



Leadership Excellence
through Advanced
Degrees (UC LEADS)

ANNUAL REPORT 2017-2018



Preparing Promising Scholars for Graduate Education in Science, Technology,
Engineering and Mathematics (STEM)

SINCE 2000

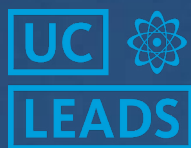


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PREPARING PROMISING SCHOLARS FOR GRADUATE SCHOOL AND BEYOND

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, engineering, and mathematics (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



This year we made a substantial update to the UC LEADS brand and online presence. In October 2017, we finalized a redesign and rebuild of the UC LEADS website, migrating from uleads.org, previously built and maintained by the talented UC San Diego UC LEADS Coordinator Chris Murphy, to uleads.ucop.edu. This process included several months of coordination with and work by the UC Office of the President IT team.

This process also led to a redesign of the UC LEADS branding in coordination with the UCOP Marketing Communications team. This updated look and feel is now being used throughout UC LEADS publications and assets, and embodies the innovative spirit of our program and our scholars.

We look forward to hosting the 2019 UC LEADS Koret Research and Leadership Symposium at UC Santa Cruz in March 2019. Several updates to the judging procedures and Symposium agenda should allow scholars more time for presentation feedback and targeted networking.

As always, I thank the UC LEADS Coordinators, the heart of the campus programs, who support these scholars through mentorship and professional development. I would also like to thank the faculty who give their time and mentorship at the UC LEADS Symposium and in their labs. It is through dedicated faculty participation that the scholars see role models in academia, learn the culture and expectations of graduate school, and explore their own leadership potential.

Michele Johnson
UC LEADS Statewide Director

LEADERSHIP IN SCHOLARSHIP

IMPACT THROUGH SCHOLARLY CONTRIBUTIONS

These 2017-2018 UC LEADS Scholars are already making an impact through their scholarly publication contributions:

Crysthal Alvarez | UC Riverside

Alvarez, C., Garcia, V., Cuando, N., & Aguilar, G. (2018). Antibacterial studies of ZnO nanoparticle coatings on nanocrystalline YSZ irradiated with femtosecond laser light. *Optical Imaging, Therapeutics, and Advanced Technology in Head and Neck Surgery and Otolaryngology*, 10469, 52-. DIO: 10.1117/12.2289412

Daniel Chu | UC Santa Barbara

Chu, D. B. K., Owen, J. S., & Peters, B. (2017). Nucleation and growth kinetics from LaMer burst data. *American Chemical Society*, 121(40), 7511-7517.

Monica Gallegos Garcia | UC Santa Cruz

Gallegos-Garcia, M., Law-Smith, J., Ramirez-Ruiz, E. (2018). Tidal Disruptions of Main Sequence Stars of Varying Mass and Age: Inferences from the Composition of the Fallback Material. *The Astrophysical Journal*, 857:109 (12pp).

Ronnie Garcia | UC Los Angeles

Dolinski, N. D., Page, Z. A., Callaway, E. B., Eisenreich, F., **Garcia, R. V.**, Chavez, R., ... Hawker, C. J. (2018). Solution mask liquid lithography (SMaLL) for one-step, multimaterial 3D printing. *Advanced Materials*, 30(31), 1800364. URL: doi.org/10.1002/adma.201800364

Rachel Miller | UC San Diego

O'Connor T. F., Fach M. E., **Miller R.**, Root S. E., Mercier P. P., Lipomi, D.J., ... Pisignano, D. (2017). The Language of Glove: Wireless gesture decoder with low-power and stretchable hybrid electronics. *PLoS ONE*, 12(7): e0179766 DOI:10.1371/journal.pone.0179766

Christine Rahal | UC San Diego

Goellner, E.M., Putnam, C.D., Graham, W.J., **Rahal, C.M.**, Li, B., & Kolodner, R.D. (2018). Identification of Exo1-Msh2 interaction motifs in DNA mismatch repair and new Msh2-binding partners. *Nature Structural & Molecular Biology*, 25(8), 650-659.

Seejia Scarlett Yu | UC Los Angeles

Long, X., **Yu, S.S.**, Jayich A.M., & Campbell W.C. (in press). A strong, stimulated optical force for decelerating molecular beams. *Physical Review Letter*.

Alice Tang | UC Los Angeles

Tang, A., Zhang, Z., & Scalzo, F. (2018). Automatic registration of serial cerebral angiography: A comparative review. In: Bebis G. et al. (eds) *Advances in Visual Computing*. ISVC 2018. Lecture Notes in Computer Science, vol 11241. Springer, Cham. URL: link.springer.com/chapter/10.1007%2F978-3-030-03801-4_1

George Tamunotubo | UC Merced

Martin, D., **George, T.**, & Blanchette, F. (2019). Simulations of clean drops rising into a layer of dissolved surfactant. *American Physical Society*. 4(1), 014302. URL: <https://journals.aps.org/prfluids/abstract/10.1103/PhysRevFluids.4.014302>



2018 UC LEADS KORET RESEARCH AND LEADERSHIP SYMPOSIUM

MARCH 10, 2018 | UC SANTA BARBARA

The **2018 UC LEADS Koret Research and Leadership Symposium** was held at UC Santa Barbara. UCSB Graduate Dean and UC LEADS Executive Steering Committee Chair Dr. Carol Genetti gave a welcome address and introduced the keynote speaker, California Assemblymember and past UC LEADS Coordinator Monique Limón. Eighty-five scholars then spent the morning presenting their research posters to their peers and the faculty judges. This interesting and engaging event is always the most highly rated part of the Symposium.

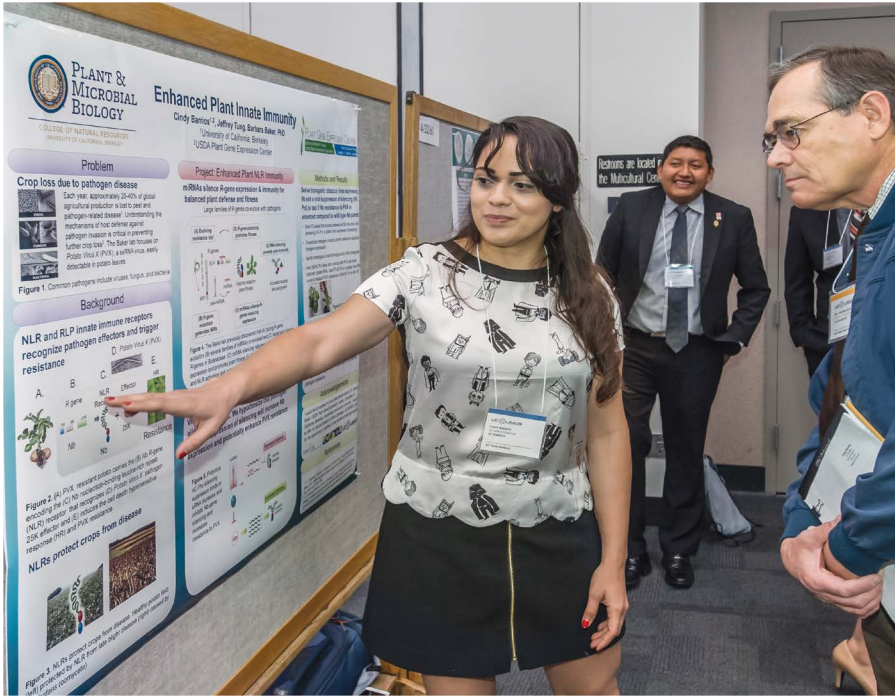
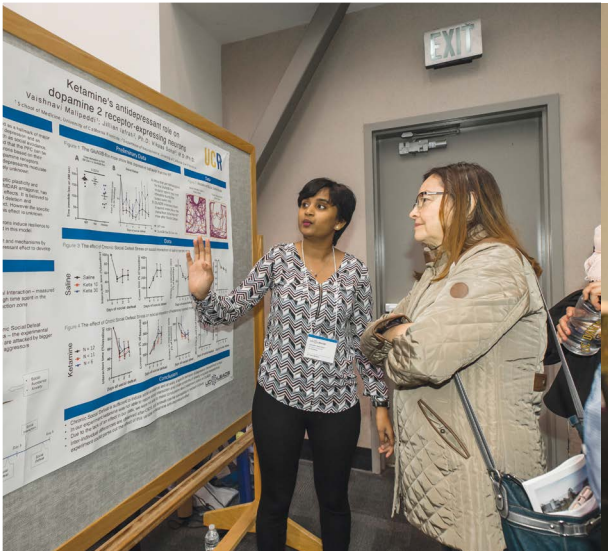
The afternoon agenda featured a presentation on conference networking, with time for scholars to practice their new techniques with faculty, staff, and peers. Scholars then participated in a workshop on overcoming imposter syndrome, hosted by the Graduate Academic Counselors from UC Irvine and UC Santa Barbara. The scholars also enjoyed an optional lab tour, despite the heavy afternoon rain. The evening awards ceremony included an informative alumni panel, and the day ended with a wonderful celebration of the accomplishments made by all of the scholars.

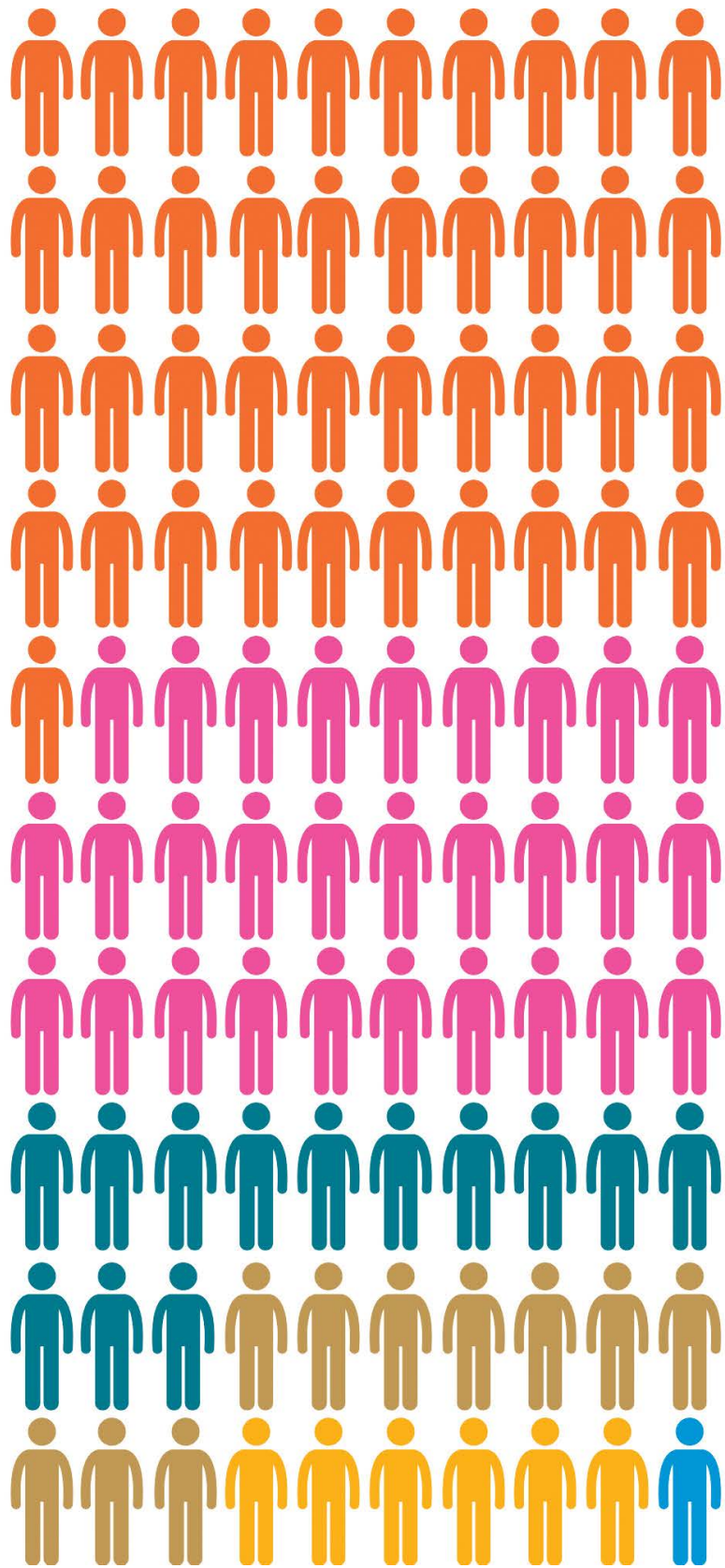
OUR UC LEADS COORDINATORS

Back row, L to R: Walter Boggan, Maria Franco-Gallardo, Ethny Stewart, Daniel Fabrega, Xingci Situ, and Michele Johnson. Front row, L to R: Mayra Estrada, Angeline Villanueva Yang, Chris Murphy, Devin Horton, Diana Lizarraga, Chris Noble, Yulianna Ortega, Lynne Arcangel, and Julia Clark.



