosophila melanogaster**, received an honorable mention at the 2020 UC LEADS Symposium. He plans to graduate in 2021.

Alumni Spotlight



Joshua Sariñana

UC LEADS 2004-2006
B.A. Neuroscience

Joshua Sariñana earned his BS at UCLA with a major in Neuroscience, and continued his academic career at MIT, where he received his PhD. Following his education, he worked in academia before opting to switch career paths. Using his medical experience and knowledge, he pursued a career path in science communications and has since worked as a science communicator for the topics of science, art, and culture at the Massachusetts General Hospital.



While at UCLA, under the guidance of Dr. Richard Weiss, we were regularly told that we should be able to explain our research to our parents. I've utilized this basic tenet in my writing, when I've presented at conferences and lab meetings, and now when I address the physicians and researchers with whom I work. Especially now in this political climate, it is critical to be able to transmit complex knowledge in a way that individuals from diverse backgrounds can come to understand it.



UC Merced | Year in Review

A year full of many achievements, our scholars received top honors at the 2020 Koret UC LEADS Research and Leadership Symposium at UC Irvine. Ariell Smith, our 2nd year scholar, received top honors for her poster in Engineering and Computer Sciences and was also awarded the Graduate Dean's Leadership Award. Alexander Del Toro, our 1st year transfer student, received top honors for his research presentation in Biological Sciences.

Two of our scholars were accepted to present their research at the 2019 SACNAS Diversity in STEM Conference; Jasmine Posada (1st year) and Anthony Garcia (2nd year transfer student). Anthony also published his first article titled *Carrier Diffusion – The Main Contribution to Size-Dependent Photocatalytic Activity of Colloidal Gold Nanoparticles* in the *American Chemistry Society journal ACS Catalysis*. Our scholars continue to excel in the program and are in the process of applying to graduate schools within the UC system.

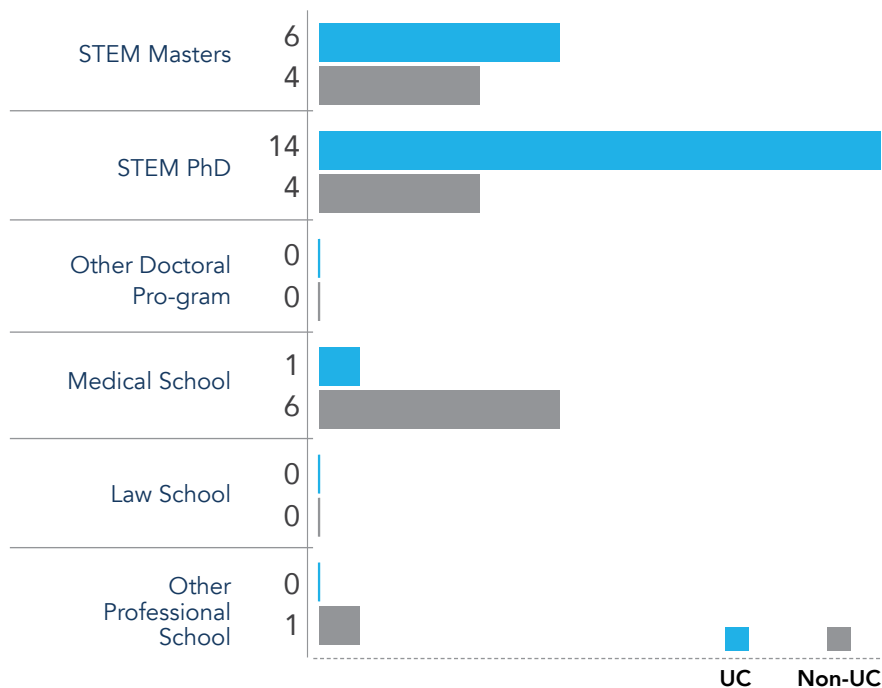
Our program hosted multiple workshops during the academic year and the summer to promote leadership and professional development, and we also hosted networking sessions with UC LEADS Alumni. Our scholars continue to thrive during unprecedented times, and we look forward to sharing in their success.

Figures

21 UC LEADS alumni from UC Merced have gone on to UC graduate programs (**58%**)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 6 UC Merced
- 4 UC Santa Cruz
- 3 UC Irvine
- 3 UC Davis
- 2 UC San Diego
- 2 San Jose State University



Second Year Scholars

Miguel Flores Martinez (Chemical Sciences), a first-generation college student, conducted his second summer research at UC Santa Barbara. His poster, *Morphological and Optical Study of Organic Photovoltaics*, received an honorable mention at the 2020 UC LEADS Symposium. He serves as a Learning Assistant for the Bright Success Center at UC Merced, tutoring undergraduate students in Chemistry. He graduated in spring 2020.

Anthony Garcia (Chemical Sciences), a first-generation transfer student, did his second summer research at UC Berkeley. He presented a poster at the 2020 UC LEADS Symposium titled *Kinetics Study of "On Water" Catalysis through Wet Mesoporous Silica Nanoparticles*. He also presented his research at the 2019 SACNAS National Diversity in STEM Conference and published an article in the *American Chemistry Society journal ACS Catalysis*. He also received a research fellowship through Merced's Anomaterials Center for Energy and Sensing (MACES) awarded by NASA. He graduated in spring 2020 and was accepted as a Chemistry PhD student at UC Berkeley.

Ariell Smith (Bioengineering), a first-generation college student, did her second summer research at UC San Diego. Her poster, *Evaluation of Human Breast Epithelial Cell Stiffness using Atomic Force Microscopy*, received top honors at the 2020 UC LEADS Symposium and placed 2nd at the 2019 Black Doctoral Network Conference. She graduated in spring 2020 and was accepted as a Materials and Biomaterials Science and Engineering PhD student at UC Merced.

