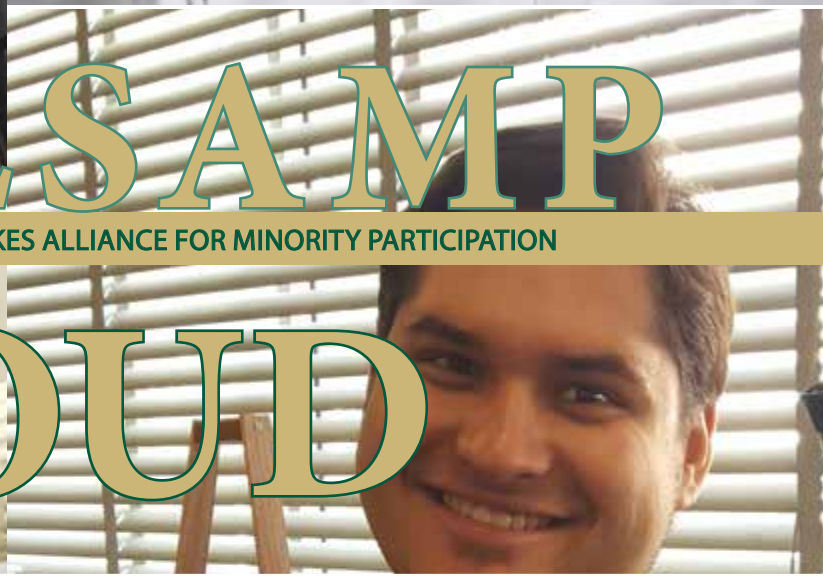
October 2017 | Vol. 4

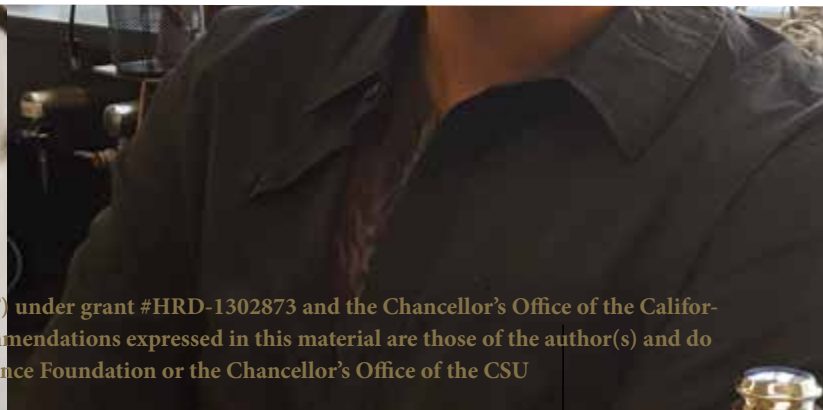
CSU-LSAMP

CALIFORNIA STATE UNIVERSITY LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION



PROUD

Program Recognizing Outstanding Undergraduate Distinction



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INTRODUCTION

Welcome to the fourth edition of CSU-LSAMP PROUD, the annual publication of the California State University Louis Stokes Alliance for Minority Participation. This publication recognizes the outstanding academic, research, and service achievements of students and alumni from throughout our alliance. Each year, the CSU-LSAMP coordinators at each of our alliance campuses nominate students to be recognized through our Program Recognizing Outstanding Undergraduate Distinction (PROUD). Our PROUD scholars have distinguished themselves in so many ways - in the classroom, in the laboratory, and in the community - and the success of CSU-LSAMP is truly written in their stories, which are featured in this publication. Over its 24 years of history, CSU-LSAMP has served over 25,000 students, enhancing their academic and professional development through a structured series of activities. In this issue we will highlight the Graduate Diversity Forum and our summer 2017 international programs. We also provide an update on the current phase of CSU-LSAMP and some of its successes to date. We are especially PROUD of the work our CSU-LSAMP Campus Coordinators do and in this edition, we feature a special thank you to Dr. Margaret Jefferson, who will be retiring from Cal State LA and who has been with CSU-LSAMP since its inception.

Lisa Hammersley, Ph.D.

Lead Project Director, CSU-LSAMP

Associate Dean, College of Natural Sciences & Mathematics, California State University, Sacramento

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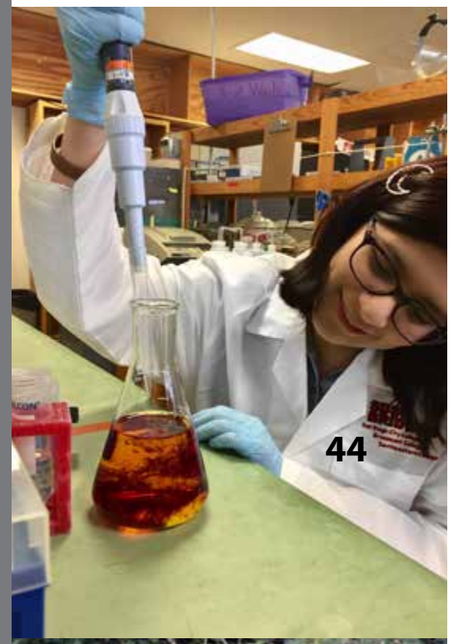
PROUD SCHOLARS BY CAMPUS



PHASE V UPDATE

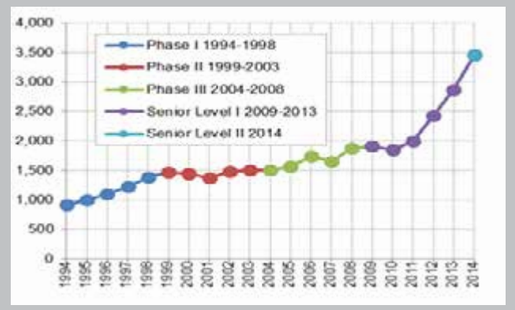
Funded by the National Science Foundation and the Chancellor's Office of the California State University, CSU-LSAMP is a coordinated and comprehensive program dedicated to broadening participation in STEM. Over its 22 year history, the CSU-LSAMP Aliance has grown to include all 23 campuses of the CSU, becoming a truly system-wide effort. The primary goal of CSU-LSAMP is to enhance the academic and professional preparation of CSU-LSAMP participants for careers in STEM.

We are currently in our fifth five-year cycle of funding, known to us as Phase V. At the beginning of each "phase" of CSU-LSAMP we set a series of short and long-term goals for the project. Data from the first year of Phase V showed that not only did we exceed most of our short-term goals, but we exceeded a number of our long-term goals. As the end of the fourth year of Phase V data shows, CSU-LSAMP continues to thrive and provide rewarding opportunities for our students.

Increasing the number of URM students who graduate in STEM

Since the inception of CSU-LSAMP in 1994, the number of baccalaureate STEM degrees awarded by the CSU to URM students has increased 277%

URM CSU-LSAMP participants are twice as likely to graduate as URM CSU students who do not participate in CSU-LSAMP.



CONTINUED SUCCESS

Increasing the number of URM students who pursue a graduate degree

An estimated 43% of CSU-LSAMP participants either earned a post-baccalaureate degree or are currently enrolled in graduate programs. 172 participants in CSU-LSAMP have earned a doctorate and 787 CSU-LSAMP graduates have earned a Master's degee. Over 2,000 graduates of the CSU-LSAMP program are currently enrolled in graduate programs.

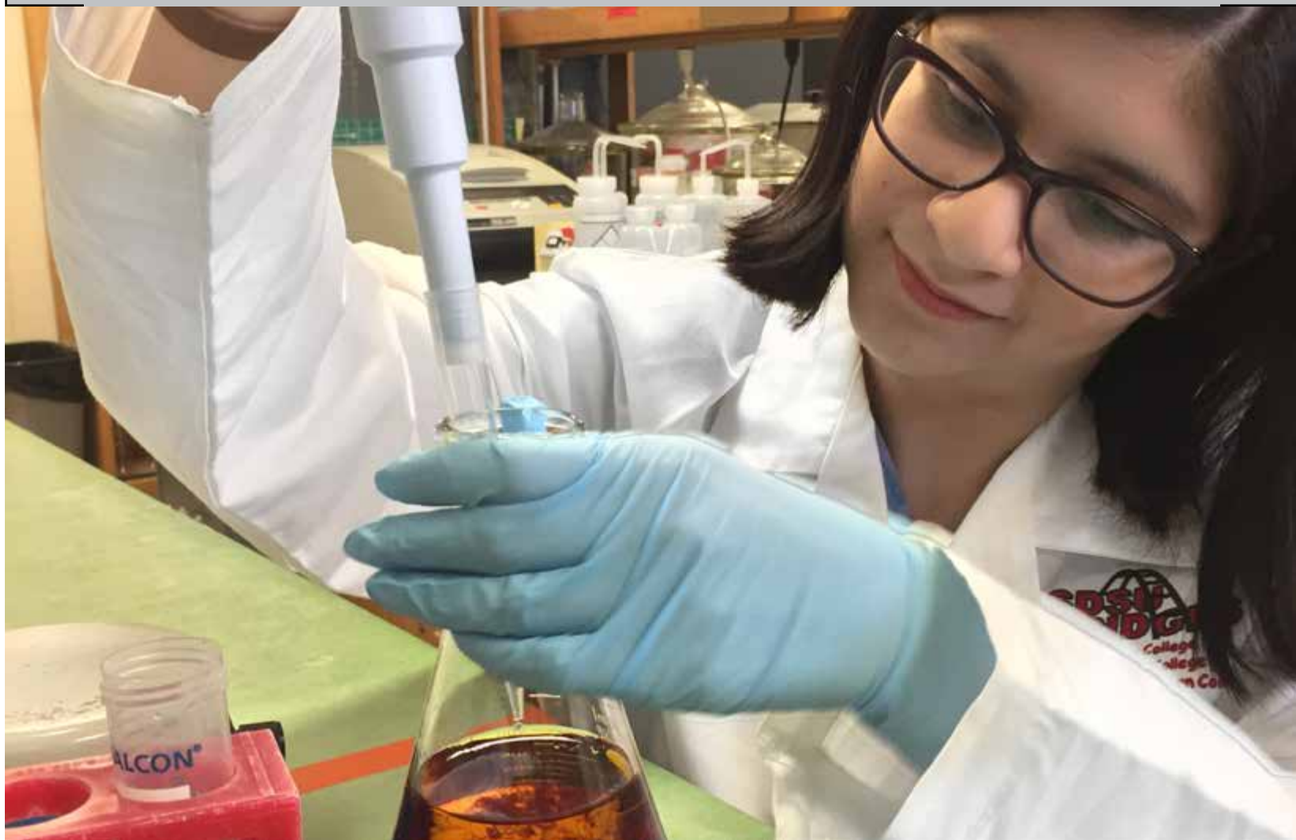
CSU-LSAMP Bridge to the Doctorate

Funded by NSF, the LSAMP Bridge to the Doctorate (BD) program supports cohorts of 12 students for their first two years of graduate-level study. To date, NSF has supported twelve CSU-LSAMP-BD cohorts. San Francisco State served as the performance site for cohorts 1 and 4, CSU Northridge for cohorts 7 and 9, and Cal State LA for cohorts 2, 3, 5, 6, 8, 10, 11, and 12. The CSU-LSAMP-BD program supports students through attainment of their Master's degree and prepares them for entry into Ph.D. programs.
Through the generous support of the LSAMP BD program, CSU-LSAMP has served a total of 176 students, 24 of whom are presently enrolled at Cal State LA in cohorts 13 and 14. Of the 152 students that participated in cohorts 1-12:

- 76 were accepted into STEM Ph.D. programs
- 39 are currently enrolled in Ph.D. programs
- 37 have earned a Ph.D. and 4 have earned an M.D.
- Of these, 7 have entered the professoriate, 4 are employed as physicians, 11 are engaged in postdoctoral research, and 11 have become part of the STEM workforce, with positions from Lawrence Livermore National Laboratory to the Smithsonian Institution's Museum of Natural History.

CSU-LSAMP: SUCCESS WRITTEN IN THE NUMBERS

- Since 1994, CSU-LSAMP has served 25,132 participants, including 21,025 URM students
- The annual number of participants has increased more than four-fold, from 641 in 1994 to 3,225 in 2016
- From 1994 to 2016, CSU URM-STEM undergraduate enrollment increased 262%. STEM enrollment for non-URM studens increased by only 27 percent over the same time period.
- From 1994 to 2016, CSU URM-STEM baccalaureate degree production increased 394%
- CSU-LSAMP participants are 1.3-1.7 times more likely than non-participants to remain enrolled in STEM disciplines
- CSU-LSAMP participants are 1.8 times more likely than non-participants to graduate with STEM degrees within 6 years
- In 2015-16, more than 900 CSU-LSAMP students engaged in research on their own campuses, at national laboratories, and internationally.
- Hundreds of CSU-LSAMP students disseminated their research, producing journal articles and presentations at conferences regionally, nationally, and internationally.
- 42% of CSU-LSAMP graduates persisted at the post-baccalaureate level. And, 13% of these participants earned master's degrees, 3% earned doctorates, and 26% remain enrolled.



CSU-LSAMP ACTIVITY

SUPPORTING DIVERSITY

The California Forums for Diversity in Graduate Education, planned by a consortium of public and private colleges and universities from throughout California, have been designed particularly to meet the needs of advanced undergraduates and master's candidates who belong to groups that are currently underrepresented in doctoral-level programs. The groups include low-income and first-generation college students and especially African Americans, American Indians, Chicanos/Latinos, Filipinos, Pacific Islanders, Asian American women, and Asian American men in the arts, humanities, and social and behavioral sciences.