SCENES FROM THE 2018 SYMPOSIUM





UC LEADS SCHOLARS ARE DIVERSE

To date, 1,019 Scholars have participated in the UC LEADS program. This population is made up of 50% women, 53% first generation college students, and 52% underrepresented minorities.

41% Chicanx/Latinx

29% Asian/Pacific Islander

13% White/Caucasian

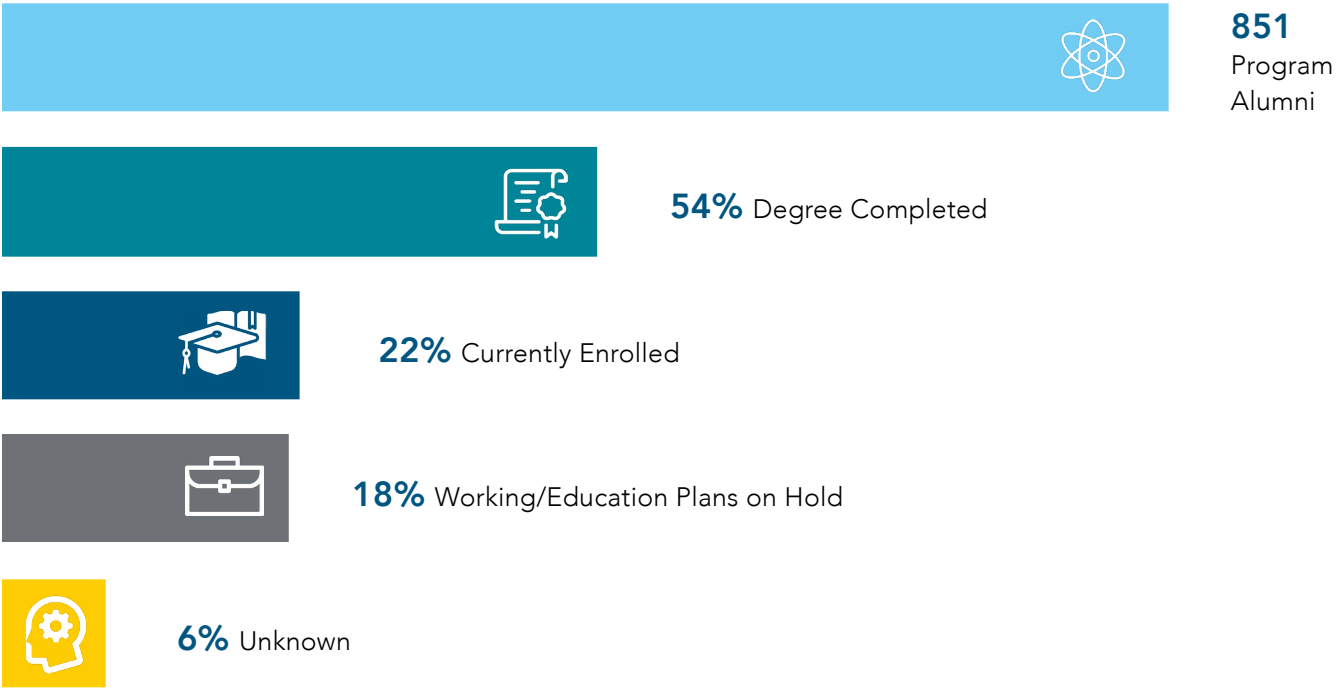
10% African-American/Black

6% Other

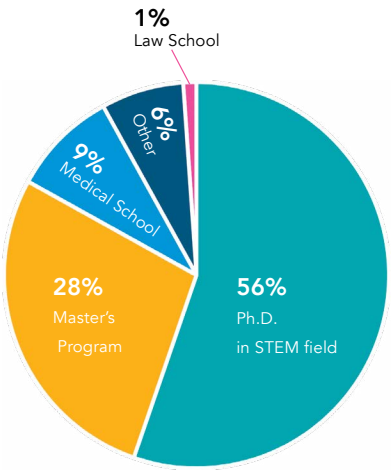
1% American Indian/Alaska Native

UC LEADS SCHOLARS GO TO GRADUATE SCHOOL

Of the 851 Scholars who have graduated with their undergraduate degree, 645 (76%) are either currently enrolled in graduate school or have already earned degrees in a master's or doctoral program.

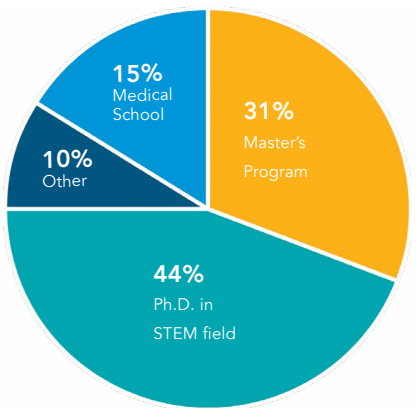


Of the 645 Scholars who matriculated into graduate school, 303 (47%) enrolled in a UC graduate program, and 342 (53%) enrolled in graduate programs outside of the UC. Thirty UC LEADS alumni are now working as tenure track faculty, including seven within the UC system, while others work around the world as industry and government scientists, teachers, medical doctors, and entrepreneurs.



UC LEADS Alumni Enrolled in UC Graduate Programs

UC LEADS Alumni Enrolled in Graduate Programs Outside the UC



UC BERKELEY

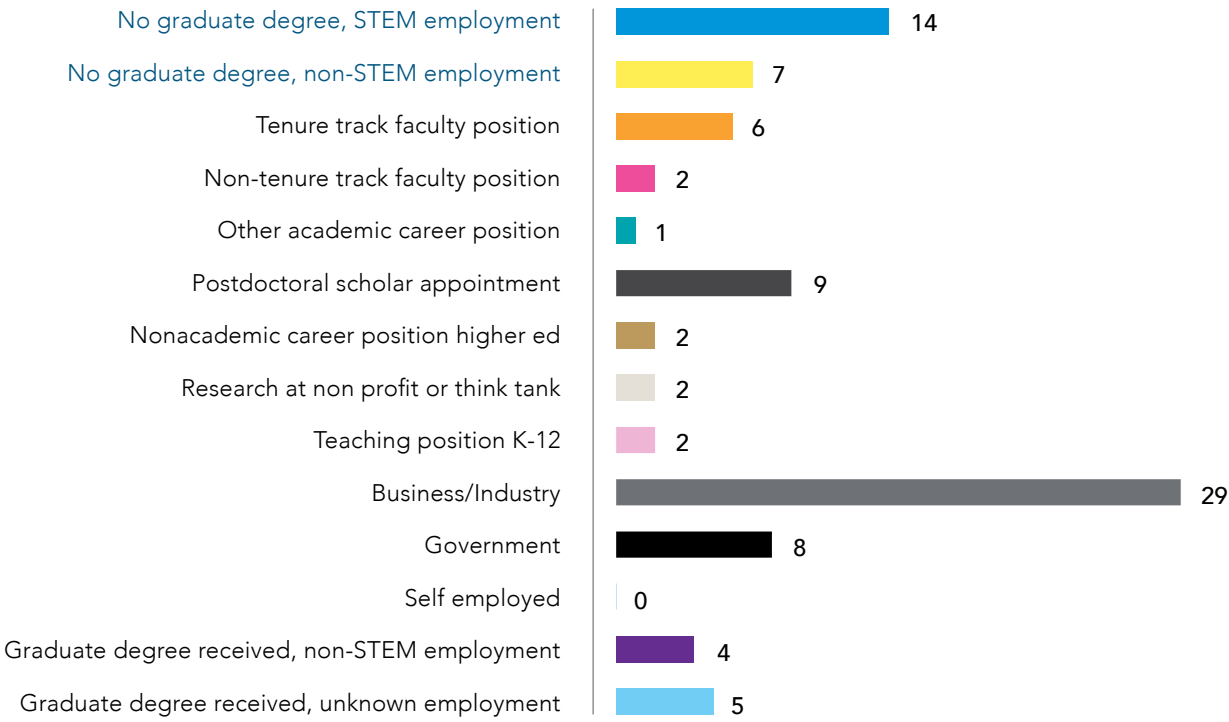


YEAR IN REVIEW

Our UC LEADS program shared a wonderful sentiment of going full circle with our program when one of our alumni, UC Irvine Physics Professor Dr. Franklin Dollar, mentored two of our UC LEADS Scholars during summer 2017: Cheyenne Nelson and Edgar Ibarra. All of our scholars were placed in paid faculty-mentored research opportunities. We also had our first data science major, Lekha Patil, who worked with School of Information Professor Marti Hearst on word cloud research. We provided opportunities to gain critical computational coding skills through our python coding boot camp and our introduction to data science STEMInist two-day bootcamp. Each of our scholars received a graduate school toolbox to work on their applications as we had two students enter STEM Ph.D. programs at UC Berkeley and Princeton. Dr. Sheila Humphreys provided graduate school application coaching and support. We hosted a leadership dinner with UC Berkeley Vice Chancellor Oscar Dubón, who is also a wonderful role model. One of our scholars Cindy Barrios was selected for a campus podcast interview. We had a variety of workshops covering business skills such as networking, developing a LinkedIn page, interviewing, and resume skills. Our advising focused on faculty relationships, navigating campus resources, and creating a welcoming and inclusive space. Additional alumni highlights include: Lawrence Livermore National Lab Astrophysicist Dr. Kirsten Howley was on our women in STEM panel, 6th year Material Science and Engineering UC Berkeley graduate student Edy Cardona served as a year round graduate student mentor to our scholars, Facebook Data Scientist Nicole Lai came and gave a talk, and first-year Chemistry UC Santa Barbara graduate student Angelique Scheuermann participated in panel at our UC LEADS statewide conference.

UC LEADS Berkeley Alumni Employment

Out of 91 program alumni who completed their graduate degree or are employed without a graduate degree



SECOND YEAR SCHOLARS

The following second year scholars received a \$4,500 stipend for their summer research.

Jacob Bryon (Physics) did his second summer research at UC Los Angeles. He presented a poster at the 2018 UC LEADS Symposium titled *Search for the Chiral Magnetic Effect in Heavy-Ion Collisions and Quantification of the Background with the AMPT Model*. He graduated in spring 2018 and was accepted as an engineering physics Ph.D. student at Princeton University.

Ahyeon Hwang (Computer Science and Cognitive Science) did her second summer research at UC San Diego. She presented a poster at the 2018 UC LEADS Symposium titled *A Structured Dataset Based on the Hangul Writing System for Developing Interpretable Deep Learning Methods*. She graduated in spring 2018 and is applying to STEM graduate programs.

Edgar Ibarra (Physics) did his second summer research at UC Irvine. His poster, titled *Effects of Hermite-Gaussian Laser Modes on Beam Shaping for Plasma Wake Field Acceleration*, received an honorable mention at the 2018 UC LEADS Symposium. He graduated in 2018.

Anthony Salazar (Material Science and Engineering) did his second summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *X-Ray Reflectivity of Thin Film Heterostructures*. He graduated in spring 2018 and was accepted as a material science and engineering Ph.D. student at UC Berkeley.



FIRST YEAR SCHOLARS

The following first year scholars received a \$4,000 stipend for their summer research.

Cindy Barrios (Molecular Environmental Biology) did research at UC Berkeley and presented a poster at the 2018 UC LEADS Symposium titled *Enhanced Plant Innate Immunity*. She graduated in spring 2018 and is applying to STEM graduate programs.

Silvia Miramontes-Lizarraga (Applied Mathematics) did research at UC Berkeley. Her poster, titled *Light Curves Produced by Starspots*, received top honors at the 2018 UC LEADS Symposium. She graduated in spring 2018 and is applying to STEM graduate programs.