Hansell Perez (Applied Mathematics) did his second summer research at UC Los Angeles. He presented a poster at the 2020 UC LEADS Symposium titled *Modeling Systems of Drop Carrier Particles through Energy Minimization*. He graduated in spring 2020 and was accepted as a master's student in Mathematics at Claremont Graduate University.

Angelica Pineda (Mechanical Engineering), a first-generation college student, did her second summer research at UC Santa Cruz and presented her poster titled *The Polypyrimidine Tract in Spliceosome Assembly* at the 2020 UC LEADS Symposium. She serves as a Community Service Chairman and Treasurer of her professional engineering fraternity, Theta Tau. She graduated in fall 2020.

Alondra Ramirez Gonzalez (Chemical Sciences), a first-generation college student, did her second summer research at UC Santa Cruz. She presented a poster at the 2020 UC LEADS Symposium titled *The Polypyrimidine Tract in Spliceosome Assembly*. She plans to graduate in Spring 2021.

Barbara Gomez-Aldrete (Applied Mathematics), a first-generation college student, did her second summer research at UC Davis. She presented a poster at the 2020 UC LEADS Symposium titled *Modeling Action Potential Propagation in Dorsal Root Ganglia Neurons*. She graduated in spring 2020 and was accepted as a PhD student in Applied Mathematics at Iowa State University.



First Year Scholars

Diana Cruz Garcia (Bioengineering), a first-generation student, did her first summer research at UC Merced. She presented a poster at the 2020 UC LEADS Symposium titled *Stem Cells to Vasculature Within a Microfluidic Device*. She plans to graduate in spring 2021.

Alexander Del Toro (Psychology), a first-generation transfer student, did his first summer research at UC Merced. His poster, *Molecular and Cellular Mechanisms Underlying the Transition in the Brain from Acute Ethanol Exposure to Chronic Ethanol Exposure*, received top honors at the 2020 UC LEADS Symposium. He plans to graduate in fall 2020.

Victoria Lerda (Chemical Sciences), a first-generation student, did her first summer research at UC Merced. She presented a poster at the 2020 UC LEADS Symposium titled *Brønsted Acid-Catalyzed Stereospecific Dearomative Spirocyclization of Cis-β-Meth(hetero)arylstyrenes*. She also serves as the Vice President of the Merced Chemistry Club at UC Merced. She plans to graduate in spring 2021.

Sara Perez Vite (Environmental Engineering), a first-generation transfer student, did her first summer research at UC Merced.

She presented a poster at the 2020 UC LEADS Symposium titled *The Efficiency of a 10-Year-Old External Compound Parabolic Concentrator*. She serves as the Vice President of her organization, Solar Energy Association, at UC Merced. She plans to graduate in fall 2020.

Jasmine Posada (Biological Sciences), a first-generation student, did her first summer research at UC Merced. She presented a poster at the 2020 UC LEADS Symposium titled *The Impact of Maternal Infection on Fetal Cytokine Repertoire*. She also presented her research at the 2019 SACNAS National Diversity in STEM Conference. She plans to graduate in spring 2021.

Pedro Valencia Landa (Biological Sciences), a first-generation student, did his first summer research at UC Merced. He presented a poster at the 2020 UC LEADS Symposium titled *Does analyzing Bulk Bone for Organic Carbon and Nitrogen Isotopes Return Similar Results to Analyses of Isolated Collagen*. He is currently working on a manuscript titled *Foraging of Northern Elephant Seals: Revelations from a Dental Diary*, which will be published in 2021. He plans to graduate in spring 2021.

Alumni Spotlight



Janna Glaze

UC LEADS 2010-2012

B.S. Mechanical Engineering

After graduating from UC Merced, Janna Glaze attended Stanford University where she received her master's and doctoral degrees in Mechanical Engineering. Since then, she has been recognized as one of the Remarkable Women of the University of California and is employed by Intel as a Mechanical Engineer. At Intel, she and her husband Grant have developed a scholarship at UC Merced to uplift minorities and underrepresented students.



I have learned to persevere, even when things get difficult or when I have been rejected, and to always have a positive attitude and things eventually fall into place.



UC Riverside | Year in Review

The 2019-2020 academic year was a year like no other, and presented us all with challenges but also opportunities to connect, share resources and collaborate. The UC LEADS Annual Symposium has been a highlight of the program for UCR scholars and 2019 was no exception, especially for David Ifediba, a second year Psychology scholar who received an inaugural Graduate Deans' Leadership Award during the Symposium's awards banquet. Alma Hernandez, another second year scholar received an honorable mention for her poster presentation, while our remaining second year scholar, Phartho Paul was admitted to UC Irvine's Doctoral program in Chemistry, and offered the prestigious Eugene Cota-Robles award.

In Spring 2020 we transitioned to virtual instruction which extended to the summer program. Conducting research in a virtual setting presented our scholars and faculty with the challenge of not being able to interact face-to-face, but these challenges were soon identified as a silver lining as we were able to join other UC campuses in their programming. UCR scholars took full advantage of the virtual professional development opportunities presented to them and joined UCI scholars in their GRE preparation course, UCLA in writing instruction, UC Berkeley in Python programming and system-wide in professional development workshops. We thank our sister campuses in opening their programming to our scholars which allowed for a more enriching summer experience.