Each California Forum for Diversity in Graduate Education will bring together approximately 1,000 pre-selected, high-achieving undergraduate and master's students. The students will explore graduate opportunities and resources by participating in numerous workshops conducted throughout the day. Universities and individual graduate programs offering academic master's and/or Ph.D. degrees are welcome to participate in the recruitment fairs that will take place concurrently with the other planned activities.

CSU-LSAMP has been supporting the efforts of the California Forums for more than a decade, providing financial assistance, and recruiting qualified LSAMP students to attend and participate. In 2016-2017, CSU-LSAMP had 129 students attend either the Southern Forum at Loyola Marymount University in the fall of 2017 or the Northern Forum at UC, Merced in spring 2017.

The California Forum for Diversity in Graduate Education had its origin in a series of meetings in 1990 among graduate deans and their staff from the University of California and California State University systems. The meetings focused on ways to enhance the recruitment of minority students into doctoral programs. The UC representatives especially wanted to attract more African American and Latino students. The CSU representatives wanted a broader pool of new Ph.D. recipients that would enable their campuses to recruit future faculty as diverse as the student populations they already served.

The representatives who began these discussions called themselves the California Consortium for Minority Graduate Education and experimented with a number of different initiatives, including exchanges of information about minority applicants. The one effort that proved immediately successful and has been sustained ever since was the California Minority Graduate Education Forum, first held at the University of California, Los Angeles in 1991. The Forum was developed to inform students from groups that were significantly underrepresented in American graduate education about the career opportunities and academic challenges associated with advanced study in a wide range of disciplines. It was designed to tap into the growing pool of highly qualified undergraduate and master's-level students already attending California colleges and universities. Previously, there had not been an adequate mechanism to identify these students and encourage them to think in terms of graduate study leading to the Ph.D. degree. To remedy this situation, the Forum brought together some of the most promising underrepresented students to acquaint them with all aspects of advanced study in the natural sciences and engineering, humanities and letters, social sciences, education, and health-related fields.

Some photos and text courtesy of www.caldiversityforum.org

LSAMP FACULTY

AN ALLIANCE' S THANK YOU

Dr. Margaret Jefferson, Professor Emeritus of Genetics, has been with the CSU-LSAMP Alliance since it's inception in 1993. Through her dedication and committment to the cause, the CSU-LSAMP program at Cal State LA has become the largest in the alliance, with around 500 students per year. Additionally, Dr. Jefferson has been instrumental in the continued success of the CSU-LSAMP Bridge to the Doctorate for 10 of the 14 cohorts funded by the NSF.

The 2017-2018 Academic year will be Dr. Jefferson's last with CSU-LSAMP as she is retiring from the university. While all of those who have worked with Dr. Jefferson over the years can attest to her committment to the students, it is the students themselves who expressed their appreciation for such an amazing member of the team.

Dr. Jefferson's mentorship and tireless hard work on my behalf and the students in the LSAMP Bridges to the Doctorate program is a huge reason why I am now a 4th year PhD candidate at a top research institution. Through her unique brand of tough love and dedication, she prepared me to tackle graduate school and improved my confidence in being able to handle even the most challenging moments that inevitably come up during the course of graduate education. I consider myself very fortunate to have been able to participate in the LSAMP-BD program and learn directly from her. While I know the program will continue in more than capable hands, it is still bittersweet that Dr. Jefferson's participation is ending, although I can hardly think of anyone else who deserves to enjoy their retirement more. Dr. Jefferson instilled in me a desire to persevere and continues to serve as a voice in outreach to those students who like me may not have had the same opportunities were it not for programs like LSAMP. I will continue to honor her legacy through my work in graduate school and beyond. Thank you Dr. Jefferson, for everything.

-Monica Chinea Diliz

photo credit: University of Illinois at Urbana-Champaign

Dr. Jefferson has been an inspirational mentor to me since the beginning of my undergraduate career. I first met her during my freshman year at CSULA nine years ago when I joined CSU-LSAMP and she served as my academic advisor. If it was not for Dr. Jefferson encouraging me to join LSAMP I would not be where I am today. After graduating with my Bachelor's degree in biology I was accepted into the CSULA LSAMP Bridge to Doctorate program and completed my Master's degree. Dr. Jefferson has always supported me in my academic goals and continuously motivates me to pursue my dreams. I am forever grateful for her mentorship and guidance throughout my entire academic career.

-Breanna Luna

In my years at California State University, Los Angeles I came across many outstanding professors. Of those professors, Dr. Jefferson stood out to me as the hardest working individual, dedicated to student success. Many of the great experiences I have had in my life were made possible because of her outstanding work ethic. I was able to travel outside of the country and contribute to groundbreaking research, and now I am part of an outstanding doctoral program and I know this would not have been possible without her help. I am so grateful to have been a part or her legacy at CSULA and will forever aim to be just as hard working and determined as she is.

-Jennifer Retana

I have been fortunate enough to work with Margaret for the last 5 years as she mentored me on the LSAMP undergraduate and BD program, as well as trained me to become the next principal undergraduate advisor for our department. I have been able to witness firsthand Margaret's dedication to the students and the LSAMP program. She truly does care about helping the students achieve their academic and career goals. Yes, she does have an untraditional way of doing things BUT they work! The student successes and accomplishments that were achieved at Cal State LA during her time as the lead campus coordinator are directly attributed to her passion and determination to help students succeed. I am extremely grateful that I had the chance to learn from her and have enjoyed talking to alumni about her and hearing that even though they were scared, they truly do appreciate everything she has done for them as they wouldn't be were they are at now with her push. Thank you Margaret for your workaholic hours and drive for perfection. It was made me a better administrator and faculty member. Enjoy your retirement!

-Katrina Yamazaki

CSU-LSAMP NSF NATIONAL GRADUATE RESEARCH FELLOWSHIP AWARDEES -- 2017

Erin L. Aiello (Cal Poly)
Life Sciences - Ecology
California Polytechnic State University, San Luis Obispo

Bushra M. Bibi (SFSU)
Life Sciences - Biochemistry
University of California, San Francisco

Jose O. Castellon (CSUCI)
Life Sciences - Biochemistry
California State University, Los Angeles

Jessica T. Cortez (CSUCI)
Life Sciences - Physiology
University of California, San Francisco

Judith Flores (CSUSM)
Chemistry - Chemistry of Life Processes
California State University, San Marcos

Eric R. Gonzalez (SDSU)
Life Sciences - Systems and Molecular Biology
University of California, San Francisco

Heather Neldner (Cal Poly)
Life Sciences - Ecology
California Polytechnic State University, San Luis Obispo

Bianca Y. Ruiz (CSUF)
Life Sciences - Evolutionary Biology
University of Washington School of Medicine

Pingdewinde N. Sam (SFSU)
Life Sciences - Cell Biology
Johns Hopkins University

David Vega (CPP)
Engineering - Optical Engineering
University of Arizona

Fauna Yarza (SJSU)
Life Sciences - Microbial Biology
University of California, San Francisco

CSU-LSAMP INTERNATIONAL PROGRAMS

With the start of Phase III in 2008, CSU-LSAMP added international research experiences as one of its objectives. Since then, **375 CSU-LSAMP participants (an average of 47 per year)** have had the opportunity to conduct research overseas. We have placed students in research on all continents except for Antarctica.

CSU-LSAMP provides opportunities for students to obtain international research experiences in a number of ways, including participation in international REUs, study abroad programs, and travel with an individual research advisor.

CSU-LSAMP also funds two international experiences per year. Offered by individual campuses, these programs are open to CSU-LSAMP participants from any of our Alliance campuses, providing an opportunity for our students to build a broader network of peers.

CSU-LSAMP RESEARCH EXPERIENCE IN UZBEKISTAN

This summer nine undergraduate students traveled from the U.S. to Uzbekistan to conduct summer research in Mathematics with world-renowned mathematician Shavkat Ayupov. The group included three LSAMP students: Wesley Whiting (CSUF), Crystal Salas (Sonoma State) and Juan Salsedo (Sonoma State). The research component of the program was very successful; all the students are publishing their research in international journals (in the process of submission). One group that included Wesley has already submitted their research for publication in Uzbek Mathematical Journal, which is a top, peer-reviewed journal in Uzbekistan.

In addition to their research, the students visited three Silk Road cities (Samarkand, Bukhara, Khiva), visited three universities and connected with their peers from these universities. The U.S. students did feel that they were like celebrities in Uzbekistan. Their visit was covered by 5 local TV channels as well as some radio and print media.

CSU-LSAMP RESEARCH EXPERIENCE IN COSTA RICA

Launched in 2011, the CSU-LSAMP Costa Rica Summer Expedition is an interdisciplinary field research program involving the study of tropical environments, their natural history and their people. This year sixteen CSU students participated in the program in Costa Rica. A team from CSU Monterey Bay, Drs. Diana & Milton Lieberman along with Drs. John "Buck" Banks and Carla Fresquez, staff from CSUMB's Undergraduate Research Opportunities Center (UROC), led the expedition. Students in STEM majors from CSU Sonoma, Los Angeles, San Diego, East Bay, Chico, Channel Islands, SLO, and Monterey Bay campuses participated in the 5-week program. Students lived at field stations and with local rural families, experiencing Costa Rican culture and language first-hand, all while learning about tropical biodiversity, statistics and research methods including experimental design, sampling, hypothesis testing, and the responsible conduct of research. Field research activities exposed students to a full range of Costa Rica's spectacular tropical ecosystems, including the lowlands and the coral reefs on the Pacific coast, the central highland coffee-producing region of Tarrazú, the rainforest village of Mastatal, and the cloud forests of the world-famous Monteverde region. Each student participated in group research projects and also designed and carried out independent research projects; as in the past, students presented their research at the end of the program, and some have gone on to present their work at national conferences.

My favorite part of the entire trip was the connection we made with other mathematicians and the professors. The professional relationship I have established with these professors is one that I would have never encountered without this program. This program has definitely aided my academic career, and consequently, my professional career.
- Juan Salsedo, Sonoma State, Uzbekistan '17

California State University, Bakersfield

OUTSTANDING RESEARCH IN STEM

ALEX VALENZUELA · BIOLOGY

Alex recently obtained his degree in biology with a minor in chemistry. For approximately two years, he has been working under the guidance of Dr. Antje Lauer studying Coccidioides spp., the causative agent of coccidioidomycosis, otherwise known as valley fever. He has utilized several molecular techniques, including PCR and DGGE to detect the pathogen in both dust and soil. Alex presented his research at the Young Researchers Conference at UC Davis, and the CSU Bakersfield Student Research competition. Most notably, he presented his work at the Emerging Researchers National (ERN) Conference in Washington D.C., where he placed first in the Microbiology category, and at the 18th Annual Microbiology Student Symposium at UC Berkeley, where he received 2nd place. In addition to his research, he volunteers at the Kern Medical microbiology laboratory, where he receives patient samples and prepares them for analysis. Alex plans to pursue a doctoral degree in infectious disease epidemiology after completing a Master's degree at CSU Bakersfield, where he continues his research with Dr. Lauer.

OUTSTANDING ACADEMIC

OMAR SAMARA · MECHANICAL ENGINEERING

Omar started as a freshman in the fall of 2014 in CSU Bakersfield's new engineering program. Early on, he approached Dr. Yiannis Ampatzidis and asked if he could help in his lab. He quickly joined the Precision and Automated Systems lab and attended his first LSAMP-funded research conference that same quarter. He then started with various small research projects and moved on to pursue bigger projects in his preferred area of interest: drones for agriculture. Omar organized a Kinetic Sculpture Competition and served as a mentor to the Freshman Orientation to Engineering students participating in the CSU Bakersfield Fab Fest. Omar has presented his research at numerous conferences across the western US, including Reno, NV, Ashland, OR, and Riverside, CA. He has been accepted to both UC Merced's Ph.D. program in Mechanical Engineering, and to UC Davis' Ph.D. program in Biosystems Engineering in fall 2017.

OUTSTANDING SERVICE & LEADERSHIP

NATALIA RANGEL · BIOLOGY

Natalia is a biology major with a minor in sociology at CSU Bakersfield. She has been working under the guidance of Dr. Antje Lauer for over the past year and a half detecting the Valley Fever fungal pathogen, Coccidioides immitis, in soil samples using a DNA and RNA-based approach. The central focus of her research is to identify the habitat that supports the growth of C. immitis and to identify all dominant members of the fungal community that thrive in the soils of the endemic areas of the pathogen to better understand the ecology of C. immitis in California.

Natalia has presented her work at several research conferences, including the 2017 Emerging Researchers National (ERN) Conference in Washington, D.C. and the 18th annual Microbiology Student Symposium at UC Berkeley. She also presented at the 2017 CSUB Student Research Competition, where she placed 3rd in the poster competition in the Undergraduate Biological and Agricultural Sciences category. Most notably, Natalie co-authored a manuscript, which was recently published in Mycopathologia. In addition, she organized other research students and encouraged them to present at conferences this year. Natalia has also distinguished herself by participating in two separate humanitarian trips to Nicaragua through the Medical Global Brigades club at CSU Bakersfield. In her trips, she helped provide basic medical care in rural communities.

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Channel Islands
CALIFORNIA STATE UNIVERSITY

OUTSTANDING ALUMNUS
JOSÉ CASTELLÓN · CHEMISTRY

José Castellón credits his parent's example of perseverance for his drive to succeed. And succeed he has, from early years as one of seven in a small one-room house in rural Mexico to becoming a 2017 National Science Foundation Graduate Research Fellow recipient! José is grateful to LSAMP, his mentors, and his peers for opportunities to develop the skills he'll put to use as a Ph.D. student in Biochemistry, Biophysics, and Structural Biology in the Molecular Bioscience Department at UCLA.