Yasmeen Musthafa (Physics) did research at UC Berkeley and presented a poster at the 2018 UC LEADS Symposium titled, *Synthesis of Atomically Thin Transition Metal Dichalcogenides by Chemical Vapor Deposition*. She plans to graduate in 2019 and is applying to STEM graduate programs.

Lekha Patil (Applied Mathematics) did research at UC Berkeley. Her poster, titled *The Effect of Whitespace between Semantic Groupings in Alternate Word Clouds*, received top honors at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

Miguel Soto Ramos (Civil Engineering) did summer research at UC San Diego. He was accepted to an MS program at the University of Illinois, Champagne, but deferred admission. He currently works at Boeing as a Structural Design Engineer.

Brandon Tran (Applied Mathematics) did research at UC Berkeley and presented a poster at the 2018 UC LEADS Symposium titled, *Direct Stacking of 2D Materials for Fabrication of High Quality Van Der Waals Heterostructures*. He graduated in spring 2018 and is applying to STEM graduate programs.

ALUMNI SPOTLIGHT

Salvador Barriga

UC LEADS 2005-2006
B.A. Physics (2006)

Salvador Barriga received his Ph.D. in Materials Science and Engineering from Massachusetts Institute of Technology in 2013. After graduation, Salvador worked as a senior research engineer at Infinium for three years. He is now the Director of Research at Digital Alloys.



“ UC LEADS was critical in my admissions to MIT, and without a doubt helped me get to where I’m at now. Diana Lizarraga was and will always be a mentor to me; she made sure I took advantage of everything UC LEADS had to offer and for that I’m eternally grateful. I was a transfer student from Modesto Junior College and was only at Berkeley for 2 years -- this is how impactful UC LEADS was for me. It made my dreams a reality. I was the first transfer student (in the department’s history) to be admitted to the Ph.D. track program. Everyone else before me went to a 4 year school from high school. Thank you, UC LEADS.

UC DAVIS



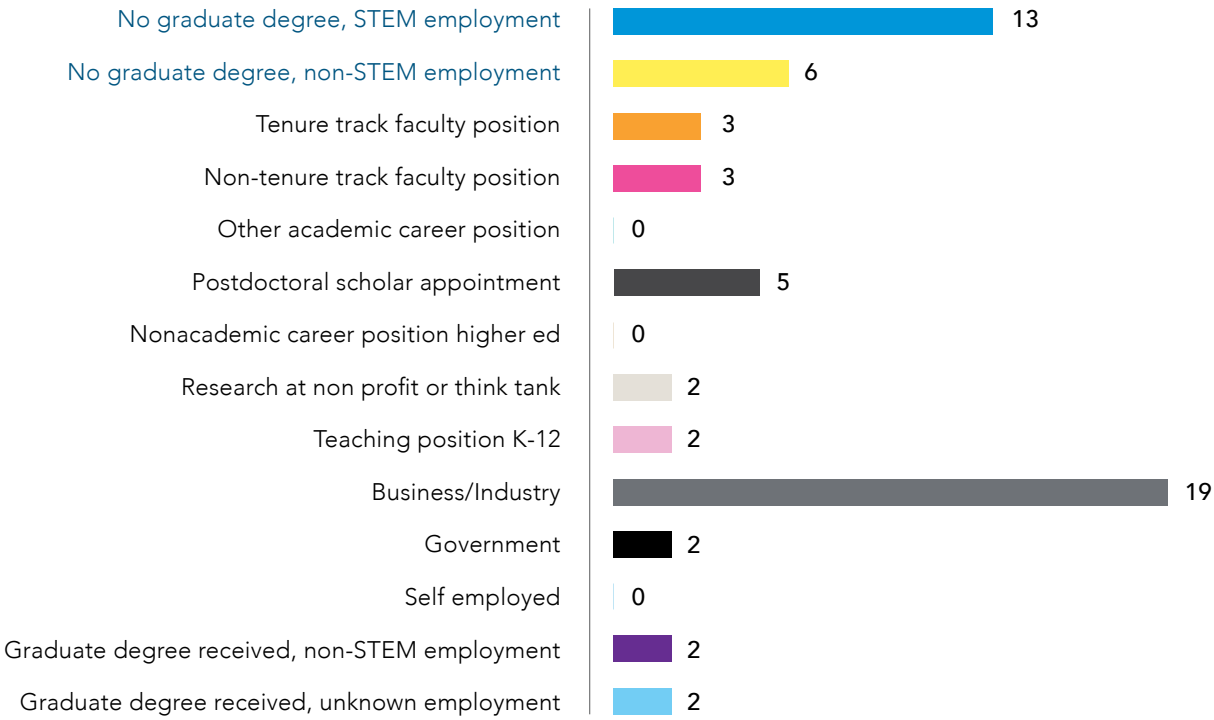
YEAR IN REVIEW

In my role as UC LEADS Coordinator, I am continuously impressed by the scholars’ resilience and dedication to making their tenure at UC Davis filled with diverse experiences and opportunities. The theme of experiential learning marked a very productive year for our second year scholars. Amongst changes of research labs, acquiring new on-campus jobs, and being assigned to more advanced research projects in current labs, high quality immersive experiences were taking place all year long. The scholars’ sense of leadership and courage to explore new opportunities is admirable. For example, it was so exciting to see Erin de Leon Sanchez take the plunge to seek a new research mentor for the purposes of her recent interest in ocean global change biology – different from the work she had been immersed in for almost two years conducting cardiomyopathy research. This experience and process provoked a great deal of responsibility and maturity as it was not an easy task for her to follow a different path considering all of the time, effort, and progress she was contributing to her lab.

Meanwhile, Jenny Arabit was exploring new interests within the realm of chemical engineering and is considering a minor in Undergraduate Technology Management as a means to enhance her opportunities for graduate school. Hyeyeon Hwang, computer science major, continues to explore more specific research areas within the broad discipline of computer science. She was inspired by a visit to UCSF where she had the opportunity to meet graduate students doing phenomenal research in the field of neuroscience. She found this to be quite intriguing as she has discovered new research interests related to informatics. Phung Quan, a residential housing Resident Assistant (RA), enjoys working with undergraduate peers and appreciates the leadership skills she has developed in this role. This experience has opened her eyes to other student positions on campus in Educational Opportunity Program (EOP) for more experiential learning opportunities. Once again, this academic year was a success and we look forward to what 2018-2019 will bring to our scholars.

UC LEADS Davis Alumni Employment

Out of 59 program alumni who completed their graduate degree or are employed without a graduate degree.



SECOND YEAR SCHOLARS

The following second year scholars received a \$4,000 stipend for their summer research.

Daisy Guitron (Civil Engineering- Environmental) did her second summer research at UC San Diego. She presented a poster at the 2018 UC LEADS Symposium titled *Simulation of Steel Moment Frame Response under Earthquake Excitation*. She graduated in spring 2018 and was accepted as a civil engineering MS student at UC Davis.

Ilse Pastor (Neuroscience) did her second summer research at UC San Francisco. Her poster, titled *Do in-class distractions associated with cellphone notifications influence recollection- or familiarity-based memory?*, received top honors at the 2018 UC LEADS Symposium. She graduated in spring 2018 and is now a Junior Research Specialist at the Human Memory Laboratory Center of Neuroscience in Davis, CA.

Alexandra Camille San Pablo (Civil Engineering- Geotechnical) did her second summer research at UC Los Angeles. Her poster, titled *Modelling of Levee Performance on Peat Foundations Using Case History of 2003 Tokachi-oki Earthquake*, received top honors at the 2018 UC LEADS Symposium. She graduated in spring 2018 and was accepted as a civil engineering PhD student at UC Davis.

Tomas Torres-Garcia (Mechanical and Aerospace Engineering) did his second summer research at UC San Diego and presented a poster at the 2018 UC LEADS Symposium titled, *Human Swarm Interaction: Multi-Robot Operation Using Electromyographic Gesture Control*. He graduated in spring 2018.



FIRST YEAR SCHOLARS

The following first year scholars received a \$3,000 stipend for their summer research.

Jenny Arabit (Chemical Engineering) did her summer research at UC Davis. Her poster, titled *Exploring Material Balance Principles through Interactive Simulations*, received an honorable mention at the 2018 UC LEADS Symposium. She plans to graduate in 2022.

Erin de Leon Sanchez (Cell Biology) did her summer research at UC Davis. Her poster, titled *Interactome Analysis of CaMKII delta in Cardiac Myocytes Using a Proximity Labeling Approach*, received an honorable mention at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

Hyeyeon Hwang (Computer Science) did her summer research at UC Davis and presented a poster at the 2018 UC LEADS Symposium titled, *Multi-Player Augmented Reality Game: Developing a Collision Avoidance System in a Simulated Environment*. She plans to graduate in 2019.

Manuel Larach (Pharmaceutical Chemistry) did his summer research at UC Davis and presented a poster at the 2018 UC LEADS Symposium titled, *Enantioselective Synthesis of Spirooxindole Structures Via Carboannulation of Alkylideneoxindoles*. He plans to graduate in 2018.

Daniel Mascareno (Computer Engineering) did his summer research at UC Davis and presented a poster at the 2018 UC LEADS Symposium titled, *Characterizing Electronic Properties of Single-Molecules Using the Scanning Tunneling Microscope (STM) Break Junction Method*. He plans to graduate in 2018.

Phung Quan (Chemical Engineering) did her summer research at UC Davis and presented a poster at the 2018 UC LEADS Symposium titled, *Development of Photocatalytic Titanium Dioxide Encapsulating Bacteriorhodopsin*. She plans to graduate in 2019.

Alery Tenorio (Neurobiology, Physiology and Behavior) did her summer research at UC Davis. She plans to graduate in 2018.

ALUMNI SPOTLIGHT

Melissa Soto

UC LEADS 2000-2002
B.A. Biology (2002)

Melissa Soto graduated with a master's degree in Environmental Science and Management from UC Santa Barbara in 2004, and went on to earn her Ph.D. in Higher, Adult, and Lifelong Education from Michigan State University in 2014. She now serves as the Deputy Director of the Biology Scholars Program at UC Berkeley.



“The foundations I received from UC LEADS included exposure to research, how to network, personal and professional developmental experiences (conferences, community activities, writing, how to present/give talks) as well as basic exposure to and understanding of the world of academia. These early lessons shaped me early in my educational career. I relied on these building blocks to navigate my graduate school years and often refer to these initial lessons learned as a professional who works in a university setting..

UC IRVINE

YEAR IN REVIEW

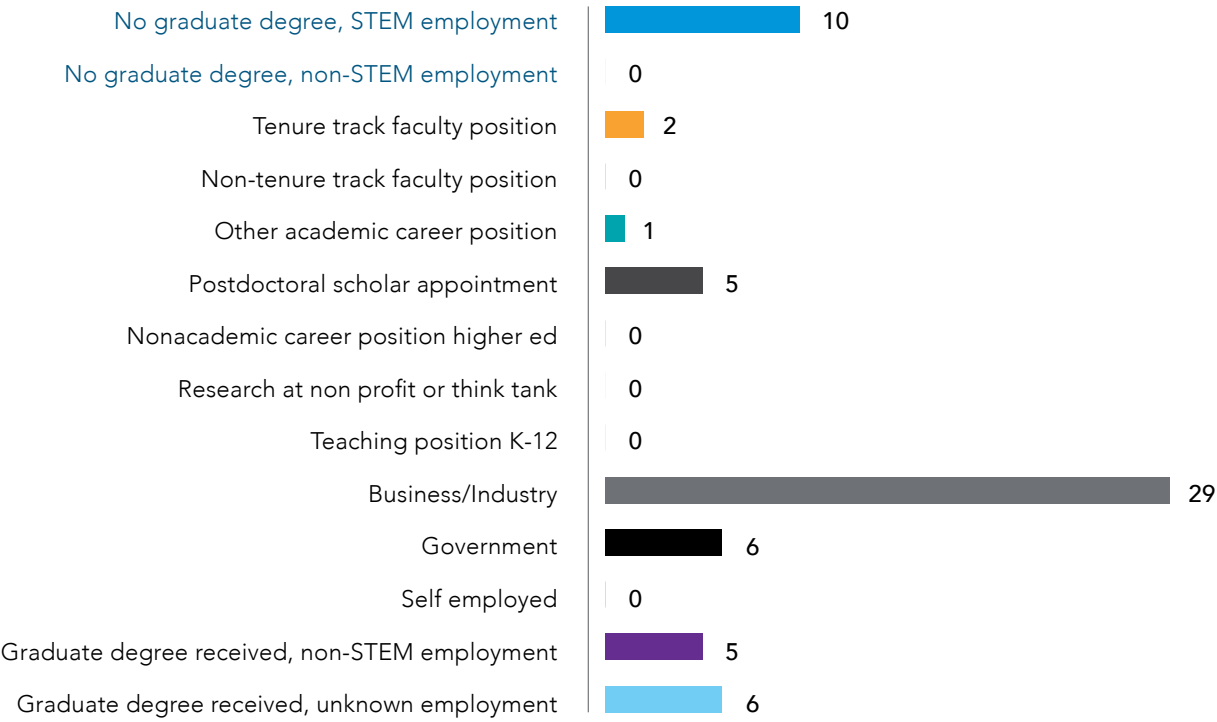
Each fall, students present their research at either the SACNAS or ABRCMS National Conference, which were held in Salt Lake City and Phoenix respectively.