Figures

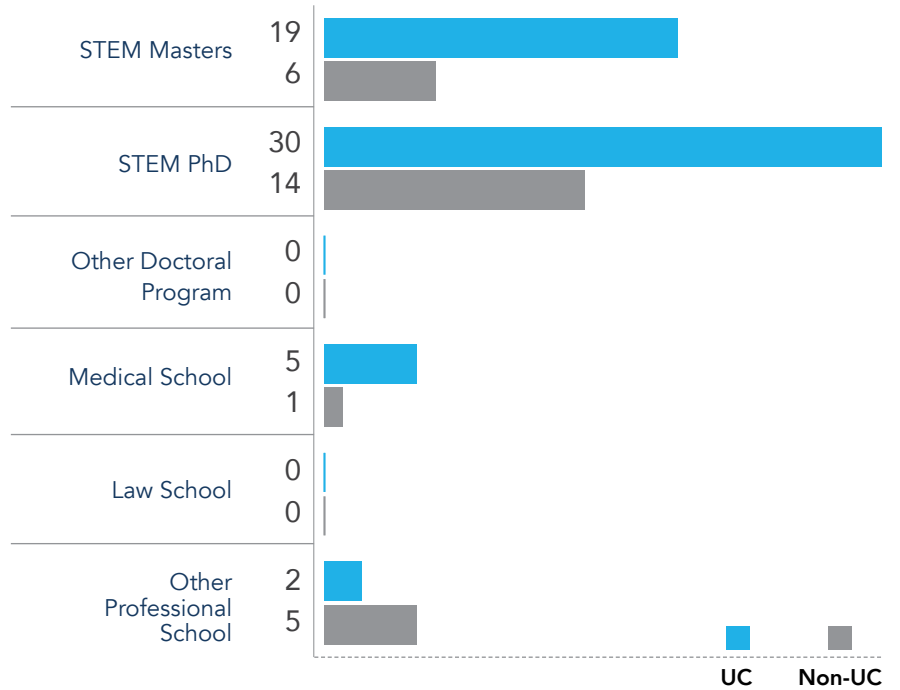
56

UC LEADS alumni from UC Riverside

have gone on to UC graduate programs (**68%**)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 28 UC Riverside
- 13 UC Los Angeles
- 6 UC Irvine
- 4 UC San Francisco
- 3 UC Davis
- 3 Stanford University
- 3 USC
- 3 UC Berkeley



Second Year Scholars

Alma Hernandez (Bioengineering) did her second summer research at UC Davis. Her poster, *Mitigation of Senescence Using CSK Inhibitors as a Possible Solution to Addressing Age-Related Diseases*, received an honorable mention at the 2020 UC LEADS Symposium. She graduated in summer 2020 and was accepted as a master’s student at UC San Diego.

David Ifediba (Biology) did his second summer research at UC Berkeley. He presented a poster at the 2020 UC LEADS Symposium titled *Variance of Parental School Perceptions: A Socioeconomic and Racial Approach*. He graduated in summer 2020 and is currently working as a California Health Collaborative Intern at Health Career Connection.

Partho Paul (Chemistry– General) did his second summer research at UC Los Angeles. He graduated in summer 2020 and was accepted as a PhD student at UC Irvine.



First Year Scholars

Arthor Bernal (Mechanical Engineering) did his first summer research at UC Riverside. He presented a poster at the 2020 UC LEADS Symposium titled *Dye Injection System in a Water Channel: Application for Dispersion Experiments*. He plans to graduate in 2021.

Zion Gutierrez (Electrical/Computer Engineering) did his first summer research at UC Riverside. He presented a poster at the 2020 UC LEADS Symposium titled *Passively Sprawling Robot*. He plans to graduate in 2021 and is working as a Computer Vision Research Intern at UC Los Angeles.

Catherine Seo (Bioengineering) did her first summer research at UC Riverside. She presented a poster at the 2020 UC LEADS Symposium titled *Fabrication and Characterization of PEDOT/PGS Coated Magnesium Microelectrodes*. She graduated in summer 2020.

Alumni Spotlight



Javier Fajardo

UC LEADS 2012-2014
B.S. Chemistry and Physics

After graduating from UC Riverside, Javier Fajardo joined the chemistry graduate program at the California Institute of Technology. While earning his PhD in Chemistry, he conducted research in the fields of inorganic and organometallic chemistry. He remains at Caltech as a postdoctoral researcher, planning to pursue a career in academia.



The UC LEADS program provided an invaluable foundation that enabled me to succeed in graduate school. Through mentored research experiences at UC Riverside and UC Berkeley, I was able to develop a rich set of synthetic skills, which proved to be my most valuable asset over the course of my graduate research. The professional and leadership development opportunities were also instrumental in earning fellowship awards and admission into chemistry graduate programs.



UC San Diego | Year in Review

Efforts this year were centered around leadership, community, and graduate school preparation. Our first-year scholars participated in the STARS program, an intensive summer research experience, successfully passing different lab related trainings, and presented their research findings at the UC San Diego Summer Research Conference. In addition, each of these scholars worked with a faculty mentor, lab supervisor, and graduate student mentors during the summer. The scholars were encouraged to nurture the relationships made during the summer to make sure they continue to expand their network. Our second-year scholars completed their second summer research experiences at UC San Francisco and UC Riverside.