At the age of six, José moved to California. His mother was a driving force propelling him to higher education. José attended CSU Channel Islands (CI) where he completed a B.A. in Spanish and a B.S. in Chemistry (Biochemistry option) and a minor in Biology. José's personal and academic strengths were recognized by his being tapped to be a founding STEM Peer Mentor, guiding a small group of first-year STEM students through their transition to the university. José spent two years studying protein folding stability in the lab of Dr. Blake Gillespie and also worked as a STEM Tutor at CI. In Summer 2013 José joined the CSU-LSAMP summer program in Costa Rica where he participated in a home stay and collaborated with peers to carry out two research projects, one examining shell taphonomy and another studying black spiny iguanas.

After earning two undergraduate degrees, José continued honing his laboratory skills in industry. Acceptance in the CSU Los Angeles Bridges to the Doctorate (BD) program was the key to José's returning to academia. José continued to excel at CSULA, working in the lab of Dr. Xin Wen, mutating proteins in the search of potential inhibitors of calcite crystal formation. With the aid of BD mentors, José successfully applied for Ph.D. programs and the NSF Graduate Research Fellowship.

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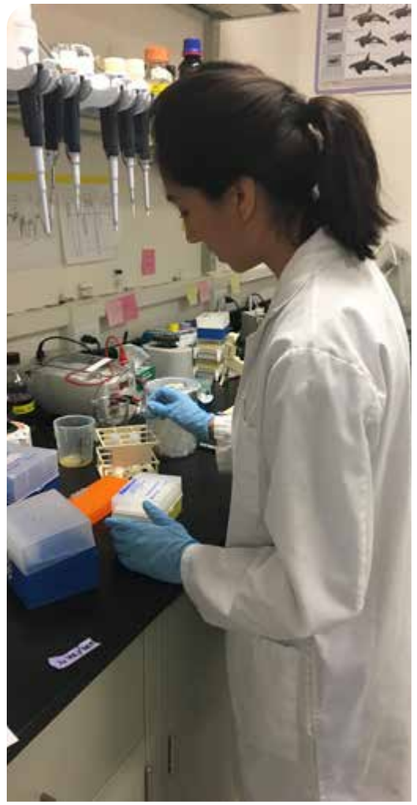


OUTSTANDING ACADEMIC
VIVIAN GARCIA · BIOLOGY

Vivian Garcia and her two older sisters were the first in their families to attend college. Although unsure of her abilities, her sisters encouraged her to apply for opportunities like LSAMP and the ACCESO Summer Research Institute. She demonstrated strong academic prowess in the Peer-Led Team Learning program, and subsequently earned positions as a STEM Tutor and Peer Leader. Explaining scientific concepts to her peers helped her improve many academic skills, enabled her to handle stressful situations, and realize that "everything in life takes patience."

Vivian participated in a 3-week research program the summer after her first year in college. It took her another two semesters to ask her eventual research mentor, Charles Sackerson, to work in his lab. To her shock, he not only said yes, but let her work independently after a few days of training. Her research allowed her to experience both the ecstasy of success and the lessons of failure. She writes, "Through failure there is insurmountable knowledge gained."

Vivian excelled in her classes throughout her college years. She became a leader in several aspects: in LSAMP, as an officer in the SACNAS and chemistry clubs, and in the informal STEM student support networks. Vivian graduated cum laude in May 2017 with a major in biology and a minor in chemistry, earning Honors in Biology. In fall 2017, she began a Masters in Cell and Molecular Biology at San Francisco State University, where the confidence gained and lessons learned through her undergraduate years will stand her in good stead.

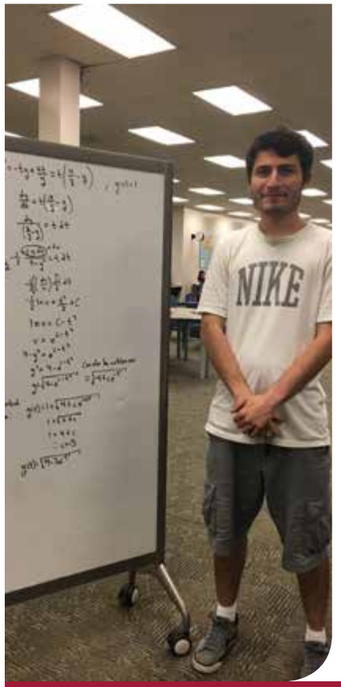
OUTSTANDING ROLE MODEL
STEPHANIE SORIANO · BIOLOGY

Stephanie was close to finishing her Psychology major when she discovered a fascination with biotechnology. She committed to an additional three years as an undergraduate to add a degree in biology. During this time, Stephanie carried out research with molecular biologist Dr. Nitika Parmar, presenting at multiple national conferences and drafted a scientific paper for publication. She also conducted research with neuroscientist Dr. Beatrice de Oca. This impressive record was achieved while working up to three jobs simultaneously.

Stephanie's nomination for the LSAMP PROUD Award stems from her taking advantage of every opportunity to advance herself and for always sharing her knowledge and enthusiasm with her peers. As an example of Stephanie's commitment to her future, she attended the 2014 SACNAS conference in LA for three days, which entailed rising at 4:45 am to catch the bus and returning home around 11 pm every day. Her level of commitment to getting as much as she could out of the conference, her joy in engaging the science, connecting with people, and sharing what she learned with others were unmatched. This year, Stephanie founded our campus' SACNAS chapter and took a leading role in preparing over 50 students to benefit fully from what was for many their first national conference. She continues to share her journey, and her graduate school and fellowship resources via her own webpage. Stephanie's intelligence, aptitude, and work ethic have moved her from an under-prepared undergraduate to entering Ph.D. student at the University of Illinois with outstanding potential for lifelong contributions to the field of Neuroscience and to society.

Photo Courtesy of CSU Channel Islands

CALIFORNIA STATE UNIVERSITY, CHICO



OUTSTANDING SERVICE/LEADERSHIP
FRANCISCO MARTINEZ MAGALLANES · MATHEMATICS

Francisco Martinez is the youngest son of eleven siblings. He is a hard-working, willing, and intelligent young man, who comes from humble beginnings. He has "always adored mathematics," even as a young boy who struggled with his long division. Due to his affection for math, he decided to pursue a degree in applied mathematics from CSU Chico.

Francisco's LSAMP experience began with the Summer Calculus Boot Camp in the summer of 2013. He was a role model for the other students. He continues to look for ways to improve and is willing to take new opportunities. He has earned many of the CSU Chico LSAMP Merit Awards as well as scholarships from other organizations. For three years, he has served as an Academic Excellence Workshop Facilitator for differential equations and mentors many of the STEM students toward excellence. His students laud his gentle, patient explanations of difficult concepts. He is an active member of Latinos in Technical Careers (LTC) and the Mathematics Honors Society, Π M E.

After earning his bachelor's degree, he plans to go to graduate school and then teach applied mathematics at the university level. His goal is to teach students to love math as much as he does. He will focus on differential equations since he has found it to be his favorite field of mathematics in his undergraduate career.

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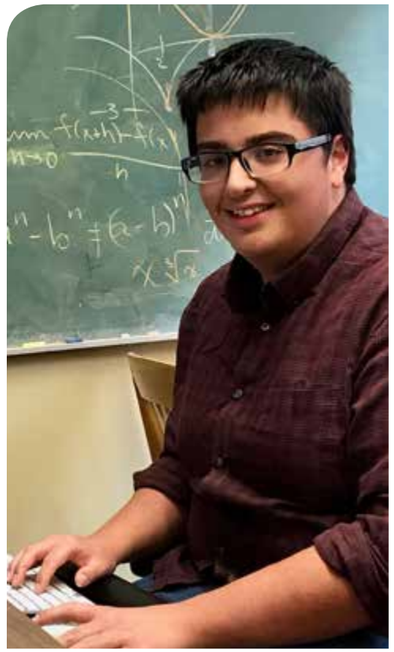
OUTSTANDING ACADEMIC
BRIAN HARRIS · MECHATRONIC ENGINEERING



Brian Harris is a mechatronic engineering major at CSU Chico. He was always good at math and wanted to know how everything worked, so he was drawn to mechanical, electrical, and computer engineering. He learned about mechatronic engineering at Chico State in high school, which had aspects of everything he wanted to learn a perfect fit for him. He participated in the Summer Calculus Boot Camp in 2015. He enrolled in differential equations in his first semester, earned an "A", and a CSU Chico LSAMP Merit Award.

After Chico State, he will pursue a master's degree incorporating robotics and robotic engineering. Robots used to be science fiction to him, but are now a reality. He believes that they will become a large part of daily life for people in the next few years. He wants to be a part of this by working on autonomous robots, especially self-driving cars.

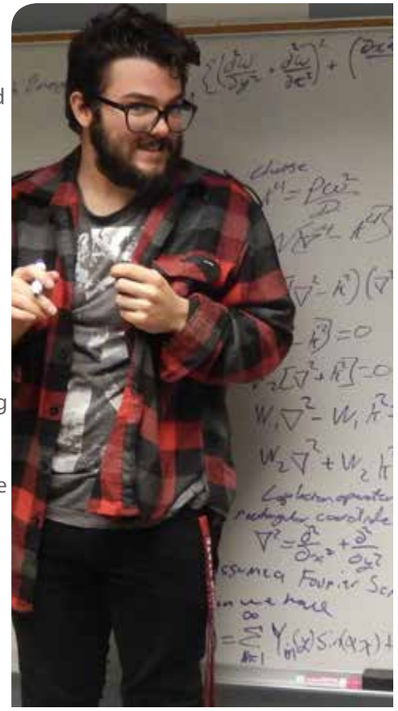
He is the second recipient of the California Iota Chapter of Sigma Phi Epsilon President Scholarship and the only one chosen out of the fall 2015 incoming freshman class. He was named the MESA Engineering Program Freshman of the Year for 2015-2016. After his freshman year, he received a paid internship with the County of Mendocino as an Engineering Technician and became acquainted with the real world of engineering. He served a second internship this last summer. He has been on the Dean's list often and is a member of the national honor society Phi Eta Sigma.

OUTSTANDING RESEARCH IN STEM
MARCUS BATTRAW · MECHATRONIC ENGINEERING

Marcus Battraw's father was an inventor, and he would engage Marcus as a child in thought-provoking discussions about the world, new ideas and the way the world works. In high school, Markus began to develop a passion for building and designing his own projects. He then joined the Robotics Club, for which he later became its captain. This experience prepared him for majoring in mechatronic engineering at CSU Chico.

His LSAMP participation began in Calculus I and Differential Equations, where he met Dr. Vladimir Rosenhaus. He then completed an LSAMP Undergraduate Research Experience with Dr. Rosenhaus exploring rocket propulsion. Dr. Rosenhaus encouraged Marcus to change his major to applied mathematics, which he added as a second major. As Marcus completed more math courses, the more he began to see the world in a whole new light. Marcus says, "Nature is filled with mathematics and exhibits it so beautifully." He has a deeper understanding and an appreciation of how our amazing world works, and his passion for learning continues to grow.

In summer of 2016, he was chosen for an undergraduate research experience with Dr. Sergei Fomin in applied mathematics at CSU Chico. He enjoyed using his knowledge of mathematics to the real-world application of tsunami wave propagation. In November of 2016, he presented his work entitled "Tsunami Wave Propagation Over Underwater Obstacles" at the International Mechanical Engineers Congress & Exposition (IMECE) Conference in Phoenix, AZ. Marcus hopes to do more research, have an impact in mathematics and a deeper understanding of our world.



California State University
DOMINGUEZ HILLS

OUTSTANDING ALUMNUS & RESEARCH IN STEM
ALEXANDER ING · COMPUTER SCIENCE

Alexander (Alex) Ing transferred to CSU Dominguez Hills (CSUDH) from Cerritos Community College in Fall 2013 as a computer science major. He obtained his bachelor's degree in Spring 2016, and was admitted to the Master's in Computer Science program at CSUDH in Fall 2016.

Alex became interested in computer networks after taking a class with Dr. Bin Tang. Being a high performing student in class, Dr. Tang asked Alex if he would join his research team. After being exposed to research, Alex became interested in pursuing a graduate degree. As a result, Alex applied (and was admitted) to the Master's in Computer Science program, where he continues his research with Dr. Tang. Alex plans to later pursue a Ph.D. in computer science.

Alex presented his research at the 2016 HENAAC Conference and at the 2017 Emerging Researchers National (ERN) Conference in STEM, where he won first place in the graduate computer science category. He was also a CSUDH Student Research Day 2017 session winner. Alex is the co-author of a conference paper titled "LB-MAP: Load-Balanced Middlebox Assignment in Policy-Driven Data Centers" published in IEEE International Conference on Computer Communications and Networks (ICCCN) 2017.

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OUTSTANDING ACADEMIC
ASHLEY BARBARINO
BIOCHEMISTRY

Ashley Barbarino is a biochemistry major who transferred to CSU Dominguez Hills (CSUDH) from Golden West in fall 2015. Like many young teenagers, she did not put the time or effort into her classes while attending community college. Later, she realized that she loved science and decided to attend a good school to pursue a higher education in STEM. However, being the youngest from a low middle class family of seven, she had to work to pay her way through school.