Kenny Huynh received the National Science Foundation Graduate Research Fellowship, which he will take with him to UCLA for the PhD program in Electrical Engineering.

This year, the leadership aspect was expanded with the second years developing and leading a series of workshops for the first year students on a range of topics to help them thrive in research and academics.

UC LEADS Davis Alumni Employment

Out of 64 program alumni
who completed their graduate degree
or are employed without a graduate degree



SECOND YEAR SCHOLARS

The following second year scholars received a \$4,500 stipend for their summer research.

Kenny Huynh (Material Science and Engineering) did his second summer research at UC San Diego. He presented a poster at the 2018 UC LEADS Symposium titled *Multilayered Materials with Interfacial Contact Resistance Induced Low Thermal Conductivity*. He graduated in spring 2018. He was accepted at UC Los Angeles with a National Science Foundation Graduate Research Fellowship.

Kirolos Kelada (Chemical Engineering) did his second summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *Effects of PEG-Lipid on the Stability and Morphology of Novel Liposome Compositions*. He graduated in 2018 and is now a materials engineer at PBF Energy.

Aylin Mojica (Mechanical Engineering) did her second summer research at UC Los Angeles. She presented a poster at the 2018 UC LEADS Symposium titled *Mathematical Representation and Design of Geodesic Domes*. She plans to graduate in 2018.



FIRST YEAR SCHOLARS

The following first year scholars received a \$4,000 stipend for their summer research.

Jiahui Cao (Mechanical Engineering and Mathematics) did his summer research at UC Irvine. He presented a poster at the 2018 UC LEADS Symposium titled, *Thermoelectric Generator (TEG) for Wearable Devices*. He plans to graduate in 2019.

Brenda Cruz (Materials Science and Engineering) did her summer research at UC Irvine. She presented a poster at the 2018 UC LEADS Symposium titled, *Structural Analysis of Grain Boundary Complexions in Atomistic Simulations*. She plans to graduate in 2019.

Chance Ornelas (Electrical Engineering) did his summer research at UC Irvine. He presented a poster at the 2018 UC LEADS Symposium titled, *Long Distance High Speed Visible Light Communications Using a White Phosphor-Based LED*. He plans to graduate in 2019.

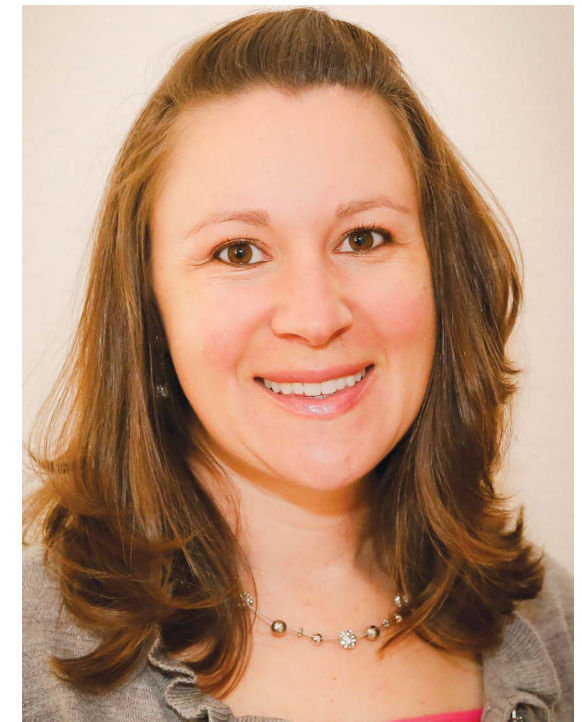
Kimmai Phan (Biomedical Engineering) did her summer research at UC Irvine. Her poster, titled *Investigating DNA Methylation Trajectories During Neural Differentiation of Patient-Specific iPSCs*, received an honorable mention at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

ALUMNI SPOTLIGHT

Desirea Haggard

UC LEADS 2000-2002
B.A. Chemical Engineering (2001)

Desirea Haggard earned her master's degree in Chemical and Environmental Engineering from UC Riverside in 2004. After graduation, she worked for five years at TXI Riverside Cement as a Quality Control Supervisor and Environmental Engineer. She now works as a Senior Environmental Manager at CalPortland.

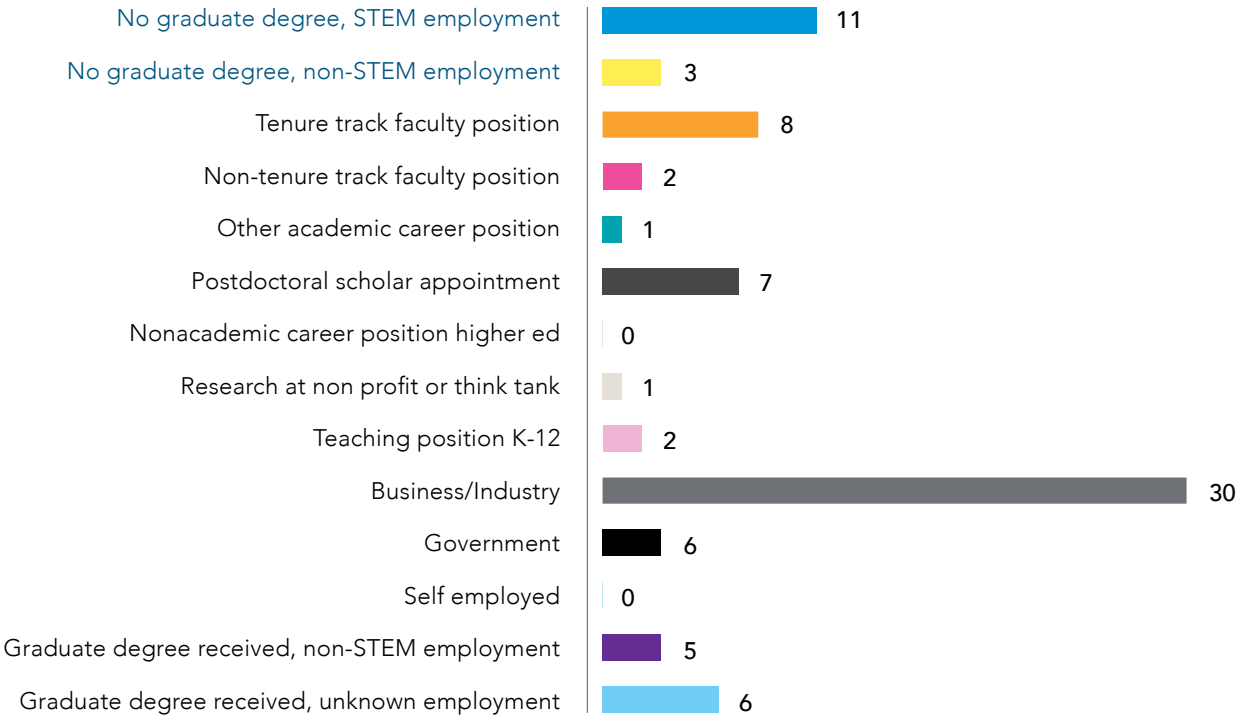


“While in UC LEADS I was introduced to networking. This is a core value I use every day. I’m actively involved in industry trade groups and non-profits to this day which often remind me of the summer program meetings and annual research presentations.

UC LOS ANGELES

UC LEADS Los Angeles Alumni Employment

Out of 77 program alumni
who completed their graduate degree
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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 2017 – 2018 the scholars represented UCLA well while presenting at conferences. Alice Tang, second year scholar, competed against 90 fellow UCLA science and engineering seniors to be judged by faculty to identify students who exemplify excellence in presentation. Ultimately Alice was awarded a Dean’s Prize Medal of Excellence by the Dean and Vice Provost of Undergraduate Education. Scarlett (Seejia) Yu, first year scholar, was honored by the main and oldest Cantonese association, the Kong Chow Benevolent Association, for her high scholastic achievement in Physics. Liya Oster and Bonnie Lam, second year scholars, were both awarded NSF Graduate Research Fellowships to pursue Ph.Ds. Joshua Abraham and Steven Gomez, both first year scholars, were awarded “Best Poster” in Engineering, Physics, and Math at the Annual Biomedical Research Conference for Minority Students (ABRCMS).

SECOND YEAR SCHOLARS

The following second year scholars received a \$3,000 stipend for their summer research.

Ronnie Garcia (Chemistry and Biochemistry) did his second summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *A New Avenue for 3D printing: Making Materials with Variable Mechanical and Chemical Properties*. He plans to graduate spring 2019.

Alejandra Gonzalez (Chemistry and Biochemistry) did her second summer research at UC Los Angeles. She presented a poster at the 2018 UC LEADS Symposium titled *New Methodology For Isolating Oxidation States of Boron Clusters*. She graduated in spring 2018.

Bonnie Lam (Electrical Engineering) did her second summer research at UC Berkeley. She presented a poster at the 2018 UC LEADS Symposium titled

Learning Capabilities of Temporal, Inhomogeneous Neural Networks. She graduated in spring 2018 and is now pursuing a PhD in Bioengineering and Biomedical Engineering at UC Berkeley. Bonnie is also a recipient of the National Science Foundation Graduate Research Fellowship.

Liya Oster (Chemistry and Biochemistry) did her second summer research at UC Berkeley. She graduated in spring 2018 and is now pursuing a PhD in Biophysics at UC Berkeley. Liya is also a recipient of the National Science Foundation Graduate Research Fellowship.

Alice Tang (Bioengineering) did her second summer research at UC San Francisco. She graduated in spring 2018 and is a student in the Medical Scientist Training Program at UC San Francisco.



FIRST YEAR SCHOLARS

The following first year scholars received a \$3,000 stipend for their summer research.

Joshua Abraham (Chemical Engineering) did his research at UC Los Angeles. His poster, titled *Stability and Structure of Dihydroxy-Acid Dehydratase from Streptococcus Mutans for the Aerobic Catalysis of the Isobutanol Pathway*, received top honors at the 2018 UC LEADS Symposium. He plans to graduate in 2019.

Sydney Austin (Mechanical Engineering) did her summer research at UC Los Angeles and presented a poster titled *Micro-Fabrication via Optical Trapping and Photopolymerization* at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

Josue Castillo (Aerospace Engineering) did his research at UC Los Angeles. He presented his poster titled *Laser Spectroscopy of Hybrid Rocket Motor with 3D Printed Fuel Grains* at the 2018 UC LEADS Symposium. He plans to graduate in 2019.

Steven Gomez (Chemical Engineering) did his research at UC Los Angeles. His poster, titled *Synthesis and Characterization of Neodymium Telluride for Thermoelectric Space Power Applications*, received an honorable mention at the 2018 UC LEADS Symposium. He plans to graduate in 2019.