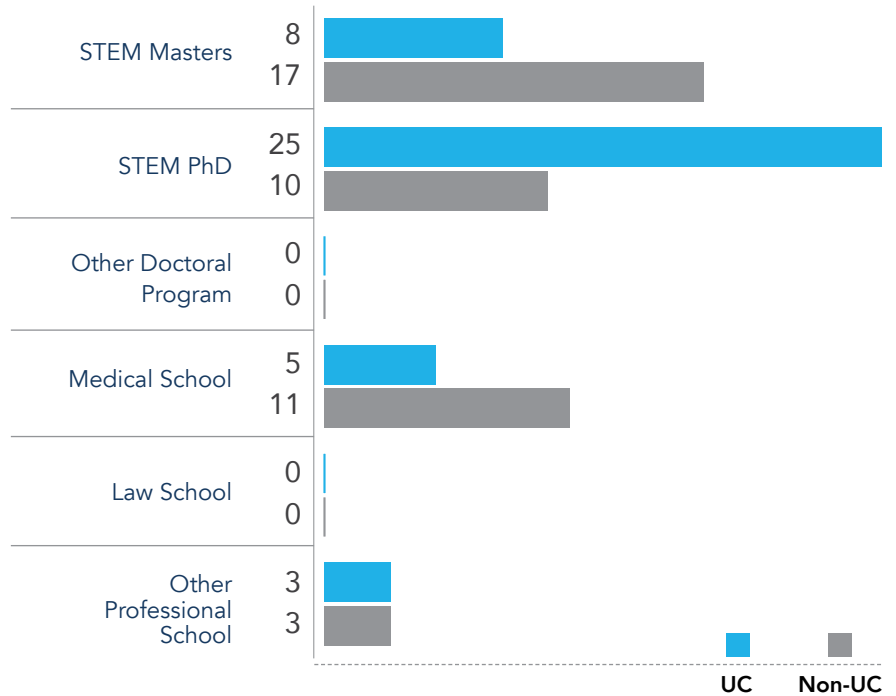
During our academic year meetings, scholars discussed topics of interest to them and we had a set of team-building events to ensure our scholars could bond and become closer. Our monthly workshops included topics like tips on writing a personal statement, poster presentations, communicating research, public speaking, graduate school applications, research poster design, leadership, and mentorship. We take the utmost pride in seeing what our students will be doing upon graduation. This year three of our students are going to graduate school at institutions like University of Missouri, San Diego State University, and UC Berkeley; and one of our students is gaining additional experience with a job at UCSF. All of our scholars continued to present their research as well as serve in various leadership activities, such as mentoring and executive roles in clubs. We're proud of what our students have accomplished and wish them the best of luck in the future.

Figures

41 UC LEADS alumni from UC San Diego have gone on to UC graduate programs (50%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 9 UC San Diego
- 8 UC Irvine
- 8 UC Los Angeles
- 5 Stanford University
- 5 UC San Francisco



Second Year Scholars

Chiemerie Azubuogu (Bioengineering: Biotechnology) did his second summer research at UC Riverside. He presented a poster at the 2020 UC LEADS Symposium titled *RBC-Encapsulation of Graphene Quantum Dots Reduces Uptake by RAW 264.7 Mouse Macrophages*. He graduated in spring 2020 and was accepted as a Biochemistry PhD student at the University of Missouri-Columbia.

James Corbitt (Bioengineering: Biotechnology) did his second summer research at UC San Francisco. He presented a poster at the 2020 UC LEADS Symposium titled *Characterizing Oxygen Release from Perfluorodecalin Emulsions for Islet Encapsulation*. He graduated in spring 2020 and was accepted as a Biochemistry master's student at UC Berkeley.

Rebecca Eliscu (Cognitive Science w/ specialization in neuroscience) did her second summer research at UC San Francisco. She graduated in spring 2020 and is working as a Research Data Analyst at UC San Francisco.

Griselda Ruiz (Human Biology) did her second summer research at UC Riverside. Her poster, *"We are Becoming Older Women and Then We Have Two Stigmas": Voicing Women's Health Issues as They Age with HIV*, received an honorable mention at the 2020 UC LEADS Symposium. She graduated in spring 2020 and was accepted as a master's student in Public Health at San Diego State University.



First Year Scholars

Janelle Coleen Dela Cueva (Structural Engineering) did her first summer research at UC San Diego. She presented a poster at the 2020 UC LEADS Symposium titled *Shear Dominated Polymer Crack Propagation*. She plans to graduate in 2021.

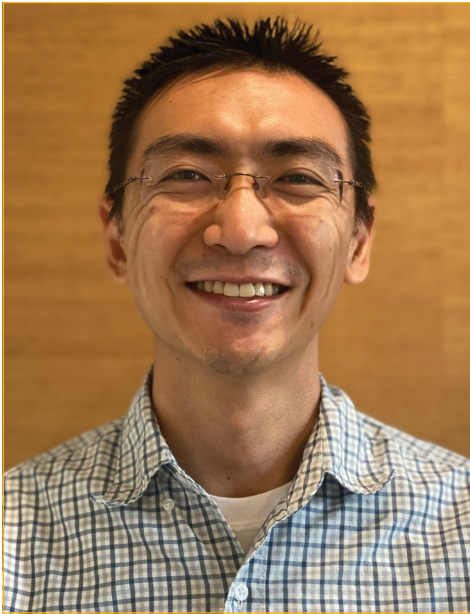
Sidney Huen (Mechanical Engineering) did her first summer research at UC San Diego. She presented a poster at the 2020 UC LEADS Symposium titled *Characterization of the Mechanical Behavior of Starfish-inspired Soft Robotic Actuators*. She plans to graduate in 2021.

Kha Nguyen (Bioengineering) did her first summer research at UC San Diego. Her poster, *180-Degree Digital Image Correlation Setup for Materials' Torsion Test*, received an honorable mention at the 2020 UC LEADS Symposium. She plans to graduate in 2021.