Coming from the community college system with a low GPA, it is extremely hard to get the GPA back up. However, she did not let it stop her, and she continued to increase her grades while working multiple jobs. To improve her grades, she had to attend school part-time and earning "C's" was no longer an option. She worked very hard to get on the Honor's list for the last few semesters she was at her community college. Once she came to CSUDH, she kept the momentum going and earned good grades. She worked as a waitress on the weekends and studied between shifts. She actively sought help from her professors to keep her grades up.

Ashley credits the enthusiasm shown by everyone at CSUDH as the key point that helped her through the rough study hours. She says, "The professors here at CSUDH saw something in me that other professors at other schools did not bother with."

CALIFORNIA STATE UNIVERSITY EAST BAY

OUTSTANDING PERSEVERANCE, PASSION FOR EDUCATION & SERVICE

LINDA BEVERLY · MATH & COMPUTER SCIENCE

Linda Beverly, a first-generation college student, struggled to find her academic identity, early on. Over her college career, which included 4-year colleges, community colleges, and online college enrollments, Linda dabbled in five different majors, and even, as she puts it, "accidentally" finished an Associates' Degree in Social and Behavioral Sciences. Despite earning a degree, Linda did not feel satisfied; deep down, she knew her educational passion had not yet been identified. She persisted, and following a several-year hiatus from college, and a few more years at Mission Community College working diligently to improve her GPA, she finally earned enrollment at CSUEB in fall 2014. The now double major (Math and Computer Science) is finding her groove at East Bay. Working under the mentorship of Dr. Shirley Yap, Linda's LSAMP work analyzes various geometric dimensionality reduction algorithms. She has presented her work at several local, regional, and national conferences, and plans to continue her machine learning research, expanding into examination of neural networks and deep learning image recognition. Along the way, Linda has blazed a trail for CSUEB women in mathematics, founding student chapters of the Association for Women in Mathematics as well as the Association for Computing Machinery-Women. Moreover, she rejuvenated the CSUEB Recreational Math and Computer Science Club, growing the membership from two to over 150 members. Linda notes that, "knowledge is brain food," and hopes to pursue a Ph.D. in mathematics with the goal of becoming a researcher.

OUTSTANDING ACADEMICS & PASSION FOR LEARNING

DAVID ROBLES · BIOCHEMISTRY

David Robles, a CSUEB junior and first-generation college student, is perhaps best described as a passionate life-long learner. Although he began his college degree pursuit mostly in response to strong encouragement from his family, the biochemistry major, who excelled academically throughout high school and now, during his time at CSUEB (cumulative GPAs of 3.71 and 3.86, respectively) attributes his academic success to high and focused effort towards his coursework, but more importantly, to his passion to learn and explore complex and meaningful concepts, mechanisms, and relationships within and beyond our current scientific knowledge base. David is committed to living a meaningful life, and is academically motivated by an inherent desire to further knowledge in our scientific community. He notes that "life is not all about making money" and proclaims that, "you can't buy knowledge". Currently, David's LSAMP work is being conducted under the mentorship of Dr. Ruth Tinnacher, and in strong collaboration with researchers at Lawrence Berkeley National Laboratory. David is examining the rates and degree of biodegradation of various organic carbon compounds in solution. This work also served as intense preparation for his summer research internship with the Lawrence Berkeley National Laboratory. David is planning on pursuing a Ph.D. in Pharmaceutical Sciences or Environmental Chemistry, as he finds interdisciplinary science the most exciting and challenging.

OUTSTANDING FOCUS & DRIVE

ANTHONY SALVATO · BIOLOGICAL SCIENCES & BIOCHEMISTRY

Anthony Salvato is a gregarious and highly determined double-major in Biological Sciences (concentration in cell and molecular biology) and Biochemistry. He began his college career as a freshman at CSUEB in fall of 2012. Early on, Anthony valued his education and put forth great effort towards his coursework. He reached true clarity and focus in his educational pursuits at the end of his sophomore year when he was encouraged by a faculty mentor, Dr. Nazzy Pakpour, to become involved in research. In 2015, Anthony worked alongside Dr. Pakpour and several other undergraduate and graduate students to start up a brand new research lab in the Department of Biological Sciences. This venture involved months of intense planning and discussion, including several visits to see Dr. Pakpour's colleague, Dr. Chiu, at UC Davis, to gather further information on potential laboratory designs. The process of conceptualizing and outfitting a research laboratory helped Anthony refine his purpose and develop personal agency toward his education, as well as fueling his curiosity and desire to engage in authentic and meaningful research. Since then, Anthony has presented his LSAMP-funded research on the feeding behaviors of Drosophila suzukii at several conferences. This innovative work identified a potential mechanism, via examination of inhibition in D. melanogaster, by which to attenuate D. suzukii reproduction rates. Anthony and his research team plan to continue this research and to publish their findings in the near future. He now aspires to a career in regenerative medicine, and plans to pursue a Ph.D.

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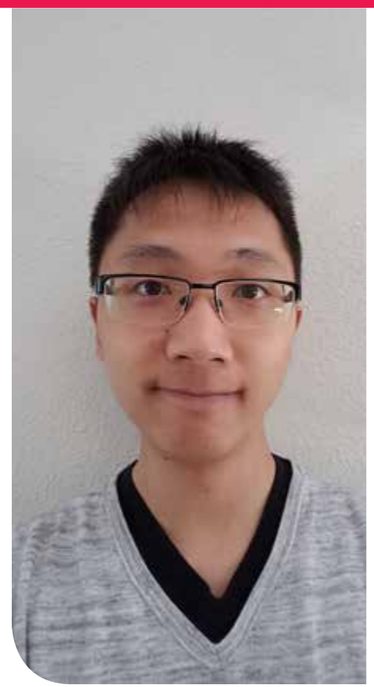

OUTSTANDING PERSEVERENCE & PASSION FOR RESEARCH

ANTHONY LUU · BIOLOGY

Anthony began as a freshman at CSUEB in fall 2012. Early on, Anthony struggled in college. He decided that college wasn't for him, and decided to enter the workforce. The experience was unsatisfying, and Anthony decided to return to college, this time motivated to focus on success and to find a discipline in which he was passionate. He ultimately found enjoyment in the natural sciences, so much so, that he chose to double major in Biological Sciences (concentration in cell and molecular biology) and Biochemistry. Towards the end of his sophomore year, Anthony, who was attracted to the apparent self-reliance and autonomy of being a researcher, sought out a research opportunity in Dr. Marlin Halim's laboratory. He was not successful in gaining a research assistant position that year, but took the failure in stride; he used it to motivate himself to work even harder on his coursework, to show Dr. Halim that he had potential as a researcher. The following year, Dr. Halim approached Anthony and invited him to join her lab. Since then, Anthony has been passionately engaged in research at CSUEB. He has presented his LSAMP-funded research, focused on identifying an aptamer that can bind to alpha-D-galactose-1-phospate, at several conferences and competitions. Anthony notes that he is highly driven for research given the challenge of solving difficult real-world problems and the freedom to express creativity and innovation in doing so. He plans to pursue a graduate degree in biological sciences or biochemistry, and aspires to become a full-time researcher.

FRESNO STATE

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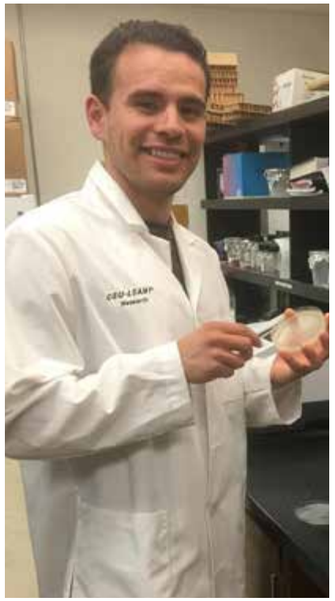
OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP

CHRISTIAN MONTIEL · BIOLOGY



Christian Montiel earned his B.S. in biology and minor in chemistry from California State University, Fresno in spring 2017. As a first-generation college student, motivated by his parents, Christian devoted endless hours working as an analyst aspiring to obtain a Ph.D. Christian's ambition and determination lead him to the mentorship of Dr. Hwan Youn, whose research utilized Escherichia coli as a model organism in their laboratory. Under the guidance of Dr. Youn, Christian was given the project of characterizing zinc effect on YdeH, a diguanylate cyclase, and its zinc-site mutant, which may negatively regulate the activity of YdeH. YdeH is one the of 14 Escherichia coli diguanylate cyclases containing a motif, which is essential for the synthetization of cyclic di-GMP. Christian's work focused on experimenting with the effects of zinc on their in vitro enzyme activities. He presented his research at the 2017 CSU Program for Education and Research in Biotechnology (CSUPERB) Symposium and the 2017 Central California Research Symposium (CCRS). Christian demonstrated resilience and diligence within the classroom, research, and helping students. In CSU-LSAMP and as vice president of the campus Society for the Advancement for Chicanos and Native Americans in Science (SACNAS) Chapter, Christian set forth to help students interested in research. To further pursue his research, Christian is continuing in the Biology Master's program at California State University, Fresno with plans to pursue his Ph.D. program in microbiology with ultimate goals of becoming a professor, serving as a mentor, and encouraging underserved students to pursue research.

OUTSTANDING RESEARCH IN STEM

SHOGHIG HAVERJ STANBOULIAN · BIOLOGY

In May 2017, Shoghig Haverj Stanboulian graduated with a B.S. in biology from California State University, Fresno. Beginning her sophomore year, she started conducting research in developmental biology under the mentorship of Dr. Alejandro Calderon-Urrea. Her undergraduate experience focused on screening nematicidal compounds on Caenorhabditis elegans. With the guidance of her faculty mentor, Haverj developed an interest in genetics, specifically in pathways that are responsible in enhancing and repressing genes. To further pursue her interest, Haverj participated in a summer Amgen Scholars Program at Stanford University where she studied fiber depended shifts of the human gut metaproteome, under the mentorship of Dr. Michael Snyder. Haverj presented her research at various conferences and symposiums, including the Annual Society for the Advancement of Chicano/Hispanics and Native Americans in Science (SACNAS) National Conference, Stanford Summer Research Program Symposium, and the Central California Research Symposium. Haverj's success transcends the research lab and into her community and leadership activities. Haverj served as a Supplemental Instruction Leader for Biology and Organic Chemistry and participated in CSU-LSAMP student research panels. Haverj is pursuing her Ph.D. studies at the University of California Los Angeles in the field of gene regulation.

OUTSTANDING ALUMNUS, RESEARCH IN STEM, & SERVICE/LEADERSHIP

KEVIN MUTHIMA · CHEMISTRY

Kevin Muthima earned his B.A. in chemistry at California State University, Fresno with minors in biology and mathematics. Kevin became a leader in the CSU-LSAMP program, taking a role as a Peer Mentor to incoming freshmen and transfer students. He became passionate about helping his peers and decided to tutor students and also serve as an Academic Excellence Workshop (AEW) Facilitator in general chemistry and organic chemistry. While discovering a passion for helping students through teaching and peer mentoring, Kevin was granted the opportunities to conduct research in two different laboratories. Under the guidance of Dr. Ulrike Muller, Kevin conducted work related to vertebrate morphology, where he explored how the size ratios of the bones of quadrupeds compared to those of bipeds in relation to geometric scaling and elastic scaling. Under the mentorship of Dr. Qiao-Hong Chen and CSU-LSAMP support, Kevin conducted research over a two-year span in synthetic medicinal organic chemistry. In Dr. Chen's lab, he was involved in projects synthesizing analogues of the natural products curcumin and fisetin. These products have promising anticarcinogenic activities towards prostate cancer cells. The analogues and intermediates synthesized were for exploring methods of ideal synthesis, in addition to bioavailability, and cytotoxicity studies. He had the opportunity to present his research in various local research symposiums. Kevin continues synthetic medicinal organic chemistry research while pursuing a Master's degree in chemistry at California State University, Fresno with aspirations to continue to doctoral level studies while maintaining a passion for mentoring other students.

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OUTSTANDING ALUMNA, RESEARCH IN STEM & SERVICE/LEADERSHIP

OMOSHOLA ALERU · BIOLOGY

Omoshola (Shola) Aleru graduated from California State University, Fresno with a B.S. in biology. Her research training spanned three years in two laboratories, along with her involvement in STEM and pre-doctoral organizations which prepared and further solidified her goal of a doctoral degree. Her research experiences began under the supervision of Dr. Mamta Rawat, where her main project dealt with the isolation and enrichment of Bacillus, Actinomycetes and Cyanobacteria species collected from the local environment, with the goal of discovering novel antibiotics. With guidance from Dr. Rawat and other lab members, she drafted genome sequences of two Bacillus and one Solibacillus species. This work in discovering the Bacillus sequences and annotations was published in Genome Announcements. During the summer of 2015, she was an Amgen Scholar at the California Institute of Technology working with Dr. William Clemons, where she worked on integral membrane proteins specifically mutating a rhomboid protease, GlpG, using error-prone PCR to test levels of expression. Shola presented her work related to both laboratories at various conferences, including the Annual Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Conference, CSU Program for Education and Research in Biotechnology (CSUPERB) Symposium, and the Central California Research Symposium. Shola was a recipient of various scholarships, including the community service award. She also served in multiple community service and leadership roles, including Richter Center Ambassador and president of the campus SACNAS chapter. Shola is continuing her studies in a biology Ph.D. program at the University of Oregon.