Aisha Kermiche (Chemical Engineering) did her summer research at UC Los Angeles and presented a poster titled *Effect of Hydrogenation and Porosity on the Thermal Conductivity of Amorphous Carbon: A Molecular Dynamics Study* at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

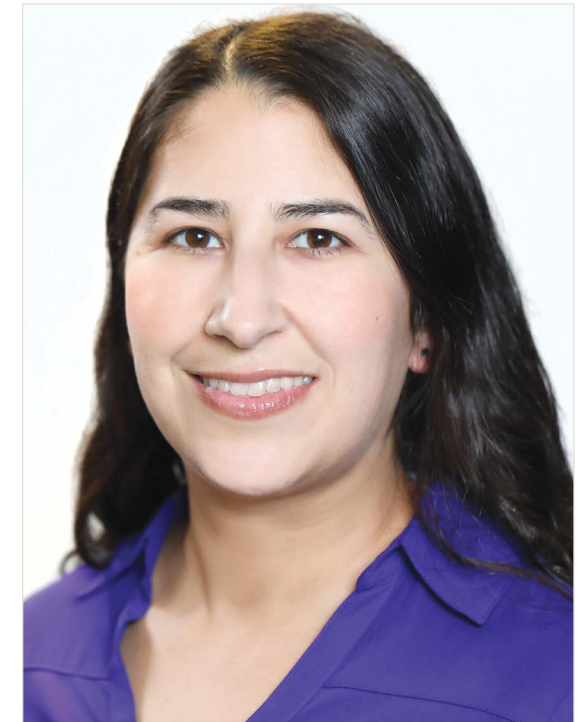
Scarlett Yu (Physics) did her research at UC Los Angeles. Her poster, titled *Stimulated Force for Optical Deceleration of Molecules*, received an honorable mention at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

ALUMNI SPOTLIGHT

Desirée Salazar

UC LEADS 2000-2002
B.A. Neuroscience (2002)

Desirée Salazar earned her Ph.D. in Anatomy and Neurobiology at UC Irvine in 2010 before she went on to work as a Postdoctoral Fellow in the NIH/NIGMS funded IRACDA at UC San Diego. She now serves as a Program Director at the National Institute of General Medical Sciences at NIH in the Division of Training, Workforce Development, and Diversity and in the Division of Genetics and Molecular, Cellular, and Developmental Biology.



“ My time in the undergraduate research programs and UC LEADS at UCLA have provided the foundation for my career. Being a first-generation college student, these programs helped provide me access to the opportunity to do research and develop confidence that I could become a scientist. Because of my positive experiences from the mentors and peers in these programs, I stayed involved with programs like these throughout my training. I know firsthand how valuable these student training programs are to students like myself from first-generation and underrepresented backgrounds. I now work to help provide students and postdocs with similar opportunities at the national level with my position at NIH. I remain very grateful for the opportunities provided by the UC LEADS program in getting me started.

UC MERCED

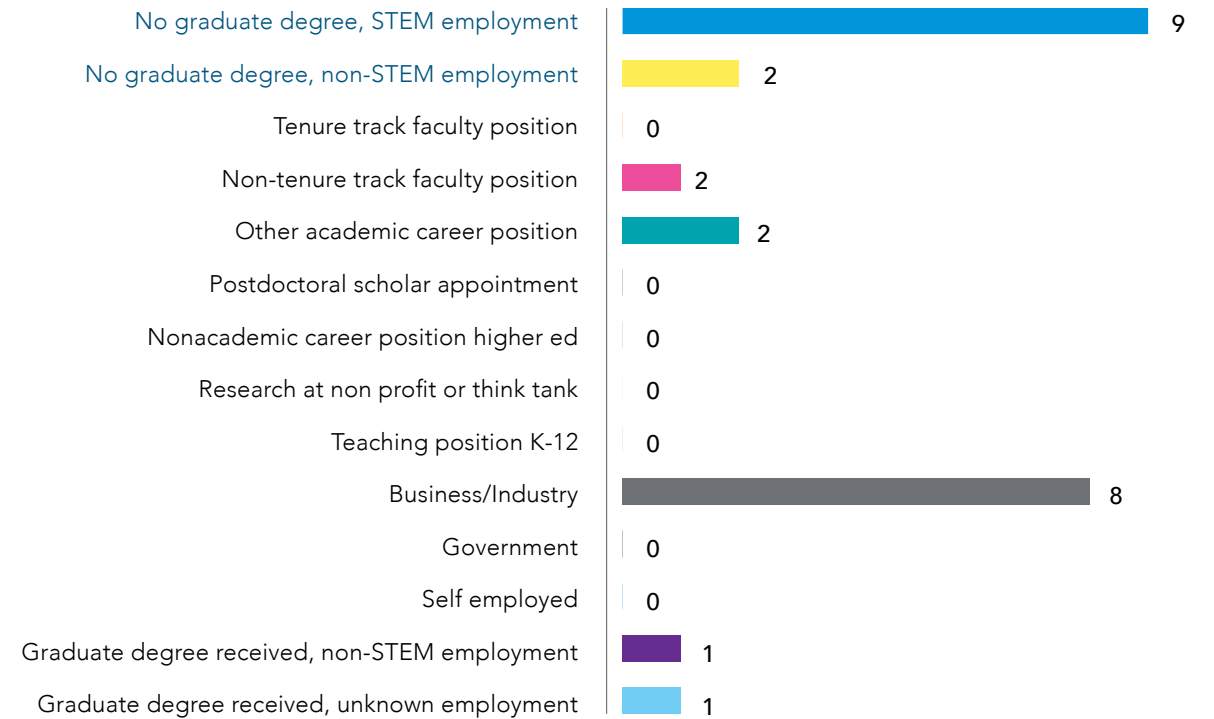
YEAR IN REVIEW

The Undergraduate Research Opportunities Center (UROC) coordinates the campus fellowship programs, including UC LEADS. UC LEADS Scholars are conducting research with larger groups of students enrolled in several programs including partnerships with NASA, NIH, NSF, and Lawrence Berkeley National Lab. UROC also secured student space on campus this year to increase the sense of community among scholars and to better support students and faculty mentors.

The program’s success is clearly demonstrated this year with all of our graduate school bound scholars from our most recent cohort staying within the UC system, and three scholars staying at UC Merced for Ph.D. programs.

UC LEADS Merced Alumni Employment

Out of 24 program alumni
who completed their graduate degree
or are employed without a graduate degree



SECOND YEAR SCHOLARS

Jesus Campos Gatica (Applied Mathematics) did his second summer research at UC Davis and received \$3,500. He presented a poster at the 2018 UC LEADS Symposium titled *Cost-effective Treatment of Neglected Tropical Diseases: Application of Optimal Control Techniques*. He graduated in spring 2018 and will pursue a MA in economics at UC Davis.

Ramces Gonzales (Chemistry) did his second summer research at UC San Diego and received \$3,500. He presented a poster at the 2018 UC LEADS Symposium titled *Investigating PAM binding in CRISPR-Cas9 via molecular dynamics simulations*. He graduated in spring 2018 and will pursue a MA in computer engineering at UC Davis.

Ebelin Hernandez (Bioengineering) did her second summer research at UC Davis and received \$3,500. She presented a poster at the 2018 UC LEADS Symposium titled *Lentivirus Controlled Release from Alginate Hydrogel*. She graduated in spring 2018.

Victor Hernandez (Materials Engineering) did his second summer research at UC Santa Barbara and received \$3,500. He presented a poster at the 2018 UC LEADS Symposium titled *Understanding Characterization Mechanisms of Advanced Magnesium Alloy: NanoMAG*. He graduated in spring 2018 and will pursue a PhD in biological engineering and small-scale technologies (BEST) at UC Merced.

Daniel Sanchez Garrido (Mechanical Engineering) did his second summer research at UC Irvine and received \$4,000. He presented a poster at the 2018 UC LEADS Symposium titled *Thermal Conductivity of Materials, 3-omega Method*. He graduated in spring 2018 and will pursue a PhD in mechanical engineering at UC Merced.

Tanya Tafolla (Applied Mathematics) did her second summer research at UC Davis and received \$3,500. She presented a poster at the 2018 UC LEADS Symposium titled *Creating Hidden Markov Models for Transport Protein Classification in Metagenomics Data*. She graduated in spring 2018 and will pursue a PhD in applied mathematics at UC Merced.



FIRST YEAR SCHOLARS

Tamunotubo George (Mechanical Engineering) did his research at UC Merced and received \$3,500. He presented a poster at the 2018 UC LEADS Symposium titled *Simulating the Effects of the Adsorption-Desorption Rate of Surface-Active Molecules on an Oil Droplet's Rise Velocity*. He plans to graduate in 2019.

Jessica Lopez Lara (Chemistry) did her research at UC Merced and received \$3,500. She presented a poster at the 2018 UC LEADS Symposium titled *Synthesis of Tetralins via Brønsted Acid-Catalyzed Intramolecular Hydroarylation of Alkenes: An Investigation of Regioselectivity, Scope, and Limitations*. She plans to graduate in 2019.

Alejandra Martinez Lopez (Environmental Engineering) did her research at UC Merced and received \$4,000. She presented a poster at the 2018 UC LEADS Symposium titled *Biomonitoring of Atmospheric Mercury Pollution Using Lichen at the Monte Amiata Mercury Mining District in Southern Tuscany, Italy*. She plans to graduate in 2018.

Yulissa Perez Rojas (Earth Science) did her research at UC Merced and received \$3,500. She presented a poster at the 2018 UC LEADS Symposium titled *The Impacts of Cover Crop and Non-Cover Crop Management on Carbon, Nitrogen, and Stability of Soil Aggregates*. She plans to graduate in 2019.

Felipe Rodriguez (Biology) did his research at UC Merced and received \$3,500. His poster, titled *In search of ROCTR: Regulator of CD8 T Cell Response*, received top honors at the 2018 UC LEADS Symposium. He plans to graduate in 2019.

Gabriela Sanchez (Bioengineering) did her research at UC Merced and received \$3,500. She presented a poster at the 2018 UC LEADS Symposium titled *Optimization of Vascular Smooth Muscle Cell Fate via Different Growth Factors Concentrations*. She plans to graduate in 2019.

ALUMNI SPOTLIGHT

Juan Lopez

UC LEADS 2009-2011
B.S. Applied Mathematics (2011)

Juan Lopez received his Ph.D. in Statistics and Applied Mathematics from UC Santa Cruz in 2015. He went on to work as a postdoctoral researcher at the NOAA Southwest Fisheries Science Center. He now serves as Senior Quantitative Researcher at the Climate Corporation.



“The primary foundations that I received from participating in UC LEADS were: 1) Diversity is important and having a variety of views around the table is important. 2) Having early experience in research is particularly important for those who are first generation students.



UC RIVERSIDE

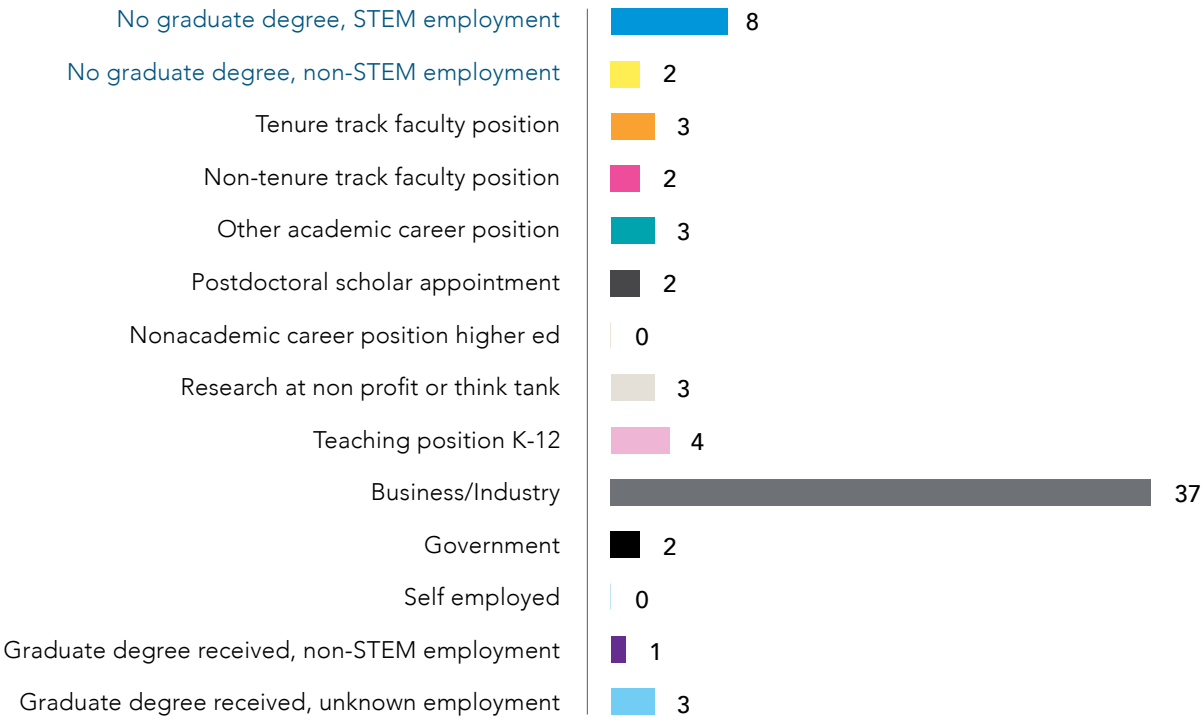
YEAR IN REVIEW

Outreach and giving back summarize what the UC Riverside Scholars focused on, in addition to their academics and research. Three students from the cohort work as Student Ambassadors for their college and as such, saw the opportunity to share what the UC LEADS program has done for them. As a result, our applicant pool increased substantially. A few of the Scholars also volunteered at outreach events such as Discover UCR Day and college outreach events by giving campus and lab tours to freshmen applicants and transfer students, while other scholars elected to hone their leadership skills by volunteering to tutor students at local high schools.