Xavier Perez (Electrical Engineering) did his first summer research at UC San Diego. He presented a poster at the 2020 UC LEADS Symposium titled *Low-Cost Home-Made Recording Chambers for Zebra Finch Birds*. He plans to graduate in 2021.

Christina Puzanghera (Marine Biology) did her first summer research at UC San Diego. She presented a poster at the 2020 UC LEADS Symposium titled *Self-Stimulating Bioluminescence?* She plans to graduate in 2021.

Alumni Spotlight



Michael Chen

UC LEADS 2010-2012
B.S. Bioengineering

Michael Chen graduated from UC San Diego with a B.S. in Bioengineering and later completed both his M.S. and PhD degrees at Stanford University. He worked in both startups and large company environments before taking on his current role as a Senior Director of Technology and Innovation at Cepheid, a Danaher company that develops molecular diagnostic technologies.



I am leading “Diversity and Inclusion” events at my company and making it a priority to ensure awareness within my organization. By creating an environment that fosters openness and encourages friendly discourse, I hope to ensure people see the value in diversity, and keep that in mind as we build our teams.



UC Santa Barbara | Year in Review

2019-2020 was an interesting year for UC LEADS at UC Santa Barbara. All eight of our scholars were able to present at the 2020 UC LEADS Symposium at UC Irvine. At the symposium, Charusheela Garapaty received Top Honors in Physical Sciences and Mathematics. She also attended the American Geophysical Union meeting in San Francisco, CA. Haley Bowden presented their work at the American Astronomical Society conference in Honolulu, HI.

While our students are deeply involved in pursuing and presenting on their own research, they are also very involved in various leadership activities, such as tutoring, and leadership roles in clubs. We attempted to bridge the gap between our undergraduate scholars and our alumni scholars by including our alumni scholars in our programming.

We created a video series on social media called "Alumni Conversations," where UC LEADS alumni who are now graduate students at UCSB talk about their experience with UC LEADS and give advice to current and future scholars. Alumni were also brought in to provide workshops for current scholars on various topics such as graduate admissions, working with faculty mentors, and graduate life. Alumni have been an invaluable help and support system for our scholars, and we hope to continue to involve them in our programming.

2020 changed everything, and we adapted by providing virtual workshops, and virtual hangouts. We continue to provide opportunities and experiences for our students and look forward to another year with these amazing scholars.

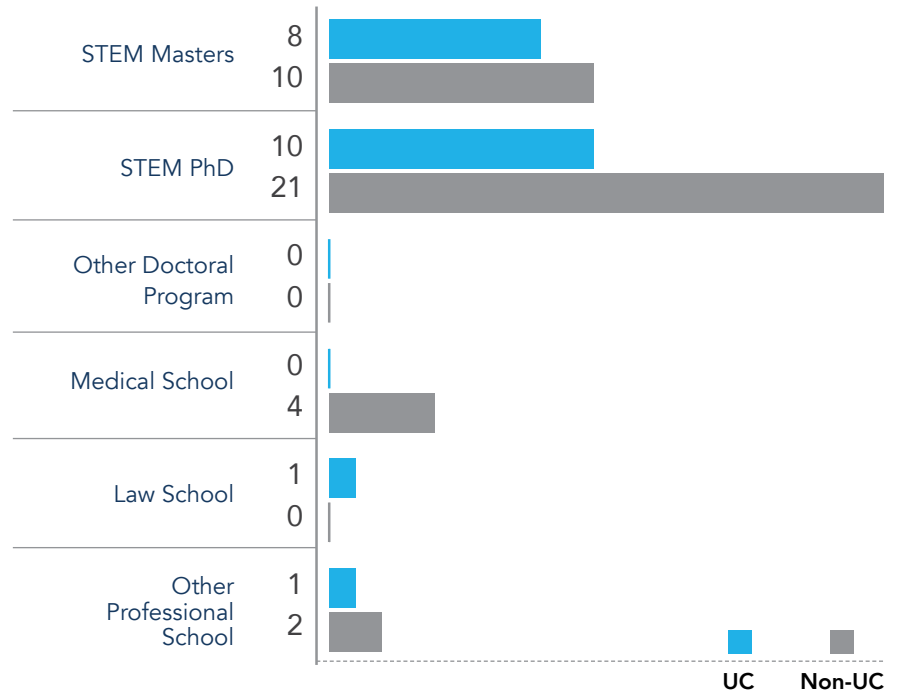
Figures

20

UC LEADS alumni from UC Santa Barbara have gone on to UC graduate programs (35%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 7 UC Santa Barbara
- 5 UC Los Angeles
- 4 MIT
- 2 Harvard Medical School
- 2 San Jose State University
- 2 UC Davis
- 2 Ohio State University
- 2 Stanford University



Second Year Scholars

Haley Bowden (Physics and Creative Studies) is from Minnesota. They did their second summer research at UC Santa Barbara. They presented a poster at the 2020 UC LEADS Symposium titled *Determining the Ionizing Source of Green Pea Galaxies*. They graduated in spring 2020 and were accepted as an Astronomy and Astrophysics PhD student at the University of Arizona.

Michelle Grunberg (Biology and Creative Studies) is from Southern California. She did her second summer research at UC San Francisco. She presented a poster at the 2020 UC LEADS Symposium titled *Elucidating the Function of Small Coding Regions in the Polyadenylated Nuclear RNA (PAN) of KSHV*. She graduated in spring 2020 and is working in the Sabeti lab at the Broad Institute of MIT.