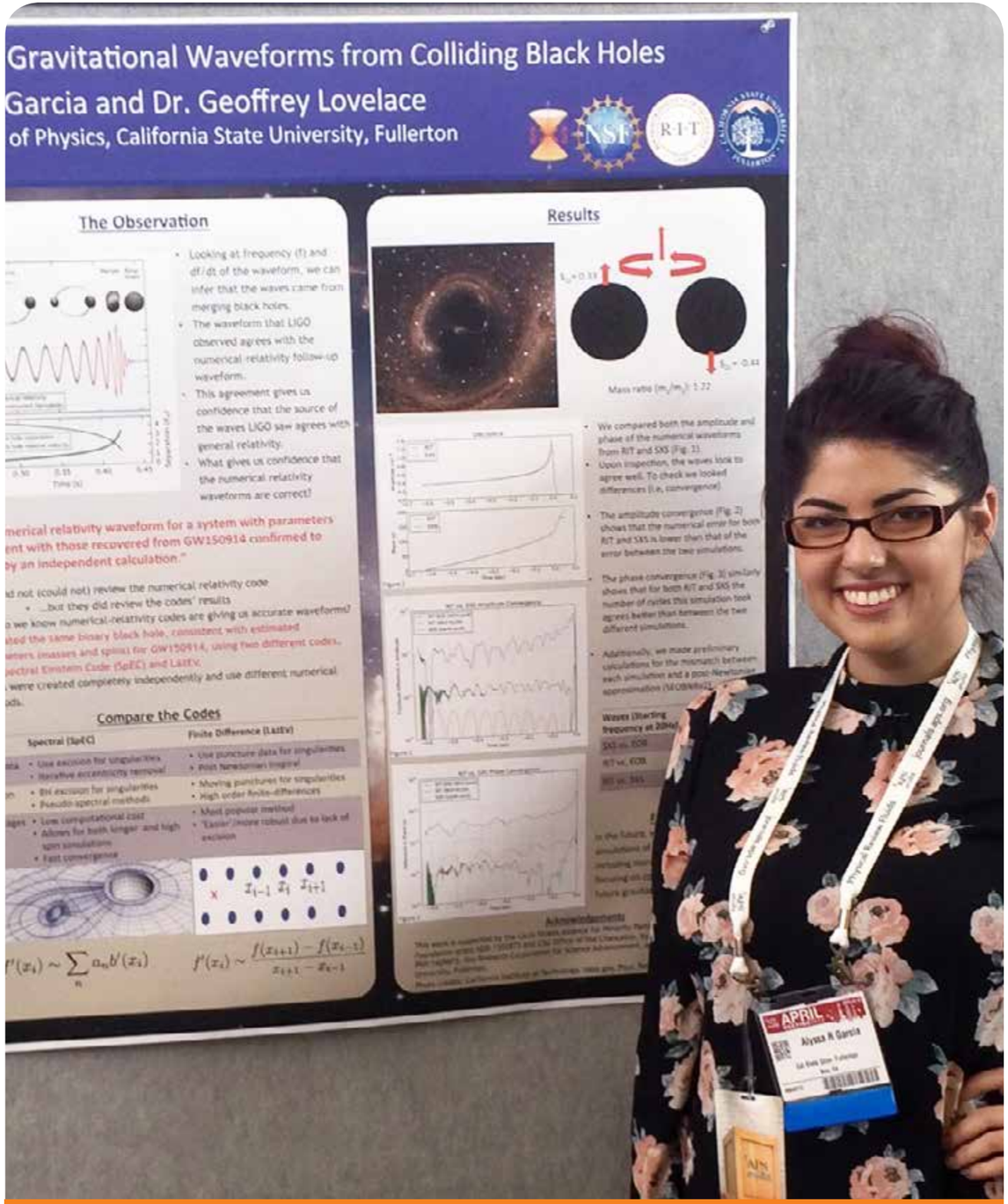
CALIFORNIA STATE UNIVERSITY
FULLERTON™

OUTSTANDING RESEARCH IN STEM
ALYSSA GARCIA · PHYSICS

Alyssa Garcia came to Cal State Fullerton in fall 2012. As a physics major, she was a research assistant in the Gravitational Wave Physics and Astronomy Center from February 2014 until she graduated in May 2017. Alyssa worked with Dr. Geoffrey Lovelace and her research focused on using supercomputer calculations to model merging black holes and the gravitational waves that they emit. As a member of the Simulating eXtreme Spacetimes (SXS), she used the Spectral Einstein Code (SpEC) to compute gravitational waves from colliding black holes, and she assessed the accuracy of such simulated gravitational waveforms.

In 2016, the Laser Interferometer Gravitational-Wave Observatory (LIGO) announced the first observation of gravitational waves passing through Earth, called GW150914. The waves came from a pair of merging black holes. Near the time of merger, these waves can only be predicted using supercomputer simulations. Alyssa played a crucial role in Dr. Lovelace's group response to LIGO's gravitational waves discovery. As Dr. Lovelace's primary expert in analyzing models of gravitational waves, and working with Caltech postdoc, Dan Hemberger, she tested and used new software that helps SpEC users simulate different black-hole binaries in parallel. SpEC can predict the waves LIGO saw, giving confidence that they came from black holes colliding as Einstein's theory of relativity predicts. Alyssa verified that these codes correctly compute the gravitational waves from merging black holes by comparing waves from two simulations modeling GW150914: one she made with SpEC and the other developed by collaborators at the Rochester Institute of Technology. Alyssa co-authored and presented her results in a peer-reviewed publication in Classical and Quantum Gravity (doi:10.1088/0264-9381/33/24/244002).

Alyssa also mentors new undergraduates in the group, and she presented her work at national and international scientific conferences. In 2016, Alyssa won the Louis and Sara Shapiro Scholarship, and she was the Gravitational-Wave Physics and Astronomy Center Scholar. Alyssa won Cal State Fullerton's 2017 Outstanding Student Scholarly and Creative Activities Award for an Undergraduate Student in the College of Natural Sciences and Mathematics. As an undergraduate, she presented her work at regional, national, and international conferences. She began a Ph.D. in physics at Brandeis University in fall 2017.



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HUMBOLDT STATE UNIVERSITY

OUTSTANDING ACADEMIC, RESEARCH IN STEM, & SERVICE/LEADERSHIP

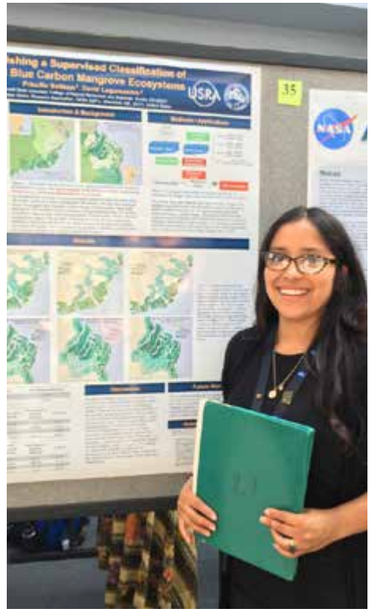
MARCOS AMEZCUA, JR. · CHEMISTRY

Marcos Amezcua, Jr. is a chemistry major with a passion for environmental chemistry and has been an all-around excellent student at Humboldt State University. Marcos has maintained a 3.7 GPA while also participating in significant environmental chemistry research. Marcos has recently presented his research with Dr. Matthew Hurst at the American Chemical Society National Meeting in San Francisco, CA. The work focused on using an electrochemical method to determine copper toxicity thresholds in Humboldt Bay. He also participated in two summer research experiences. At Georgia Tech's Center for Chemical Evolution in the summer of 2015, he used quantitative carbon NMR analysis on isotopically labeled sugars to study the kinetics of carbonyl migration. In the summer of 2016 at Washington State's Joint Institute for the Study Atmosphere and Ocean, he conducted fieldwork in Lake Iliamna, Alaska, researching the effects of physicochemical variables (like temperature, dissolved oxygen, pH, conductivity and gradient) on the population of local benthic macro-invertebrate communities. In addition to this stellar work, Marcos has served as the President of Humboldt State's Chemistry Club, "The Free Radicals", which have been awarded both commendable and green national awards from the American Chemical Society. He expertly led workshops, which enabled other students to apply for summer research experiences and was significantly contributing to his fellow students. Marcos was named the 2016 John Russell Chemistry Scholar at HSU.

OUTSTANDING SERVICE/LEADERSHIP

ANTOINETTE SHIRLEY · ZOOLOGY

Antoinette Shirley is a senior zoology major at Humboldt State University, with a minor in Native American studies. As a student assistant and peer mentor at the Indian Natural Resource Science and Engineering (INRSEP) Program, Antoinette is unmatched in her dedication to the program, the staff and her fellow students. Antoinette can often be found organizing the office, conducting new student orientation, and mentoring her peers to have resilience and continue forward in their careers. She always pitches in and helps to make the HSU INRSEP house a home for students. She is a member of the INRSEP club as well. She combines her research with service to Native American people. In 2016, she served as an intern at the Navajo Nation Department of Fish and Wildlife and conducted research during this internship. Her research titled "Poaching Impact on Golden Eagle Abundance on the Navajo Reservation" was presented at the American Indian Science and Engineering National meeting in fall of 2016. Antoinette can often be found with the INRSEP club engaging in service and cultural activities, such as beading and helping her fellow students.



OUTSTANDING RESEARCH IN STEM

PRISCILLA BALTEZAR · ENVIRONMENTAL SCIENCE

Priscilla Baltezar, is an environmental science major, with an emphasis in geospatial science at Humboldt State University (HSU). Priscilla's passion for geospatial analysis and the environment lead her to a significant research project with the National Aeronautics and Space Administration (NASA), which funded an internship via the Universities Space Research Association at the Goddard Space Flight Center. Here, she developed a model through the Google Earth Engine Application Program Interface to identify mangrove vegetation in the central West African coast using satellite imagery. Her work with NASA, titled "Establishing a Supervised Classification of Blue Carbon Mangrove Ecosystems," was presented at the 2016 American Indian Science and Engineering Society (AISES) meeting. She also conducted GIS course research, titled "Least Cost Path Analysis: Tsunami Evacuation," at HSU with Nick Ramirez, which was presented at the 2016 Emerging Researchers National (ERN) Conference in STEM. Priscilla actively participated in community service and mentoring on top of her stellar research. She has been a peer mentor for the Indian Natural Resources, Science, & Engineering Program at HSU, a panel speaker for multiple events at HSU, the Geospatial club president, and a Community Garden Volunteer for the Potawot Health Village at the local United Indian Health Services.

OUTSTANDING STUDENT ACTIVIST

MARLENE' DUSEK · ENVIRONMENTAL SCIENCE & MANAGEMENT

Marlene' Dusek is majoring in environmental science & management with an emphasis on planning and policy. Marlene' embodies the concept of activist-scholar and has shown how the pursuit of a STEM degree can align with work to support communities – in her case Indigenous communities. Marlene' became active in enrolling student and HSU support for the Standing Rock Sioux protest of the Dakota Access Pipeline. She composed a letter of support to the Tribe, held a meeting with the HSU president to educate her on the issue, initiated a student campaign to write postcards of support, and fundraised to help Standing Rock purchase 12 eco-friendly stoves. At HSU, Marlene' is a student representative on the Native American Advisory Council.

Marlene' also shows this commitment to Native American communities in her research efforts. She was second author on a published manuscript, titled "Tailoring an Alcohol Intervention for AIAN Women of Childbearing Age", which involved research with women in her Native community. In the summer of 2016, Marlene' participated in an REU program, where she developed a research project in collaboration with the Yurok Tribe called "Rekindling the Old Ways of Traditional Burning as a Land Practice." She presented this research at the American Indian Science and Engineering Society (AISES) and was awarded outstanding poster at the Regional AISES conference in 2017. Marlene' participated in UC Berkeley's Center for Ethnographic Research workshop in summer 2017, where she worked bridging the divide between scientific and Indigenous knowledge of culturally important plants from her homeland.

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CALIFORNIA STATE UNIVERSITY
LONG BEACH

OUTSTANDING ACADEMIC & RESEARCH IN STEM
RODOLFO AMEZCUA · MECHANICAL ENGINEERING

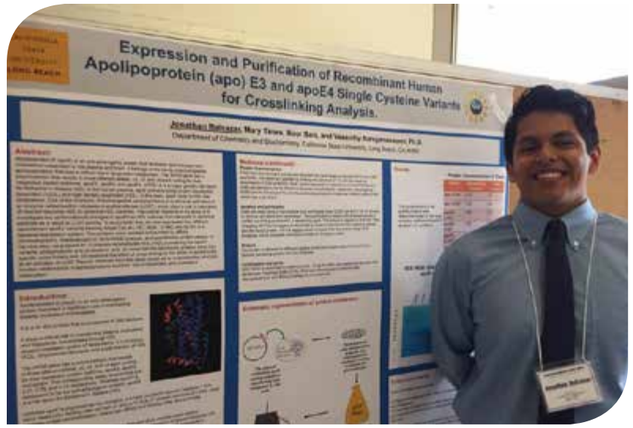
Rodolfo Amezcua graduated with a mechanical engineering degree and maintained a 3.8 GPA during his participation in the LSAMP Program. He worked with Dr. David Stout through the HSI-STEM Winter Research program, and continued to do so through the LSAMP program. His work focused on understanding neutrophil 3D migratory behavior to combat sepsis, a systemic pro-inflammatory response to infection. During his undergraduate career, Rodolfo also had the privilege of conducting research with Dr. Daniel Suter at Purdue University, and Dr. Christian Franck at Brown University. His research has culminated into poster presentations at the National Conference for Undergraduate Research (NCUR) and Biophysical Society Conference. Rodolfo was accepted into multiple engineering Ph.D. programs, including UC Berkeley, UC San Diego and the University of Southern California (USC). He has decided to pursue his Ph.D. in mechanical engineering at USC, with funding from the Ford Foundation Predoctoral Fellowship.