This type of peer-to-peer mentoring has greatly benefited those students who the scholars tutored as all who benefited from their mentoring now realize that a university education, particularly in a STEM-related field, is within their reach for those who wish to pursue one.

UC LEADS Riverside Alumni Employment

Out of 70 program alumni
who completed their graduate degree
or are employed without a graduate degree



SECOND YEAR SCHOLARS

Vaishnavi Malipeddi (Neuroscience) did her second summer research at UC San Francisco and received \$4,000. Her poster, titled *Ketamine’s antidepressant role on dopamine 2 receptor-expressing neurons*, received an honorable mention at the 2018 UC LEADS Symposium. She graduated in spring 2018. She currently has a scribe job at a local ER and plans to apply to master’s programs in genetic counseling.

Felix Marcia (Physics) did his second summer research at UC Santa Barbara and received \$4,000. He presented a poster at the 2018 UC LEADS Symposium titled *Millikan Experiment: Building the Millicharged Particle Detector*. He graduated in spring 2018 and will pursue a Ph.D. in particle physics at the University of Nebraska, Lincoln.

Richard Marirosian (Neuroscience) did his second summer research at UC Los Angeles and received \$4,600. He presented a poster at the 2018 UC LEADS Symposium titled *The Effects of Ozone on Hypothalamic Glucoregulatory Circuits*. He graduated in spring 2018.

Rosa McGuire (Ecology/Evolutionary Biology) did her second summer research at UC Los Angeles and received \$4,600. Her poster, titled *Interplay Between Competition and Predation: Reproductive Strategies in Two Parasitoid Wasps*, received top honors at the 2018 UC LEADS Symposium. She graduated in spring 2018. She received the Eugene Cota-Robles Fellowship and is pursuing a PhD in Ecology and Evolutionary Biology at UC Los Angeles.



FIRST YEAR SCHOLARS

The following first year scholars received a \$4,500 stipend for their summer research.

Crysthal Alvarez (Mechanical Engineering) did her research at UC Riverside. Her poster, titled *Antibacterial Studies of ZnO Nanoparticle Coatings on Nanocrystalline YSZ Irradiated with Femtosecond Laser Light*, received top honors at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

Robert Espinoza (Chemical/Environmental Engineering) did his research at UC Riverside. His poster, titled *Improvement of Efficiency in Atmospheric Filtration Systems through Carbon Nanotube Coating Methods*, received an honorable mention at the 2018 UC LEADS Symposium. He plans to graduate in 2018.

Sonia Gomez (Chemical Engineering) did her research at UC Riverside and presented a poster at the 2018 UC LEADS Symposium titled *Characterization of Tile Based RNA Motifs*. She plans to graduate in 2019.

Mariah Gomez (Chemistry) did her research at UC Riverside. Her poster, titled *Methods Development for Analysis of Persistence and Fate of Synthetic Plant Defense Elicitors*, received top honors at the 2018 UC LEADS Symposium. She plans to graduate in 2019.

Georgette Sabbah (Chemistry) did her research at UC Riverside and presented a poster at the 2018 UC LEADS Symposium titled *Isomerization Tendencies of Crystallins in the Nucleus and Cortex of the Human Eye Lens Provide Insight into the Fate of Long-Lived Proteins*. She graduated in spring 2018 and is now a scribe at Loma Linda University.

ALUMNI SPOTLIGHT

Michael Coronado

UC LEADS 2005-2007
B.S. Biochemistry (2007)

Michael Coronado earned his Ph.D. in toxicology at Johns Hopkins University in 2011, and went on to work as a postdoctoral fellow at Stanford University. He taught as an instructor at Stanford University's School of Medicine and at UC Berkeley. He now works as an assistant professor in the Department of Biology at Whitman College.

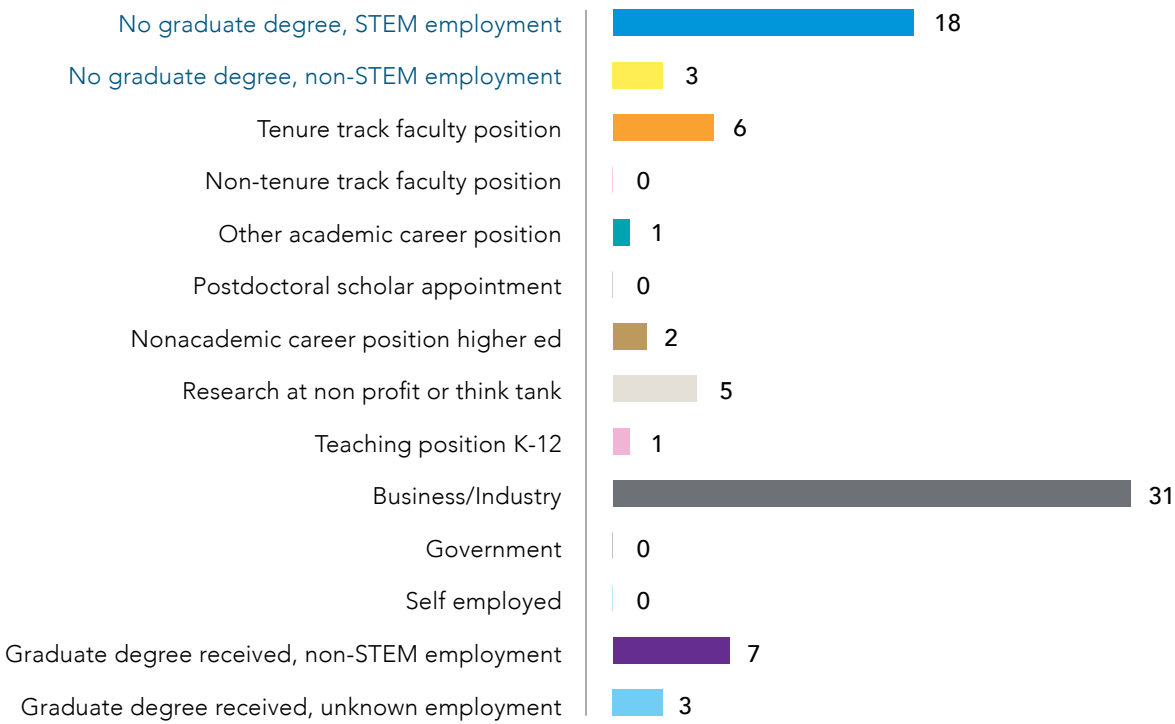


“ I was an undergrad majoring in Biology at UC Riverside when I joined Dr. Daniel Schlenk's research lab where I later gained support and funding to pursue my own research in toxicology. I now teach a lab of undergraduate students at Whitman College and hope I can be as encouraging to them as Dr. Schlenk was to me. In order to create more research opportunities for my students at Whitman, I would like to work with UCR UC LEADS coordinator Maria Franco-Gallardo in the future.

UC SAN DIEGO

UC LEADS San Diego Alumni Employment

Out of 77 program alumni
who completed their graduate degree
or are employed without a graduate degree



YEAR IN REVIEW

This year, the UC LEADS cohort met regularly in sessions that included meals, updates, and one major topic presented to the group. These topics included writing a statement of purpose, poster presentations, communicating research, public speaking, and graduate school applications. The second year students were given an opportunity to take on a presenter role and facilitate discussion about a specific topic with the rest of the group. This opportunity allowed the students to develop and/or tune their communication and leadership skills. In addition, a short retreat was held at the beginning of the academic year to allow all participants to reconnect with one another. As a way to close the academic year, we invited the newly selected UC LEADS students to our final meeting with our continuing and outgoing scholars. The campus coordinator met with students applying for graduate school to monitor their progress on applications and to provide as much guidance as needed. Other meetings occur organically throughout the year to discuss academics or merely as an opportunity to socialize. Our students at UCSD get an allocation for their travel costs to conferences of their choosing.

SECOND YEAR SCHOLARS

Rachel Miller (NanoEngineering) did her second summer research at UC Santa Barbara and received \$3,000. She presented a poster at the 2018 UC LEADS Symposium titled *Wireless gesture decoding and actuation of haptic sensations with stretchable hybrid electronics*. Her research at UC Santa Barbara was recently submitted to Advanced Electronic Materials, entitled *The role of ordering on the thermoelectric properties of blends of regioregular and regiorandom poly(3-hexylthiophene)*. She graduated in 2018 and is continuing her education at Cornell University pursuing a Ph.D. in Materials Science and Engineering.

Carlos Osuna (Nanoengineering) completed his second summer research at UC Berkeley and received \$3,000. He presented a poster at the 2018 UC LEADS Symposium titled *Automated Quantitative 3D Micro-Computed Tomography Characterization of Osteochondral Tissue Regeneration*, which received an honorable mention. He graduated in 2018.

Ester Park (Electrical Engineering and Computer Science) completed her second summer research at Massachusetts Institute of Technology, Research Laboratory of Electronics. She presented a poster at the 2018 UC LEADS Symposium titled *High Extinction Hybrid Lithium Niobate Resonators for Qubit Ion Addressing*. She plans to graduate in 2019 and currently works as a LiDAR and Sensors Calibration Engineer at The Aerospace Corporation. She also leads various educational workshops in the UC San Diego IEEE Eta Kappa Nu (HKN) engineering honors society. In her free time, she participates in various foster youth group programs as a Hope Scholar (formerly known as Guardian Scholars).



SECOND YEAR SCHOLARS (continued)

Christine Rahal (Biochemistry/Chemistry) completed her second summer research at UC Berkeley and presented a poster at the CalNERDS Research Poster Session in August 2017, titled *Selective Metal Ion Chelation by Resin Bound Peptoid Sequences*. She has presented her research at twelve national conferences, winning four best poster awards. She graduated in 2018 and currently works as a Laboratory Operations

Specialist at Halozyme Therapeutics, Inc., with future plans to earn her master's in education.

Mu-Po (Bryan) Yang (Computer Science and Engineering) completed his second summer research at UC San Diego and received \$3,000. He presented a poster at the 2018 UC LEADS Symposium titled *Quadcopter Control in Three-Dimensional Space using Integrated Controller and Real-Time Monocular SLAM System*. He graduated in spring 2017.

FIRST YEAR SCHOLARS

The following first year scholars received a \$3,000 stipend for their summer research.

Cindy Ayala (Mechanical Engineering) did research at UC San Diego and presented a poster at the 2018 UC LEADS Symposium titled *Understanding the 3D Structural Characteristics of Fluorescently Labelled Collagen Fibers*. She plans to graduate in 2019.

Joshua Castro (NanoEngineering), a first generation transfer student, did research at UC San Diego and presented a poster at the 2018 UC LEADS Symposium titled *Analysis of Charge Transfer in Hybrid Quantum-Dot Graphene for Light Energy Harvesting*. He plans to graduate in 2019.

Jamiree Harrison (Applied Mathematics) is a first generation college student who did research at both UC San Diego and UC Davis. He presented a poster at the 2018 UC

LEADS Symposium titled *Efficient Numerical Methods for Solving Variable Order Differential Equations*. He plans to graduate in 2019 and pursue a Ph.D. in Mechanical Engineering.