Jeffrey Rong (Microbiology) is from Northern California. He did his second summer research at UC Davis. He presented a poster at the 2020 UC LEADS Symposium titled *Employing Plaque Assays to Deduce the Binding Affinity of CdiA to the Bacterial BamA Receptor*. He graduated in spring 2020 and is currently applying to graduate schools.

Parker Shankin-Clarke (Physics and Creative Studies) is from Southern California. He did his second summer research at the Carnegie Institution for Science. He presented a poster at the 2020 UC LEADS Symposium titled *Modeling the Microbiome*. He graduated in spring 2020 and is working as a Data Scientist at Scoot Science.



First Year Scholars

Michelle Chiu (Biology and Creative Studies) is from Northern California. She did her first summer research at UC Santa Barbara. She presented a poster at the 2020 UC LEADS Symposium titled *Utilizing Spiropyran as a Photosurfactant to Control Nanoemulsion Breakage*. She plans to graduate in 2021.

Shahira Ellaboudy (Biology and Creative Studies) is from Northern California. She did her first summer research at UC Santa Barbara. She presented a poster at the 2020 UC LEADS Symposium titled *Enterovirus 3C Protease Cleaves Host Syntaxin Membrane Fusion Proteins at Highly Conserved Domain*. She plans to graduate in 2021.

Charusheela Garapaty (Geophysics and Earth Science) is from Northern California. She did her first summer research at UC Santa Barbara. Her poster, *Infrasonic Characterization of Multi-Year Eruptive Activity at Tungurahua Volcano, Ecuador 2006–2013*, received top honors at the 2020 UC LEADS Symposium. She plans to graduate in 2021.

Matthew Salazar (Chemical Engineering) is a first-generation student from Southern California. He did his first summer research at UC Santa Barbara. He presented a poster at the 2020 UC LEADS Symposium titled *Formation of Solid Carbon on Molten Salt Surfaces by Pyrolysis of Hydrocarbons*. He plans to graduate in 2021.

Alumni Spotlight



Whitney Shatz

UC LEADS 2008-2010
B.S. Biochemistry

Whitney Shatz completed her B.S. in Biochemistry and her master's in Biochemistry and Molecular Biology at UC Santa Barbara. She now works as a Principal Scientific Researcher at Genentech where she started as a Research Associate. She recently earned her PhD in Pharmaceutical Sciences from the University of Geneva.



UC LEADS enabled me to gain access to experiences in the field of biochemistry, an area that I previously knew little about. The program provided me with the opportunity to learn how to do research in a laboratory setting. The skills I learned I still use to this day as Principal Scientific Researcher at Genentech. In addition, participating in the annual UC-wide UC LEADS Symposium taught me how to speak about science with my peers in a formal setting. Moreover, the summer courses helped me develop leadership skills which I have continuously drawn on in my career. Overall, the foundation that was provided by the UC LEADS program gave me confidence to continue to take on new challenges in my education and career.



UC Santa Cruz | Year in Review

Our UC LEADS program had significant accomplishments for our 2019-2020 academic year. Our graduating scholars are continuing their educational journey in graduate study, post-baccalaureate programs, and research associate positions. Our first-year scholars completed an intensive, eight-week, full-time summer research training, successfully completing 12 hours of research ethics and 15 hours of professional development.

In addition to attending faculty research lectures and a weekly book club, all scholars participate in quarterly check-ins with program coordinators, receive tutoring for upper division courses, and attend professional development workshops throughout the academic year. During fall 2019, four scholars attended SACNAS and four scholars attended ABRCMS national conferences.

Given that we faced the COVID-19 pandemic by spring quarter, we developed virtual programming and assessed all scholars to support technological needs to ensure a successful transition to remote learning.

Figures

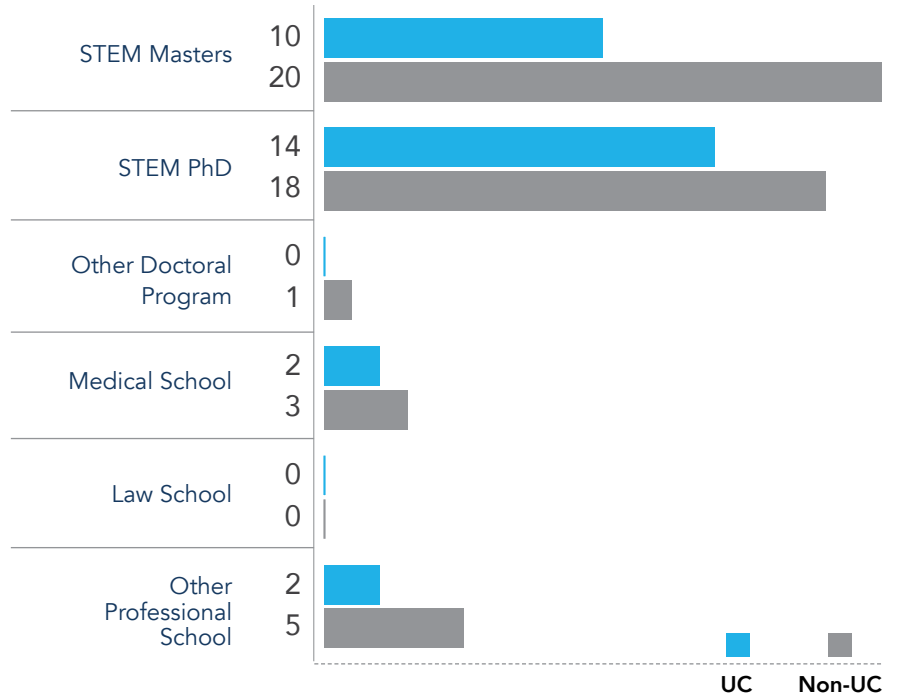
28

UC LEADS
alumni from
UC Santa Cruz

have gone on to UC graduate
programs (37%)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 8 UC Santa Cruz
- 5 San Jose State University
- 4 UC Davis
- 4 University of Michigan
- 4 UC Santa Barbara
- 4 UC Irvine