OUTSTANDING ACADEMIC
DIANA CASTRO · AEROSPACE ENGINEERING

Diana Castro graduated in spring 2017 with an aerospace engineering degree with an emphasis in astronautics. She participated in the CSU-LSAMP program as a summer and AY fellow, where she worked with Dr. Barjasteh studying improvements to composite manufacturing techniques, and with Dr. Stout studying biomaterials for cardiovascular applications. She's also been involved in research off campus at the NASA Jet Propulsion Laboratory (JPL) analyzing the isotope geochemistry of Antarctic sediments from the Cretaceous-Tertiary extinction. This experience is one of two internships at NASA JPL. Previously, she worked in the Mars Oxygen In-situ Resource Utilization Experiment, which aimed to enable human space exploration by converting Martian atmosphere into oxygen.

She was also involved on campus, most notably as president of the Latinos in Science and Engineering student organization and Science Extravaganza Chair. The Science Extravaganza event will bring more than 200 middle school students from the local community to CSULB to learn about STEM fields and hear the stories of special guests, such as Astronaut Jose Hernandez.

Her involvement has helped her obtain over twenty-five scholarships and awards, such as the Student Leadership Award at the Hispanic Engineer Achievement Awards Conference and the Benjamin A. Gilman Scholarship, which allowed her to study abroad in France during summer 2017. She will soon begin full-time employment at Northrop Grumman as a Space Systems Engineer. In the future, she plans to pursue a master's and doctorate degree in either astronautical engineering or planetary science with the goal to contribute to human space exploration.



OUTSTANDING RESEARCH IN STEM
JONATHAN BALCAZAR
MOLECULAR BIOLOGY & PHYSIOLOGY

Jonathan Balcazar graduated in spring 2017 with a B.S. in molecular cell biology and physiology. He entered Dr. Vasanthy (Vas) Narayanaswami's biochemistry lab in April 2016, where he began working alongside graduate student Mary Taiwo on various proteins, including Apolipoprotein (Apo) A1, ApoE3 and ApoE4. ApoE4 is involved in Alzheimer's disease and was the primary focus of Jonathan's study. He expressed and purified the recombinant human ApoE4, and reconstituted it into high density lipoprotein (rHDL), also known as the "good cholesterol". Then, Jonathan began culturing Chinese hamster ovarian cells to isolate the enzyme lecithin-cholesterol acyltransferase (LCAT), which is activated by the Apo proteins in rHDL. He aided in testing the hypothesis that LCAT-mediated conversion of discoidal nascent HDL to mature spherical HDL particle is accompanied by large conformational changes in the Apo proteins. Over the course of the 2016-17 academic year, Jonathan presented his research at the CNSM Symposium and at the 2016 Annual Biomedical Research Conference for Minority Students (ABRCMS) in Tampa, FL.

Apart from his work in research, Jonathan also mentored and tutored young underclassmen, who hoped to succeed in the rigorous biology and chemistry courses. In addition, he was involved as the President of MEDLIFE, where he actively coordinated volunteering events in the local Long Beach community and fundraisers that would go on to help projects in countries such as Tanzania, Ecuador and Peru. Jonathan continues to work in the Vas lab finishing his project to gain research experience before applying to professional schools next year.

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OUTSTANDING ALUMNA
ALICE PIEPLOW
MOLECULAR BIOLOGY

Alice Pieplow was an LSAMP Research Fellow at CSULB for the 2015-16 academic year. She graduated in May 2016 with a B.S. in molecular biology and a minor in chemistry. During her undergraduate research experience with Dr. Elizabeth Eldon, she studied the effects of obesity on development in the fruit fly, Drosophila melanogaster. Alice was given the opportunity to present her research at several national conferences, including the Society for Developmental Biology meeting in Boston, August 2016. After her research on obesity in Drosophila, Alice was granted a CIRM funded Stem Cell research internship at Cedars-Sinai medical center, where she currently works under the guidance of medical researcher, Dr. Shaomei Wang. The Wang lab transplants human stem cells into the retinas of several different animal models as a cell-based therapy for age-related macular degeneration or retinitis pigmentosa. Alice was tremendously grateful for the experience in translational research and was thrilled to be able to help the Wang lab prepare to file an IND with the Food and Drug Administration. Dr. Wang hopes the laboratory's work will be available as a phase one clinical trial within the coming years. After finishing her one-year internship at Cedars-Sinai, Alice hopes to return to developmental biology, and began graduate school at Brown University in September. She most looks forward to getting undergraduates excited about pursuing a career in science, teaching people in Rhode Island about stem cell research in California, and is most of all, tremendously grateful for the opportunity to pursue a Ph.D.

CAL STATE LA

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

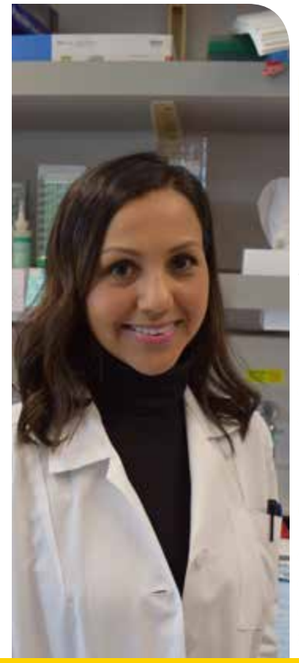
OUTSTANDING SERVICE & LEADERSHIP
FREDDIE CEREZO · CIVIL ENGINEERING

Freddy Cerezo joined the LSAMP program in fall 2014. In Fall 2015, Freddy took a more active leadership role in the Department of Civil Engineering as the captain of the Undergraduate Seismic Design Competition (SDC) team by nomination from his peers. The objective of this international SDC is to design, construct, test and present a model structure. His responsibilities included project oversight and mentoring his team so they understand the conceptual framework that went into the design. The following year, Freddy continued working for the City of Los Angeles as a project assistant, while completing his senior design project and assisting Dr. Tonatiuh Rodriguez-Nikl's research group. Despite these time commitments, Freddy still volunteered in the community. As president of the Earthquake Engineering Research Institute (EERI), Freddy ensured that EERI's mission was met by working with the other board members and several faculty to plan outreach events that would inform the community on Earthquake safety or STEM careers. Freddy worked with the Dean of the College of Engineering, Computer Science and Technology at the California Science Center during Engineers Week (E-Week). Here they informed kids, students, and parents about the importance of math and science in the STEM fields. Freddy consistently sought opportunities to showcase engineering projects to underrepresented students and parents, with the goal of encouraging them towards careers in STEM fields. Additionally, Freddy helped PROUD Scholar, Erik Avila, teach several of his TRIO students the basics of structural engineering through activities that demonstrated the behaviors of simple structures.

OUTSTANDING ACADEMIC, RESEARCH IN STEM, & SERVICE/LEADERHIP
BRENDA EAP · BIOLOGY

Brenda Eap entered Cal State LA as a first-time freshman biology major with a forensic science minor in fall 2012. She excelled academically her first two years with a GPA of 4.0, Dean's list recognition and admission into the Honors College. In winter 2015, Brenda switched her major to biochemistry. Brenda participated in the 2014-15 LSAMP Undergraduate Research Training Program working on a project determining the protective mechanisms of Withania somnifera on neuronal function, which laid the foundation for a publication submitted spring 2017. Brenda also performed research in Dr. Robert Vellanoweth's lab, where she studied the model plant Arabidopsis thaliana. Brenda presented her research at the 25th Annual RSCA Student Symposium and at the Emerging Researchers National (ERN) STEM Conference. Brenda received a travel award to present at ERN and first place for her oral presentation.

Aside from research, Brenda was awarded the Diversity Abroad Scholarship and a Gilman Scholarship Alternate Recipient. She served as President of the Forensic Science Student Association, participated in community outreach in STEM with elementary kids, and hosted an annual symposium. After she graduated Magna Cum Laude, Brenda worked for the nonprofit organization, Project Scientist, as a STEM College Fellow, where she promoted STEM to an underserved community of girls to keep their dreams of becoming a scientist alive. She attributes LSAMP for making her believe that the image of a scientist is not just a white guy with crazy hair, black glasses, and a lab coat.



OUTSTANDING ALUMNA & ACADEMIC
MONICA MORENO, PH.D. · IMMUNOLOGY

Dr. Monica Moreno discovered early on that autoimmune diseases run in her family. Since then, she has dedicated her career to research which may lead to therapeutics for those with immune related disorders. Monica transferred from Pasadena City College in winter 2004 and joined the LSAMP Undergraduate Program at Cal State LA. She received her B.S. in Microbiology in 2007. Upon graduation, she became a member of the fifth cohort of LSAMP Bridge to the Doctorate (BD) program. She received her M.S. in Biology in 2009 and went on to receive her Ph.D. in Immunology from the University of California Davis in 2014, where she studied neuro-immune interactions in a model of autoimmunity. Currently, Monica is a postdoctoral scholar at Stanford University, where she studies myelin repair and neuroinflammation in multiple sclerosis. During her career, she has first-authored two papers and one review, and has co-authored six manuscripts. While at Stanford, she twice received a T32 training grant, and currently serves as a member of the Immunology Postdoctoral Committee.

Monica enjoys giving back and often returns to Cal State LA to share her academic and career experiences with current LSAMP undergraduates and LSAMP-BD cohorts. This year, Monica served as a panel member at the 2017 GAINS conference, where she spoke with high school girls about careers in STEM. She aims to continue doing meaningful research to help those with devastating immune-related diseases, and to become more involved in helping others on their journey toward academic success.

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OUTSTANDING ACADEMIC, RESEARCH, & SERVICE/LEADERSHIP
NICOLETTE POLLOCK · BIOLOGICAL SCIENCES

Nicolette Pollock worked 40 hours per week and took care of her younger brothers, while enrolled full-time and struggling academically at East Los Angeles Community College from 2011-15. In summer 2014, Nicolette participated in her first research opportunity through the NIH Bridges to the Future research program at Cal State LA. Through this project, Nicolette was inspired to pursue a career in research. A year later, she transferred to Cal State LA, where she joined LSAMP and received the MARC U*STAR fellowship. Nicolette conducted research with Dr. Edith Porter and completed an Honors thesis in biology. Nicolette also participated in two summer research opportunities, one in 2016 in Dr. Beatrice Knudsen's laboratory at Cedars-Sinai Medical Center, and another in 2017 in Dr. Angeles Zorreguieta's laboratory at the Instituto Fundación Leloir, Argentina. Nicolette presented her research at conferences, including CSUPERB, where she was a Nagel Award finalist, SACNAS and the 24th Annual RSCA Student Symposium, where she won outstanding poster presentation.

Nicolette has demonstrated leadership on campus by volunteering in the Minority Opportunities in Research (MORE) Summer Research Techniques Workshop, where she helped community college students learn basic research techniques. Nicolette also volunteered for the EPIC America Reads and Counts Program, where she assisted Dr. Porter in teaching children basic microscopy while they visualized microorganisms under the microscope. Nicolette was accepted into a Ph.D. in Biological Sciences at City of Hope for fall 2017, something she did not think was possible before.

CAL MARITIME

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
ERICA MCCLINTON · MECHANICAL ENGINEERING

Erica McClinton recently completed her B.S. degree in mechanical engineering at CSU Maritime Academy with a Magna Cum Laude distinction and a minor in mathematics, and a USCG Third Engineers License. A Vallejo native, she joined the program in the first full year as an CSU-LSAMP Alliance member, and has not stopped contributing to the strength of the program in meaningful ways. Erica has maintained one of the highest GPA's in her major throughout her studies and has served as a tutor for students in all things STEM-related through the Student Engagement and Academic Success Center since her junior year. Erica also represents the first Maritime LSAMP alumnus to continue her studies in graduate school. She will begin next year at UC Berkeley to pursue a Master's degree in mechanical engineering, a highly competitive program, and is considering continuing to achieve her Ph.D. through the Bridge to the Doctorate program. Erica has and will continue to serve as a role model for other students in the LSAMP program and CSU-LSAMP will follow and support her path through graduate studies and have her return frequently to speak about the opportunities available to STEM students seeking post-graduate education via the CSU-LSAMP network that has served her well, and to which she has contributed immensely.

OUTSTANDING ACADEMIC, RESEARCH, & SERVICE/LEADERHIP
PHILIP HATCHETT · MECHANICAL ENGINEERING

Philip Hatchett recently completed his B.S. degree in mechanical engineering at CSU Maritime Academy, having achieved a Magna Cum Laude distinction and a minor in mathematics. Philip was one of the first CSU-LSAMP members at the Maritime Academy and has contributed significantly to the growth and development of LSAMP at Maritime. This past year, Philip led several Academic Excellence Workshops for LSAMP students to help them perform better in first- and second-year science and mathematics courses. Philip was very generous with his time as a Peer Mentor to LSAMP students, providing invaluable guidance to new admits to the program in navigating coursework and helping them learn time-management skills. On top of his LSAMP contributions, Philip was a critical member of his Senior Design Capstone project team, which constructed a regenerative-energy trailer to store mechanical energy into battery packs from towing. His contributions on this project helped it become a successful proof-of-concept design that he and his team members hope to patent and improve. This year, Philip also successfully completed the Fundamentals of Engineering exam to become an Engineer in Training on track to be a licensed Professional Engineer. Philip will begin working with a highly-regarded mechanical engineering firm in San Francisco this summer. Our program hopes to take advantage of his proximity to the Maritime Academy and bring Philip back whenever possible to speak about his experiences working in his STEM career.