Brandon Leung (Computer Science) did research at UC San Diego and presented a poster at the 2018 UC LEADS Symposium titled *Using Automated Drone Image Collection for Machine Learning*. He is a first-generation college student and plans on pursuing a doctorate in computer vision after graduating in 2019.

Hanh Nguyen (Molecular Synthesis), a first generation transfer student originally from Vietnam, did research at UC San Diego, UC Berkeley, and recently The Scripps Research Institute. She presented a poster at the 2018 UC LEADS Symposium titled *The Diet of California Sea Lion*. Hanh plans to graduate in 2019.

ALUMNI SPOTLIGHT

Reneé Link

UC LEADS 2000-2002
B.S. Chemistry (2002)

Reneé Link received her Ph.D. in Chemistry from UC Irvine in 2008. After graduation, she taught as an adjunct faculty member at Cypress College. She now serves as Associate Professor of Teaching at UC Irvine.



“ I am a first generation college graduate. Without the UC LEADS program, I would not have known where to even start to apply to graduate school. The program provided me the opportunity to experience different research areas on two different campuses and introduced me to the GRE, which I didn't know existed previously. Additionally, the funding provided in the program to offset the cost of graduate school applications was crucial for me. I supported myself completely all the way through my undergraduate career. Applying to graduate school would have been cost prohibitive for me otherwise!

UC SANTA BARBARA

YEAR IN REVIEW

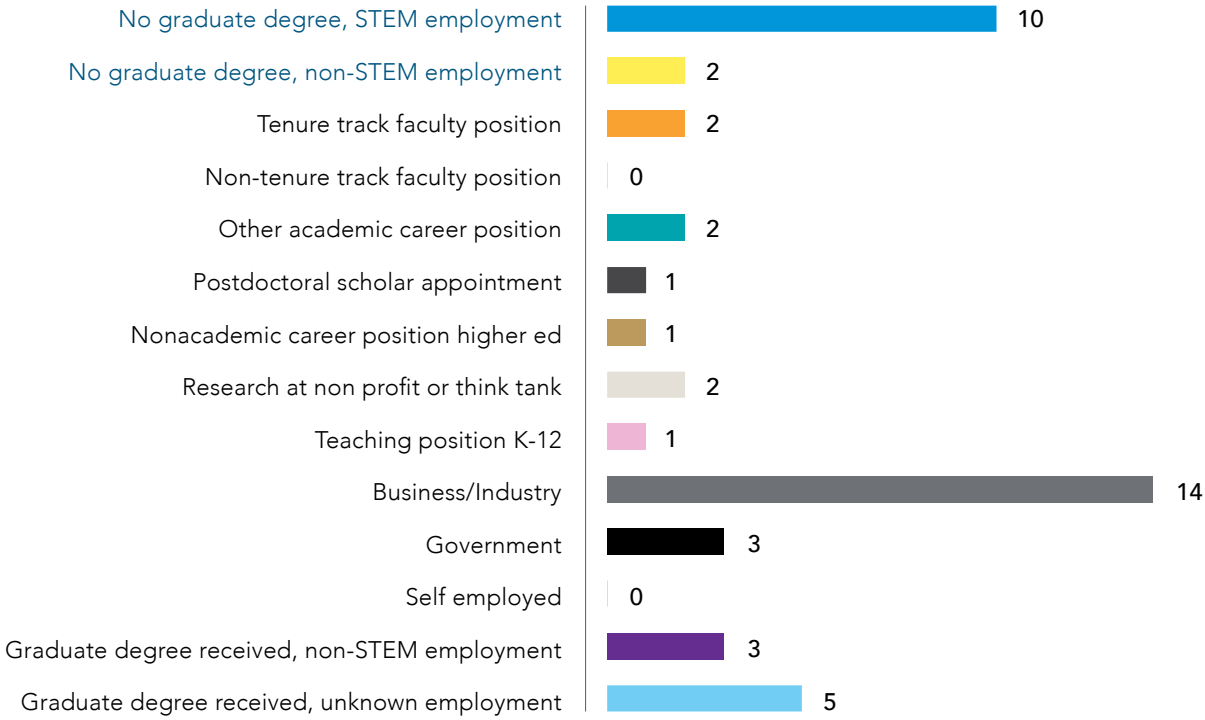
The UC LEADS program at UC Santa Barbara continues to provide spaces where our students can pursue their research interests and where we can provide professional development training. Our scholars completed an 8 week summer research program, with our second-year scholars attending programs at our sister universities such as UC San Diego, UC San Francisco, and UC Los Angeles. This 8-week summer program not only included opportunities to be mentored by faculty and graduate students, but also GRE preparation courses, professional development workshops, and presentation experience.

Our students have presented at multiple conferences, including the UC LEADS Symposium and the Undergraduate Research Colloquium and Undergraduate Research Slam Finals, and have published articles in peer reviewed journals. Our 2nd years have gone on to pursue graduate degrees at UC San Diego, MIT, and UCLA.

This year, our campus hosted all UC LEADS scholars at the 2018 UC LEADS Symposium on March 10, 2018. There were over 140 attendees and almost 90 poster presentations, with Assemblymember Monique Limón as our keynote speaker. Scholars were also given the opportunity to visit one of our Marine Biology labs and interact with sea life at our REEF touch tanks.

UC LEADS Santa Barbara Alumni Employment

Out of 46 program alumni
who completed their graduate degree
or are employed without a graduate degree



SECOND YEAR SCHOLARS

The following second year scholars received a \$3,500 stipend for their summer research.

Omar Curiel (Mechanical Engineering) is a first-generation scholar. He completed his second summer research at UC Los Angeles. He presented a poster at the 2018 UC LEADS Symposium titled *Experimental Analysis of Fine Sediment Dynamics on the International Space Station*. He graduated in spring 2018 and is an ESTEEM (Enhancing Success in Transfer Education for Engineering Majors) scholarship awardee. He will be pursuing an MS in Mechanical Engineering at UC Los Angeles.

Ximena Garcia (Physics) is a first-generation scholar. She completed her second summer at UC San Diego. She presented a poster at the 2018 UC LEADS Symposium titled *Effects of Mg⁺ on Dynamic Instability of Tau-Decorated Microtubules*. She graduated in spring 2018 and will be pursuing a PhD in Chemistry at UC San Diego.

Shannon Grossman (Biochemistry) completed her second summer at UC Santa Barbara. She presented a poster at the 2018 UC LEADS Symposium titled *Towards independent cellular release of a multi-biomolecule system using gold nanorods: Simultaneous up and down regulation of cellular pathways with light control*, which received an honorable mention. She graduated in spring 2018 and will pursue a PhD in Biology at the Massachusetts Institute of Technology.

Rachel Liu (Biology – College of Creative Studies) completed her second summer at UC San Francisco. She presented a poster at the 2018 UC LEADS Symposium titled *Trichodesmium contributes biogenic hydrocarbons to surface sheens in the Gulf of Mexico*. She graduated in 2018 and is currently working as an outdoor education instructor.

David Lowe (Biology – College of Creative Studies) completed his second summer research at UC San Francisco. He presented a poster at the 2018 UC LEADS Symposium titled *The Cytoplasmic Linker of Human IRE1α is Necessary for the Unfolded Protein Response*. He will graduate in Spring 2019.



FIRST YEAR SCHOLARS

The following first year scholars received a \$3,900 stipend for their summer research at UC Santa Barbara.

Daniel Chu (Chemical Engineering) completed his summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *LaMer Burst Nucleation*, which received honorable mention. He plans to graduate in 2019.

Kathryn Feerst (Biology – College of Creative Studies) completed her summer research at UC Santa Barbara. She presented a poster at the 2018 UC LEADS Symposium titled *Mapping the genetic basis of oviposition location preferences in *Drosophila melanogaster**. She plans to graduate in 2019.

Mary Lopez-Isidro (Pre-Biology) completed her summer research at UC Santa Barbara. She presented a poster at the 2018 UC LEADS Symposium titled *Optimizing CRISPRi to Silence KSHV Genes*. She plans to graduate in 2019.

Ali Mahadi (Pre-Chemistry) completed his summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *Novel Synthesis of Hybrid Layered Perovskites*. He plans to graduate in 2019.

Isabella Mayorga (Environmental Studies) completed her summer research at UC Santa Barbara. She presented a poster at the 2018 UC LEADS Symposium titled *Anthropogenic effects on plant-pollinator interactions in California*. She plans to graduate in 2019.

Anoop Praturu (Physics – College of Creative Studies) completed his summer research at UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *Sculpting Galaxy Clusters from Cosmic Gas*, which received honorable mention. He plans to graduate in 2019.

ALUMNI SPOTLIGHT

Javin Oza

UC LEADS 2001-2003
B.S. Biochemistry (2003)

Javin Oza received his Ph.D. in Biochemistry from UC Santa Barbara in 2012. He went on to work as a postdoctoral researcher at Northwestern University. He is an Assistant Professor in the Chemistry & Biochemistry Department at California Polytechnic State University at San Luis Obispo.



“The experiences I had through UC LEADS provided the opportunities and community that has instilled the confidence needed to pursue science at a high level. As a faculty person, the experiences I had through UC LEADS are reflected in my scholarship philosophy and the manner in which I guide my research group comprised of 10+ undergraduate students. Through my experience, I learned that students benefit from being challenged, and they can succeed in those challenges if provided the support and resources they need. I appreciate the impact UC LEADS had on my success more now than ever. In fact, I hang my UC LEADS embroidered graduation stole in my office for my student to see.

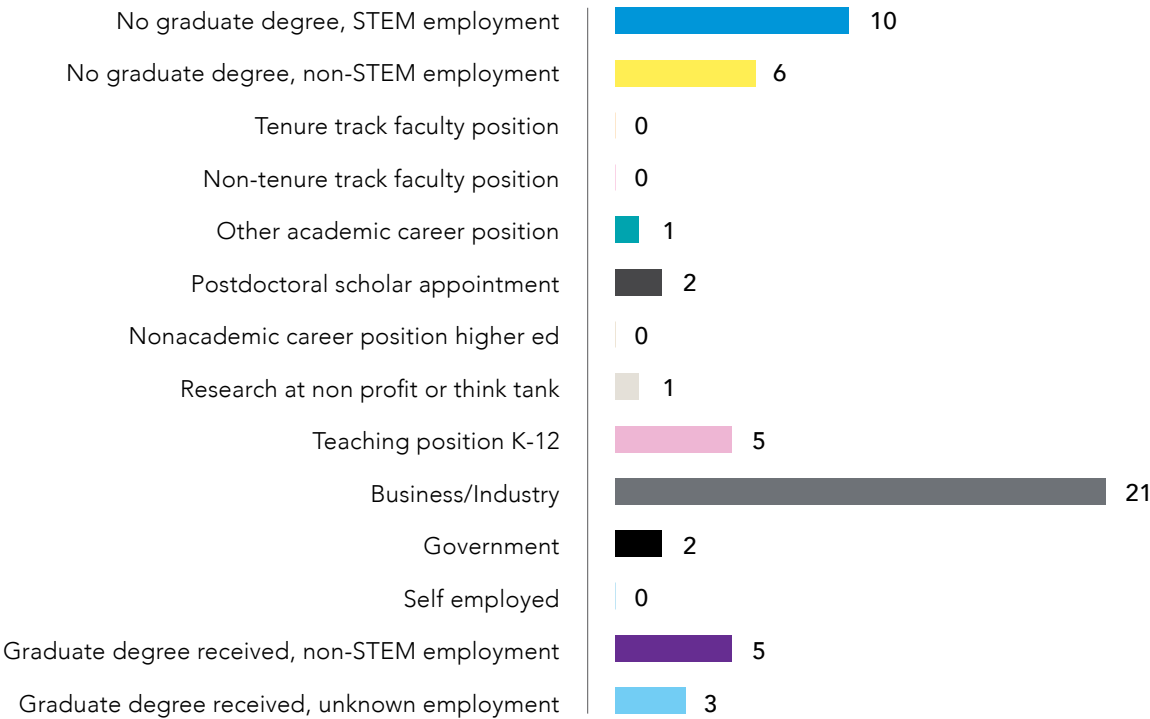
UC SANTA CRUZ

YEAR IN REVIEW

The UC Santa Cruz UC LEADS program had significant accomplishments for our 2017-2018 academic year. Our graduating scholars are going to top institutions for graduate study, postbac, and employment. Our first year scholars completed an intensive, eight-week, full-time summer research program, successfully completing 12 hours of research ethics training and over five hours of lab safety training. All first year scholars participated in biweekly professional development training on how to prepare a CV, creating a poster, faculty research lectures, and weekly book club. All scholars participate in quarterly check-ins with program coordinators during the academic year, receive tutoring for upper division courses, and have professional development workshops through the academic year. During fall 2017, two of our five second year scholars presented their research findings at the SACNAS and ABRCMS conferences. Two of our first years attended, and one second year presented at the Society for Hispanic Professional Engineers (SHPE). Our second year scholars all completed their second summer away experiences at UC Los Angeles, UC San Diego, and UC Berkeley.