Second Year Scholars

Shaneen Britton-Acevedo (Biochemistry & Molecular Biology) did her second summer research at UC Berkeley. Shaneen is from Richmond California and she is the first of her family to attend college. Her poster, *Structural Studies of the Agouti Related Peptide (AgRP) mutation, and its effects on feeding stimulation*, received top honors at the 2020 UC LEADS Symposium. She graduated in spring 2020 and was accepted as a Biochemistry PhD student at the University of Wisconsin-Madison.

Eimy Castellanos (Biochemistry & Molecular Biology) did her second summer research at UC Berkeley. Eimy is from Garden Grove California and is the first of her family to receive a bachelor's degree. She presented a poster at the 2020 UC LEADS Symposium titled *Contributions of KIN17 3_10 Helix Loop to Splice Site Choice*. She graduated in spring 2020 and was accepted as a Molecular, Cell and Developmental Biology PhD student at UC Davis.

Jasmine Liu (Molecular, Cell & Developmental Biology) did her second summer research at UC San Diego. Jasmine is from San Jose California and she is a first generation college student. Her poster, *Efficacy of Skeletal-muscle derived Extracellular Matrix Hydrogel in Muscle Regeneration after a Simulated Birth Injury Model*, received an

honorable mention at the 2020 UC LEADS Symposium. She graduated in spring 2020 and is working as a NIH-PREP (Postbaccalaureate) Scholar at Case Western Reserve University.

Diego Martinez Mori (Molecular, Cell & Developmental Biology) did his second summer research at UC San Francisco. Diego is from Fremont California and he is the first in his family to attend college. His poster, *Discovering miRNA Antagonists That Selectively Kill Triple Negative Breast Cancer*, received top honors at the 2020 UC LEADS Symposium. He graduated in spring 2020 and is working as a Lab Technician at Stanford University while studying for the MCAT to apply to MD/PhD programs this fall.

Vy Thuy Nguyen (Molecular, Cell & Developmental Biology) did her second summer research at UC Santa Cruz. She presented a poster at the 2020 UC LEADS Symposium titled *Interactions of c-di-GMP Metabolizing Proteins with Polar-Localized Motility Proteins in Vibrio Cholerae*. She graduated in spring 2020 and was accepted as a PharmD student at the University of Southern California.



First Year Scholars

Gifti Gemed (Bioengineering, Bioinformatics) did her first summer research at UC Santa Cruz. She presented a poster at the 2020 UC LEADS Symposium titled *Using a Notch-Reporter Assay to Understand the Ability of Specific NOTCH2NL Alleles to Activate Notch Signaling*. She plans to graduate in 2021.

Adriana Gracia (Molecular, Cell & Developmental Biology) did her first summer research at UC Santa Cruz. Adriana is from Huntington Beach California and is the first of her family to pursue a college degree. She presented a poster at the 2020 UC LEADS Symposium titled *Characterization of a Highly Conserved Anion-Binding Site in Casein Kinase 1 Mutant*. She plans to graduate in 2021.

Ray Jara (Electrical Engineering) did his first summer research at UC Santa Cruz. Ray is from Riverside and is a first-gen student. He presented a poster at the 2020 UC LEADS Symposium titled *Photolithography vs Stereolithography for Polydimethylsiloxane (PDMS) Microfluidic Chip Fabrication for Biomedical Applications*. He plans to graduate in 2021.

Evanjelin Mahmoodi (Computer Science, Mathematics: Computational Concepts) did her first summer research at UC Santa Cruz. Evanjelin is from Burbank California and she is the first of her family to attend college. She presented a poster at the 2020 UC LEADS Symposium titled *A Comparative Study on Room-Scale Versus Head-Mounted Virtual Reality*. She plans to graduate in 2020 and is working as a Data Analytics Intern at Discover Financial Services.

Briana Prado (Earth Sciences) did her first summer research at UC Santa Cruz. Briana is from San Diego and is the first of her family to pursue a STEM college degree. Her poster, *How Long Does Plastic Last in the Environment: A Literature Review and Experimental Case Study*, received an honorable mention at the 2020 UC LEADS Symposium. She plans to graduate in 2021.

Alumni Spotlight



Jessica Johl

UC LEADS 2010-2012

B.S. Molecular & Cell Biology

Jessica Johl realized her passion for medicine after graduating from UC Santa Cruz. She was awarded the Intramural NIAID Research Opportunities (INRO) fellowship, which led her to assist in Dr. Shyam Kottlil's laboratory in a clinical trial for the use of Sofosbuvir in the treatment of Hepatitis C. She is enrolled in the Stony Brook School of Medicine's Medical Scientist Training Program, pursuing a career as a physician scientist.



The ability to additionally learn from another lab at a different UC campus was pivotal in confirming my love of performing research, and this provided me the opportunity to expose myself to a completely different area of research to learn more about. The annual UC LEADS conferences gave me the opportunity to practice sharing my research and to meet other students from other UC campuses who had similar career interests and goals.