OUTSTANDING ACADEMIC, & SERVICE/LEADERHIP
KYLE BERTOTTI · MARINE TRANSPORTATION

Kyle Bertotti finished his B.S. degree in marine transportation in April 2017, representing one of the first graduates of the CSU-LSAMP program at the Maritime Academy in his major. In addition, Kyle received his Third-Mates' US Coast Guard credential. Hailing from El Dorado Hills, Kyle has been a productive and invaluable member of the LSAMP program since CMA's first full year in the CSU Alliance. In that time, Kyle has been a role model to fellow marine transportation students and helped mentor the growing contingent of students in this STEM major. His contributions to students are numerous, including helping his fellow cadets navigate their degree plan and providing mentorship to other Maritime students, who plan to achieve their USCG sailing license. His work to help students prepare for the required comprehensive USCG examinations has been instrumental to the growth and development of LSAMP outreach for other marine transportation students. Kyle plans to continue his passion for being on the open water by pursuing a career aboard large vessels that will take him across the globe as a mariner. His interests in sailing are profound and he hopes to utilize his time out on the water to polish his skilled craft and looks forward to the adventures that await him.

OUTSTANDING ACADEMIC, & SERVICE/LEADERHIP
MARK SOKACH · MECHANICAL ENGINEERING

Mark Sokach just completed his demanding junior year as a USCG License-Track Mechanical Engineering student at the Maritime Academy. Hailing from Temecula, Mark has been a stellar example to the students he mentors in LSAMP. His exceptional academic output is exemplified by his recent induction into the ME honors society Pi Tau Sigma and President's List award for GPA for the past four semesters. Mark finds time to contribute to the LSAMP program and has been a significant contributor to past Academic Excellence Workshops as a facilitator for LSAMP students that are currently navigating the demanding coursework that he has demonstrated considerable achievement in. He is especially proud of his work this past semester on his hands-on course projects and was selected as the Cadet First Engineer aboard the Training Ship Golden Bear, as it sailed students to El Salvador, Hawaii and along the US Pacific coast this past summer. This distinction demonstrates the high regard that his instructors have for Mark and his capacity for helping his fellow cadets to learn from his considerable skill set as an engineer. Mark plans to finish his senior year at CSU Maritime and attain his USCG third engineers license and ME degree. Despite the rigorous coursework and time demands of this challenging field of study, Mark plans to contribute back by serving as tutor in the Student Engagement and Academic Success Center, and will be called upon to continue to help mentor and prepare LSAMP students joining the program next year.

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California State University
MONTEREY BAY
Extraordinary Opportunity

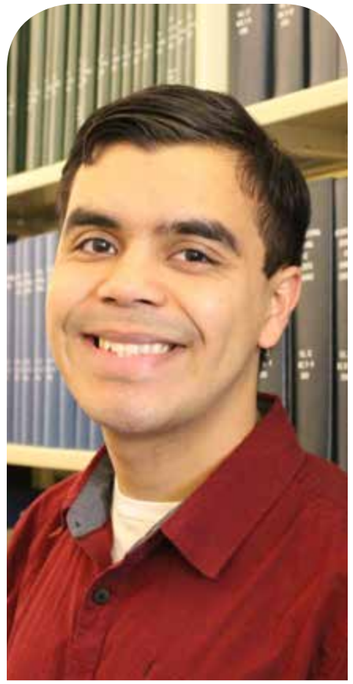
OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP
CHAR'MANE ROBINSON · ENVIRONMENTAL SCIENCE, TECHNOLOGY, & POLICY

Char'Mane Robinson is an environmental science, technology, and policy major who has excelled in both research and outreach activities related to STEM education. Char'Mane's passion for hydrology and water quality research drove her acceptance to the highly competitive NOAA EPP/MSI Undergraduate Scholarship Program in 2016. She spent summer 2016 at the NOAA headquarters using geospatial analytics to evaluate the legacy of chemical contaminants. She presented this research at the 2017 CSU Research Competition and received first place for her oral presentation titled "A statistical and spatial analysis of chemical contaminants in Cocos Lagoon, Guam." Char'Mane has been quite prolific in the variety of research opportunities she has pursued, which have included research detecting nitrate leaching into groundwater in strawberry fields in the San Juan Valley and Salinas, monitoring the spread of an infectious plant disease across coastal chaparral restoration sites, and this past summer, investigating the impacts of invasive species on depth distributions of zooplankton and larval fish in pre- and post-invasion water sources in Michigan.

Char'Mane also makes the effort to be a mentor to other first generation and minority students interested in pursuing STEM degrees. She is highly motivated to pursue a Ph.D., and be a role model for why diversifying the professoriate is so important. Char'Mane is an ambassador for the Undergraduate Research Opportunities Center (UROC), designs and leads lesson plans on the value of STEM careers with students in local middle and high schools, and mentors lower division undergraduates applying for STEM research opportunities.

OUTSTANDING RESEARCH IN STEM
PARKER SMITH · MARINE SCIENCE

Parker Smith is a first-generation marine science major, who has had huge success in both local and international research experiences. Despite a challenging start at CSUMB, where he questioned whether a university was the right place for him, Parker was nominated and accepted into an international REU program at the Université Genoble Alpes in Grenoble, France in summer 2016. Parker was invited, with CSU LSAMP support, to stay for 6 months in Dr. Sylvie Chardon-Noblat's lab working on the synthesis and characterization of novel carbon dioxide reducing molecular catalysts. This research opportunity was approximately equivalent to a Master's level thesis and resulted in his being included as second author on his first publication. Upon his return to CSUMB, Parker launched into another series of research projects with his mentor, Dr. John Goeltz to develop a new hydroxide measuring technique. This research has yielded a first authorship on a manuscript and inclusion as second author on a patent application. Parker applies the skills and experience he developed over the last two transformative years to support his peers in developing their own skills in chemistry related research and coursework. During summer 2017, in addition to working on a project studying the pH of neutrality in the ocean, Parker worked with Dr. Goeltz to develop a short course to teach electrochemistry with the goal of eventually making this class part of CSUMB's course offerings. Parker wants to get a Ph.D. in chemical oceanography and teach at an undergraduate institution.



OUTSTANDING ACADEMIC, RESEARCH IN STEM, & SERVICE/LEADERSHIP
MALACHI ALEXANDER · MATHEMATICS

Malachi Alexander is a third-year mathematics major with a concentration in pure math. Malachi started out in CSUMB's remedial math program, but by the end of his first year advanced to Calculus. Currently, Malachi has a 3.99 GPA, and has received the CSUMB Mathematics and Statistics department Outstanding Mathematics Major award every year. Malachi was also awarded the prestigious national Barry Goldwater Scholarship for exceptional STEM students. Malachi cites the source of much of his academic success to his persistent cultivation of a powerful growth mindset and spends time helping others cultivate their own positive attitudes about math and learning. Malachi has served as an Instructional Student Assistant for multiple mathematics remediation programs, tutoring at CSUMB's Center for Teaching and Learning, and mentoring in a foundational mathematics program for local high schoolers. Malachi is also President of the Mathematics and Statistics Club, a departmental student representative on the Dean's Student Council, and a student organizer and volunteer at STEM Zone, an annual outreach event. Malachi has also pursued research opportunities to help him achieve his goal of a Ph.D. in mathematics. Malachi spent summer 2016 at the University of Washington Bothell's Mathematics REU and is currently working on publishing the results. During summer 2017, Malachi participated at UC Berkeley's prestigious Mathematical Sciences Research Institute (MSRI), where he applied the dedication, positivity, and growth mindset that has led to so much of his success.

OUTSTANDING RESEARCH IN STEM, & SERVICE/LEADERSHIP
ALEXANDRIA CERVANTES · MATHEMATICS

When Alexandria is asked to describe what motivates her to work hard and give back to her community, she is quick to quote her mother: "Alexandria, you can either go to school or work in the fields." Judging from her accomplishments, it is very clear that Alexandria has taken this ultimatum to heart. Alexandria is a first generation, second year mathematics major and computer science minor at CSUMB, who has channeled her interest in teaching, community service, and mathematics towards her goal of receiving a Ph.D. in mathematics education. After only two semesters as an undergraduate, Alexandria participated in the University of Utah, Graduate Preparation Institute where she tackled a new program to model the behaviors of calcium evoked astrocytes. This experience made her realize how much she liked the fast-paced learning that happens in research settings and led to her receiving an award for her poster presentation at the Western Alliance to Expand Student Opportunities (WAESO) student research conference. Alexandria is also lead instructor at a coding education program for high school students, tutoring at the local community college, Vice President of the Women in Mathematics club, Treasurer of the Math and Stats Club, and founder of Math Buddies, a peer mentor program for mathematics students at CSUMB. Alexandria is now integrating her research and community service interests into a research project under the mentorship of Dr. Alison Lynch studying factors influencing success in Calculus classes and investigating best practices in mathematics education at the Rochester Institute of Technology.

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California State University Northridge

OUTSTANDING ACADEMIC
RAJPREET CHEHAL · MECHANICAL ENGINEERING

Rajpreet Chehal is a mechanical engineering major at CSU Northridge. Not only does Rajpreet have an excellent GPA and impressive grades in her major courses, she actively participates in class, helps other students achieve their goals, and implements what she's learned in project within CSU Northridge's Institute for Sustainability.

As a student, Rajpreet gained hands-on experience from her student engineering position with the Institute for Sustainability at CSU Northridge. As part of a team of four students, she actively participated in the design and manufacturing of eight solar-charging structures that are placed around CSU Northridge campus. Rajpreet applies what she learned in her mechanical engineering coursework, such as machine design and computer-aided design, to the construction of these structures. The designing phase included producing a Solidworks CAD model as well as optimizing the design to reduce cost and labor. During the manufacturing process, Rajpreet gained knowledge and experience of various machining and welding techniques. As a mechanical engineering major with a minor in sustainability, working on solar-charging structures was a rewarding experience that allowed Rajpreet to apply what she learned to a real-world application.

OUTSTANDING ALUMNUS
JORGE MURALLES · ELECTRICAL ENGINEERING

Jorge completed his B.S. in electrical engineering. He continues to work with students, and recently served as a panelist and volunteer for the Greater San Fernando Valley Chapter "Noche de Ciencias" (Night of Science) STEM promotion hosted by the Society of Professional Hispanic Engineers (SHPE) chapter as CSU Northridge. As a post-graduate panelist, Jorge answered various questions and provided advice to many soon-to-be students and parents, who were looking towards the university route. As a volunteer for this event, Jorge also monitored and assisted parents and students with directions and advise. He values this experience as he felt that it was great to give back to the community, help others see the opportunities in STEM, and provide advice based on his previous experiences. Jorge passed his Fundamentals of Engineering (FE) exam, and is currently waiting for his Engineering in Training (EIT) certificate. Jorge interviewed with the Los Angeles Department of Water and Power (LADWP), where he scored 90 out of 100 points, based on his interview. He was then placed into the LADWP system, where other departments can contact him for secondary interviews. He was offered a position at Trimark Associates as a System Integrations Engineer. However, Jorge was ultimately hired by the Naval Air Systems Command (NAVAIR) at Pt. Mugu as an electronic engineer. Jorge looks forward to his future growth not only as an engineer but also as a person.

OUTSTANDING SERVICE & LEADERSHIP
JOSE LOPEZ · MECHANICAL ENGINEERING

Jose Lopez in on his way to earning his B.S. in mechanical engineering next year. He is also minoring in electrical engineering with a focus on control systems. Being the first in his family to attend college, Jose was determined to do well. He subsequently became a mentor for other students through his active participation in the CSU Northridge chapter of the Society of Professional Hispanic Engineers (SHPE). Jose has a genuine passion for introducing other students to academic and professional opportunities. During his service as Vice President of SHPE, he increased membership from 30 students to 90, CSU Northridge's chapter had the most attendees during the Regional 2 Leadership Development Conference, and through the "Noche de Ciencias" (Science Night), 300 attendees made up of students and parents from underserved communities learned about college and STEM fields. At CSU Northridge, he helped organize SHPE's Young Latina Forum for 200 high school and middle school students. Jose continues to work with SHPE as a representative, and has founded three JR chapters.

Meanwhile, Jose has worked at Aerospace Dynamics International – a Precision Castparts Corp. (PCC) company that manufactures landing gear structural components for commercial planes. As an engineer intern, he experienced continuous improvement and training. He learned targeted variable cost by implementing Lean Six Sigma Tools and made the manufacturing process more efficient. He worked on projects with an estimated $200,000 savings each year. His next endeavor includes working for Rockwell Collins as an associate systems engineer.