UC LEADS Santa Cruz Alumni Employment

Out of 56 program alumni who completed their graduate degree or are employed without a graduate degree.



SECOND YEAR SCHOLARS

The following second year scholars received a \$3,500 stipend for their summer research.

Melvin Abzun (Electrical Engineering) completed his second summer research at UC Berkeley. He presented a poster at the 2018 UC LEADS Symposium titled *Miniaturized 3-Dimensional Fluorescence Microscope*. He graduated in spring 2018 and is now an Associate Optical Field Engineer at Light River Technologies.

Jesse Cisneros Solis (Physics) transferred from El Camino College and was the Vice-president of the UCSC SACNAS Student Chapter. He completed his second summer research at UC Los Angeles and presented a poster at the 2018 UC LEADS Symposium titled *Hydrodynamic Effects of Stators on Flagellar-driven Surface Motility in Pseudomonas aeruginosa*, which received honorable mention. He graduated in spring 2018 and is now an NIH post baccalaureate fellow at University of Michigan.

Maria Fernanda Gonzalez (Biochemistry and Molecular Biology) is a first-generation college student from San Francisco. She completed her second summer

research at UC Santa Cruz and presented a poster at the 2018 UC LEADS Symposium titled *Gene-specific transcriptional variation in chromatin remodeler mutants*. She graduated in spring 2018 and will pursue a Ph.D. in Biochemistry at Stanford University.

Diana Lucas Baca (Chemistry) completed her second summer research at UC Los Angeles. She presented a poster at SACNAS and UCSC symposia titled *ADMET Profiling of Novel Compounds that Inhibit the In Vitro Spread of Tau Pathology*. She graduated in spring 2018 and will pursue a Ph.D. in Chemistry at University of Delaware. Diana is from Los Angeles and is the first in her family to receive a bachelor's degree.

Valentin Urena Baltazar (Condensed Matter and Materials Physics) transferred from Foothill College. He completed his second summer research at UC San Diego and presented a poster at the 2018 UC LEADS Symposium titled *Analysis of Local Structure about Zn in Zn doped Tetrahedrite using Extended X-ray Absorption Fine Structure (EXAFS) Spectroscopy*. He graduated in spring 2018 and will pursue a Ph.D. in Physics at UC Santa Cruz.



FIRST YEAR SCHOLARS

The following first year scholars received a \$3,500 stipend for their summer research.

Allen Aboytes (Computer Engineering) did research at UC Santa Cruz and presented a poster at the 2018 UC LEADS Symposium titled *Countersurveillance measures for locating IMSI-catchers*. He plans to graduate in 2019.

Joanne Dong (Physics and Mathematics) is a first-generation college student from San Francisco. She did research at UC Santa Cruz during her first summer. She plans to graduate in 2019 and has applied to graduate programs in Mathematics.

Monica Gallegos (Astrophysics) did research at UC Santa Cruz and presented a poster at the 2018 UC LEADS Symposium titled *Tidal Disruptions of Main Sequence Stars of Varying Mass and Age: Inferences from the Composition of the Fallback Material*, which received top honors. She graduated early in spring 2018 and is now pursuing a PhD in Physics and Astronomy at Northwestern University.

Angela Rodriguez (Computer Engineering) is from East Los Angeles and is the first of her family to pursue a bachelor's degree. She did research at UC Santa Cruz and attended the SHPE conference in fall 2017. She plans to graduate in 2019.

ALUMNI SPOTLIGHT

Ricardo Fernandez

UC LEADS 2009-2011
B.S., Math and Physics (2011)

Ricardo Fernandez received his Ph.D. in Astronomy and Astrophysics from Columbia University in 2018. He now works as a data scientist at Anadarko Petroleum Corporation.



“ The program allotted me the opportunity and resources to work with several professors in their research lab. It was a valuable and vital experience that allowed me to easily transition into my own research. Real experiences that cannot be taught in textbooks or classes are the experiences needed to tackle the pressing topics of today. I am grateful to be part of the 2010 UCLEADS cohort. That time undoubtedly has put me on a path that has changed my life.

UC SAN FRANCISCO

YEAR IN REVIEW

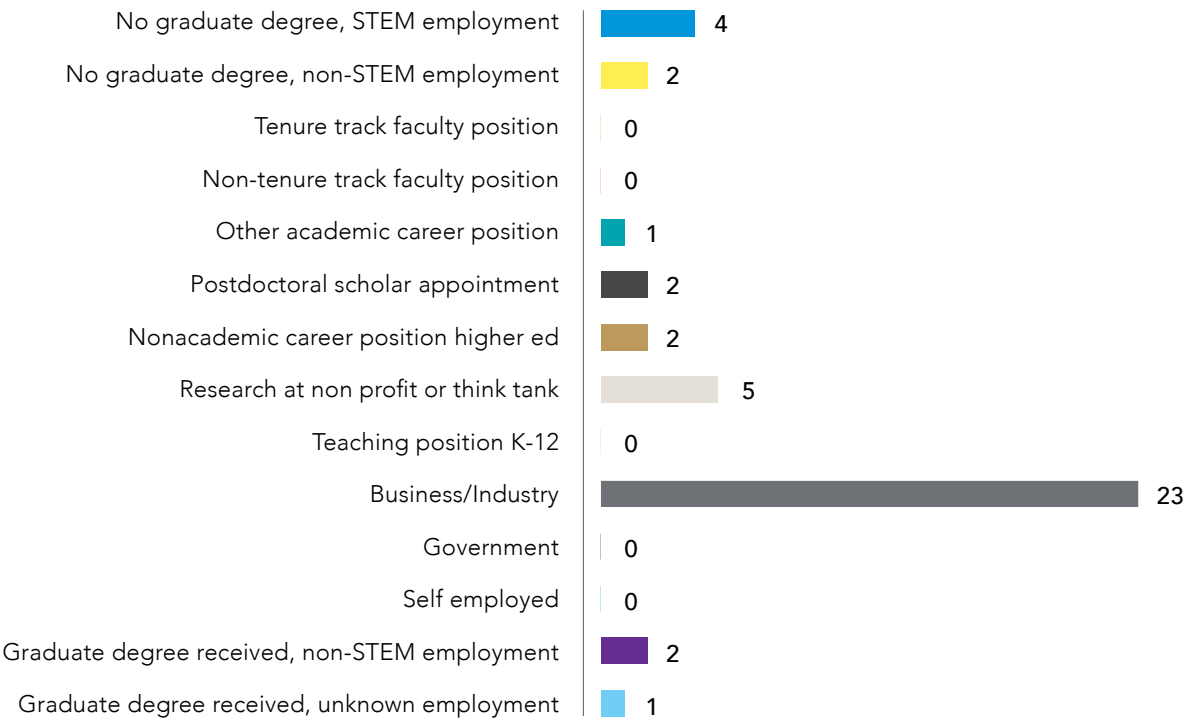
The UCSF 2017 Summer Research Training Program (S RTP) was comprised of 50 students representing 35 colleges and universities in 16 states across the U.S and Puerto Rico that included 6 UC LEADS scholars. The 2017 cohort was a special one – they were the 30th group of undergraduates to experience UCSF’s highly successful S RTP program.

Since 1987, the Program has hosted an average of 50 students annually, over 1,500 students altogether. S RTP represents a key part of the Graduate Division’s efforts to recruit promising undergrads from a broader range of backgrounds. Summer cohorts each year have included students who may not have had access to well-equipped labs, robust science programs, or graduate school preparation at their undergraduate institutions — factors that could make them less confident to apply to a top-tier, research-intensive university like UCSF. The numbers show that the Program is an effective recruitment tool.

Students are mentored by faculty, postdocs, and graduate students; experience the culture and collegiality of being a member of a “lab group”; and receive training that emphasizes UCSF’s unique, multi and interdisciplinary research. Students are encouraged to be creative and are given considerable independence in the design and direction of their research projects.

UC LEADS San Francisco Alumni Employment

Out of 42 program alumni
who completed their graduate degree
or are employed without a graduate degree



SECOND YEAR SCHOLARS

The following second year scholars received a \$4,000 stipend for their summer research.

Rachel Liu (Biology – Creative Studies) was a second year scholar from UC Santa Barbara. She presented a poster titled *Trichodesmium contributes biogenic hydrocarbons to surface sheens in the Gulf of Mexico*. She graduated in 2018 and is currently working as an outdoor education instructor.

David Lowe (Biology – Creative Studies) was a second year scholar from UC Santa Barbara. He presented a poster at the 2018 UC LEADS Symposium titled *The Cytoplasmic Linker of the Human IRE1α is Necessary for the Unfolded Protein Response*. David presented the same poster and won an award at the 2017 Annual Biomedical Research Conference for Minority Students (ABRCMS). He will graduate in Spring 2019.

David Maginnis (Chemical Engineering) was a second year student from UC Davis. He did his second summer research at UC San Francisco. His poster, titled *Air Facilitated Droplet Formation For Cell Encapsulation*, received an honorable mention at the 2018 UC LEADS Symposium. He plans to graduate in Spring 2019.

Vaishnavi Malipeddi (Neuroscience) was a second year scholar from UC Riverside. She presented a poster at the 2018 UC LEADS Symposium titled *Ketamine’s antidepressant role on dopamine 2 receptor-expressing neurons*. Vaishnavi graduated in 2018. She currently has a scribe job at a local ER and plans to apply to masters programs in genetic counseling.

Ilse Pastor (Cognitive Science emphasis Neuroscience) was a second year scholar from UC Davis. She presented a poster at the 2018 UC LEADS Symposium titled *Do in-class distractions associated with cell phone notifications influence recollection- or familiarity-based memory?* Ilse graduated in 2018 and is now a Junior Specialist at UC Davis in the Human Memory Lab in the Center for Neuroscience.

Alice Tang (Bioengineering) was a second year scholar from UC Los Angeles. She presented a poster at the 2017 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) conference. Alice graduated in 2018 and is now a medical student in the UCSF Master Scientist Training Program.



ALUMNI SPOTLIGHT

May Szeto

UC LEADS 2009-2011
B.S. Cell & Developmental Biology
(2011)

May Szeto received her Ph.D. in Biomedical Sciences from UC San Francisco in 2017, where she is currently working on her MD as a pediatrics residency trainee in molecular medicine. She serves as a student advisor for the UCSF Summer Research Training Program for undergraduates.



“ I utilized the skills I developed as a UC LEADS scholar and sought out different faculty members who could assist me without hesitation. I could not have navigated the lengthy and uncertain path of MD/PhD training without all the mentors that I have had. I am excited to serve as a mentor to some of my former undergraduate summer students who have now started their Ph.D. or MD/Ph.D. training.



UC LEADS 2017-2018 EXECUTIVE STEERING COMMITTEE

Dr. Carol Genetti
Executive Steering Committee Chair
Dean of Graduate Division
UC Santa Barbara

Christian Villasenor
UC LEADS Statewide Director Emeritus
Director of Academic Administration
Office of the Executive Vice Chancellor

Michele Johnson
UC LEADS Statewide Director
Assistant Director, Diversity Initiatives
UCSB Graduate Division

NORTHERN CALIFORNIA

Dr. Rudy Ortiz
Faculty Representative
UC Merced

Diana Lizarraga
**UC LEADS Coordinator
Representative**
UC Berkeley

SOUTHERN CALIFORNIA

Dr. Franklin Dollar
Faculty Representative
UC Irvine

Dr. Devin Horton
**UC LEADS Coordinator
Representative**
UC Los Angeles

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