UC San Francisco | Year in Review

The 2019 UCSF Summer Research Training Program (SRTP) was comprised of 54 students representing over 40 colleges and universities in 15 states across the country and Puerto Rico, and included 5 UC LEADS scholars. UCSF is a unique campus in that it is a graduate student only campus and a leading university dedicated exclusively to health sciences. As a graduate only campus, the SRTP gives participating students the opportunity not only to do 10 weeks of research at a leading research institution, but also the opportunity to experience life as a graduate student. In addition to being in a lab approximately 40 hours a week, students receive professional development during weekly workshops and are paired with a graduate student advisor who meets with them weekly in a journal club like setting.

Graduate student advisors are also instrumental in preparing students for oral and poster presentations presented at the research symposium at the end of the program. Many students go on to present their summer research at national conferences such as SACNAS (Society for the Advancement of Chicanos and Native Americans in Science) and ABRCMS (Annual Biomedical Research Conference for Minority Students). The students who have participated in the program not only gain valuable research experience, but are also prepared to successfully apply, interview, and be admitted to leading universities around the country.

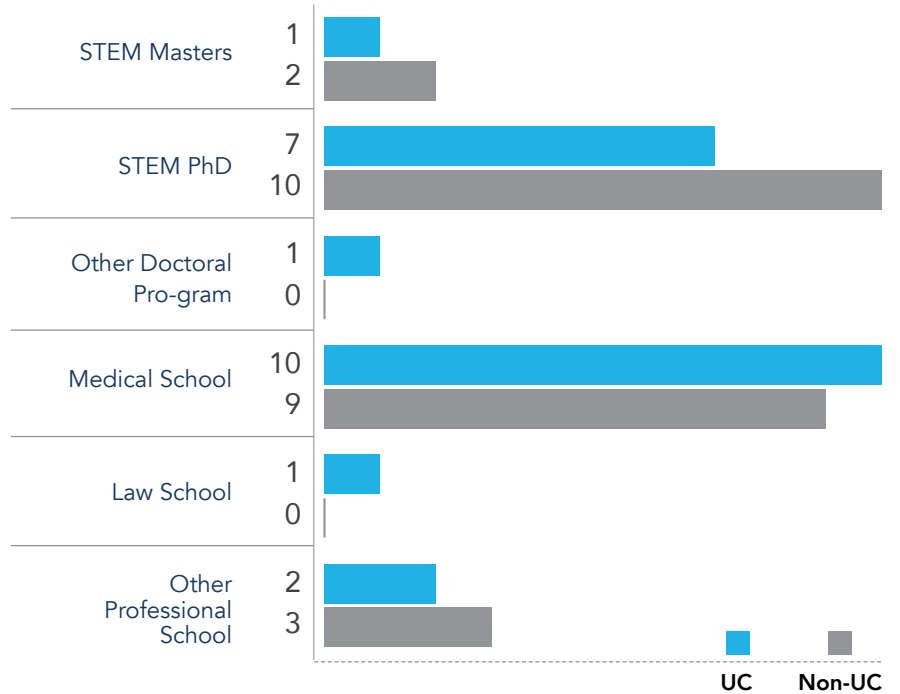
Figures

22

UC LEADS alumni from UC San Francisco have gone on to UC graduate programs (**48%**)

TOP GRADUATE SCHOOLS FOR ALUMNI

- 8 UC San Francisco
- 6 Stanford University
- 5 UC Los Angeles
- 3 UC Davis
- 2 John Hopkins University
- 2 Duke University
- 2 University of Washington
- 2 UC Berkeley



Second Year Scholars

James Corbitt (Bioengineering with a Specialization in Biotechnology) was a second year scholar from UC San Diego who completed his second summer research at UC San Francisco. He presented a poster at the 2020 UC LEADS Symposium titled *Characterizing Oxygen Release from Perfluorodecalin Emulsions for Islet Encapsulation*. He graduated in spring 2020 and was accepted as Biochemistry master's student at UC Berkeley.

Rebecca Eliscu (Cognitive Science with a Specialization in Neuroscience) was a second year scholar from UC San Diego who completed her second summer research at UC San Francisco. She graduated in spring 2020 and is working as a Research Data Analyst at UC San Francisco.

Michelle Grunberg (Biology and Creative Studies) was a second year scholar from UC Santa Barbara who completed her second summer research at UC San Francisco. She presented a poster at the 2020 UC LEADS Symposium titled *Elucidating the function of small coding regions in the polyadenylated nuclear RNA (PAN) of KSHV*. She graduated in spring 2020.

Diego Martinez Mori (Molecular, Cell & Developmental Biology) was a second year scholar from UC Santa Cruz who completed his second summer research at UC San Francisco. His poster, *Discovering miRNA Antagonists That Selectively Kill Triple Negative Breast Cancer*, received top honors at the 2020 UC LEADS Symposium. He graduated in spring 2020 and is working as a Lab Technician at Stanford University.



Alumni Spotlight



Lindsey Araujo

UC LEADS 2008-2010
B.S. Immunology

Lindsey Araujo went on to complete her PhD in Microbiology and Immunology at UC Irvine after graduating from UC Merced with a B.S. in Immunology. Since then, she has worked for Bayer Pharmaceuticals and Actelion with a focus on Multiple Sclerosis. Currently, she is continuing her research on Multiple Sclerosis as a Medical Science Liaison for Janssen Pharmaceutical Companies.



I credit the UC LEADS program for providing me with the foundation of tools and techniques which have helped me to organize and communicate ideas and medical information effectively.



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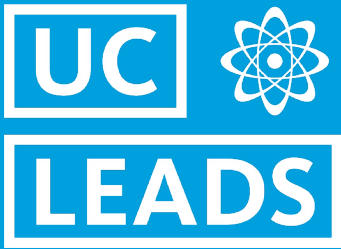
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