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CAL POLY POMONA

OUTSTANDING SERVICE/LEADERSHIP
VANESSA DAVALOS · CIVIL ENGINEERING

Vanessa Davalos graduated as a civil engineering major in spring of 2017 with a 3.78 GPA. She was on the Dean's list and President's list every academic year since she began at Cal Poly Pomona. During her sophomore year, she founded the outreach program, E-Girl, where underrepresented minority girls and their parents had the opportunity to visit the campus and get exposed to engineering careers through hands-on engineering activities and workshops. Vanessa was the coordinator of E-Girl for four years. She took her interest in outreach further by performing research with Dr. Monica Palomo to increase minority student participation in STEM fields. She volunteered through her participation in the EGR 299S course, Engineering Outreach Service Learning. During her summers, Vanessa had various internship positions. She interned as a Field Engineer and Estimator with Turner Construction and as a Cost Engineer with ExxonMobil Corporation. Throughout her time as an undergraduate student, Vanessa held various leadership roles in student organizations. She was the Club Representative for the Society of Hispanic Professional Engineers (SHPE), Historian for the Society of Women Engineers (SWE), and Events Coordinator for the engineering honor society, Tau Beta Pi. Vanessa received many scholarships that supported her research and academics, such as SWE's Young Leader in Engineering Scholarship, American Society of Civil Engineers Scholarship, Achieve Scholars Program, and Engineering Scholars Program. After graduation, Vanessa started working for Chevron Products Company at the El Segundo Refinery as Construction Engineering Management.

OUTSTANDING ACADEMIC
SUMMER BLANCO · BIOLOGICAL SCIENCES

Summer Blanco is an undergraduate student in the Biological Sciences Department, with an option in botany and a minor in agronomy, and holds a 3.96 GPA. She is involved in several organizations on campus, including the Achieve Scholars Program (ASP), the Office of Undergraduate Research Graduate Readiness and Advanced Degrees program (OUR-GRAD), and the Research Initiative for Science Enhancement (RISE) program. As a peer mentor in the ASP and Science Educational Enhancement Services (SEES) program, she helps acclimate undergraduate students to the college environment as STEM majors. Summer is currently employed as a Learning Assistant for the Biology Learning Center, where she hosts study sessions and develops review assignments to improve student learning in Biology courses. As an LSAMP Research Scholar, she conducts research on campus with Dr. Bharti Sharma and Timothy Batz, a master's Plant Science student. Her current project aims to create a tissue culture and genetic transformation protocol for Aquilegia species to identify important genes in flower evolution and development. Summer has presented her research at many conferences, including the 2016 Southern California Conference for Undergraduate Research, the 4th Annual Research, Scholarship, and Creative Activity Conference, and the 11th Annual College of Science Research Symposium. She has been awarded the 2017 American Society of Plant Biologists Travel Grant to present this research in Honolulu, Hawaii at the annual scientific conference. In the future, Summer plans to attend graduate school to obtain her Ph.D. and become a university professor.

OUTSTANDING RESEARCH IN STEM
CHRISTOPHER CALLE
MECHANICAL ENGINEERING & PHYSICS

Christopher Calle graduated as double major in mechanical engineering and physics with a GPA of 3.65. Prior to his sophomore year, he conducted material science research with the Halide-Activated Pack Cementation team under the guidance of Dr. Vilupanur Ravi. That summer, he interned in telecommunications at the Jet Propulsion Laboratory (JPL). His contributions involved the mechanical design, modeling and implementation of Deep Space Network (DSN) antenna subsystems and equipment. Throughout his junior year, he participated in the NASA Student Launch Competition through the Cal Poly Pomona team to design, construct, and test an autonomous launch vehicle deployment system. His group placed second at the Cal Poly Pomona 2015 Engineering Project Showcase. His senior research with Dr. Yong X. Gan involved investigating the effect that magnetostatic fields and magnetic nanoparticles have on conventional fiber-manufacturing processes. He has also been involved with several on-campus organizations, including Maximizing Engineering Potential (MEP), Society of Hispanics in Science and Engineering (SHSE), Achieve Scholars Program (ASP), and the McNair Postbaccaluarete Achievement Program. Christopher plans on attending graduate school to pursue the field of system dynamics and control of physical systems with an emphasis in artificially intelligent and autonomous robots. Prior to graduation, he took graduate-level courses across multiple departments to expand his technical knowledge, and completed the equivalent of one year of graduate-level curriculum. After graduation, Christopher conducted robotics-related research in the Summer Undergraduate Research Fellowship (SURF) program at Stanford University to expand his breadth in this multidisciplinary field.

OUTSTANDING ACADEMIC
JORDAN BERRY · BIOTECHNOLOGY

Jordan Berry earned her B.S. degree in spring 2017 majoring in biotechnology, emphasizing in microbiology and pathology with a minor in Chemistry. She graduated with a 3.89 GPA, Summa Cum Laude, placing on both the Dean's and the President's Honors List her entire college career. In 2014, she was awarded the Larry Dang Memorial Scholarship for exemplary grades and community service in the Circle K club on campus. In 2015, she was awarded the Karen Dundas Sorci Endowed Scholarship in Biology in recognition of working over 20 hours a week while being a full-time student. She worked as a student intern at the Water Quality Laboratory of the Metropolitan Water District of Southern California as part of the Treated Water Microbiology team, where she worked in microbiology compliance of treated water.

During her time at Cal Poly Pomona, she was involved in the Science Education Enhancement Services program as both a mentee and a mentor. In May 2016, she began volunteering as a COPE Health Scholar at Queen of the Valley Hospital in West Covina, CA. There, she gained clarity in where she wanted to start a career in the health care field. While she really enjoyed the patient care experience, she was captivated by the importance of the Clinical Laboratory Scientists' role in effective diagnosis and treatment of patients. Jordan excelled in her work in industry, her volunteering and her academics. Jordan has been accepted to the highly selective Clinical Laboratory Scientist program at the UC Davis Medical Center.

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SACRAMENTO STATE

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP
UGBAD FARAH
CHEMISTRY

Ugbad Farah completed her B.S. majoring in chemistry with a concentration in biochemistry and a minor in biology. At first, it was difficult for Ugbad to see herself working in a field where she saw little to no representation, but her desire to see more like her in the STEM workforce motivated her to stay true to herself and continue to strive for those who could not. For the past year, Ugbad has been a CSU-LSAMP Research Scholar working in Dr. Katherine McReynold's lab, focusing on the development of novel branched sugar-based polymers, known as glycodendrimers, as potential therapeutic agents. After attending and presenting at several conferences and symposiums, her commitment to pursue an advanced degree was solidified.

Ugbad developed a passion for biological chemistry – specifically the synthesis of novel drugs and carriers to be used in biomedical applications to combat viral diseases. In addition to her research interests, she is committed to building a bridge of trust between scientists, doctors, and underserved communities, where stigmas and misunderstandings prevent people from going for regular hospital checkups and obtaining necessary healthcare. Furthermore, she hopes to develop treatments and technologies to treat diseases in low-resource settings worldwide.

As Secretary of the Multicultural Association of Science Students in 2015-16 and 2016-17, she brought speakers to campus and, herself, presented in classes and workshops about the need for diversity in the sciences. In her capacity as President of the Muslim Students Association in 2014-15, Ugbad organized outreach events on campus for Islamic Awareness Week.

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OUTSTANDING RESEARCH IN STEM
SHALENI SINGH
BIOLOGICAL SCIENCES

Shaleni Singh completed her B.S. in biological sciences with concentrations in cell and molecular biology, and microbiology in spring 2017. She started at Sacramento State as a first-generation college student in Fall 2012. She quickly engaged in volunteering events for her community. After taking a few upper division biology classes, Shaleni went on to be a temporary student technician, where she set up lab equipment for classes but also helped engage and tutor students who were not biology majors. She also served as the Public Relations Officer for the Student Association of Laboratory Scientists to help students learn more about diverse career opportunities in the field. Soon after, she was given the opportunity to begin undergraduate research with Dr. Robert Crawford in his microbiology lab. Shaleni joined CSU-LSAMP to help expand her collaborative research projects with the Department of Dermatology at UC Davis, focusing on bacterial infections in chronic wounds and acne pathogenesis. She also looked toward this program for guidance with her future direction and career goals. With the help of Dr. Crawford, peers and CSU-LSAMP, Shaleni has presented her research at a variety of statewide and national research conferences, and was selected as a 2017 ASM Undergraduate Research Capstone Fellow. Shaleni has been accepted into the Ph.D. program in biomedical sciences at Ohio State University. She looks forward to this next step, where she will continue to conduct research related to host-microbe interactions.

OUTSTANDING SERVICE/LEADERSHIP
GEORGE CAIRO
MECHANICAL ENGINEERING

George Cairo was first in his family of farm workers to attend college. The challenges of attending an underserved K-12 school system propelled him to invest in his community by sharing his story and inspiring students to pursue a higher education.

In 2013, George joined the MESA Engineering Program (MEP) at Sacramento State, where he excelled academically and served as a role model for other students. His leadership skills became clear by serving as Outreach Director, Vice President, and President for the Society of Hispanic Professional Engineers (SHPE). During his term as VP, Sacramento State SHPE was recognized as Student Chapter of the Year from over 150 chapters nationwide. George was also instrumental in creating an SHPE junior chapter at Cristo Rey High School. In 2016, George was elected as Student Government Director for the College of Engineering and Computer Science. His credentials also include Vice President of the Engineering Joint Council, where he assisted the President with the management of several engineering student clubs in the college.

George served on a research team to determine the dynamic-response model of ionic polymer metal composites under the guidance of Dr. Kam Leang with the Design, Automation, Robotics and Control Lab at the University of Utah. Most recently, George completed two internships at the NASA Jet Propulsion Laboratory, where he enhanced 3D printing technologies, designed hardware testing and conducted thermo-mechanic tests of prototype satellite hardware.

George acknowledges his parents and mentors from Nu Alpha Kappa Fraternity Inc. for his successes.

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

OUTSTANDING ALUMNUS & RESEARCH IN STEM

MOISES ROMERO · CHEMISTRY

Moises Romero is a first-generation college student, who became interested in science as a child while watching "Dexter's Laboratory." In college, this interest developed into a love of chemistry. Moises worked with Dr. Kimberley Cousins on various research projects, like the degradation of Vitamin C in citrus fruits and peppers, and the green synthesis of carpanone. Later, he found his true passion in theoretical and computational chemistry. He worked on the project "A Computational Analysis on Hydrogen Bonding Organoferroelectrics Dimers" and presented his work at various conferences, including the Southern California Conferences for Undergraduate Research (SCCUR), Emerging Researchers National (ERN) Conference and the CSU honors conference. In summer 2016, Moises worked in Dr. Eva Zurek's lab at the University at Buffalo, NY, on various projects – two of which have manuscripts in preparation. He presented the project "A Computational Outlook on Ferroelectricity: Transition State Optimizations and Charge Analysis", which was completed at University at Buffalo, NY, at the SCCUR, ERN Conference, American Chemical Society (ACS) National Meeting, and the Southern California Theoretical Symposium. He is interested in further understanding quantum mechanics and its different uses for solving chemical problems. In fall 2017, Moises began his graduate studies at UC Irvine in theoretical and computational chemistry. Following graduate school, Moises wants to enter a career in science policy as well as helping underrepresented students advance in STEM related careers.

OUTSTANDING ALUMNUS & RESEARCH IN STEM

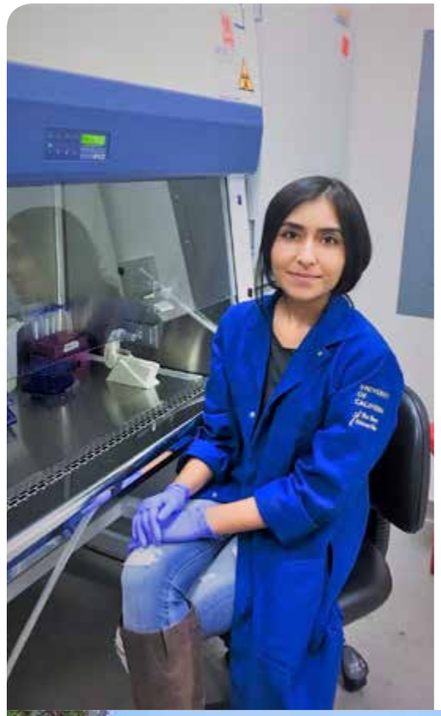
MARCOS REYES · MATHEMATICS

Marcos Reyes graduated from CSU San Bernardino with a B.S. in mathematics in 2015. Marcos is one of six children of Mexican immigrant parents and is a first-generation college student. Marcos joined the LSAMP program in 2010, which led to his participation in various programs that enriched his mathematical interest and preparation, like attending the 2010 Math Summer Program and in the Mathematical Association of America 2011 summer REU program at CSU San Bernardino, where he did research on graph theory under the direction of Dr. Lo. Marcos presented his research at several mathematical meetings, including the 2012 Mathematics Annual Joint Meetings held in Boston. Marcos was involved in the Math Club, where he was president from 2011-13 and continuously volunteered, and still volunteers, for the Math Club study marathon every quarter. In summer 2012, Marcos was selected to participate in the Preparing Undergraduates through Mentoring towards PhDs (PUMP) program at CSU Northridge. During the 2014-15 academic year, Marcos participated in an undergraduate research group with PUMP under the guidance of Dr. Lo at CSU San Bernardino.

Currently, Marcos is a mathematics master's student at Cal State LA as part of the 2016 LSAMP Bridge to the Doctorate Program. He currently works with Dr. Krebs in representation theory. Marcos' dream is to become a professor and have a positive impact on the success of underrepresented students in STEM fields. He will be applying for Ph.D. programs in fall 2017.

OUTSTANDING RESEARCH IN STEM, & SERVICE/LEADERSHIP

CHRISTINA GONZALEZ · BIOLOGY



Cristina Gonzalez graduated from CSU San Bernardino with departmental honors in June 2017. She joined the LSAMP program in fall 2015. She worked in Professor Jeremy Dodsworth's lab aiming to cultivate geothermal microbes. In summer 2016, she participated in the Office of Student Research's Summer Research Program. Later, she was awarded the CIRM Bridges to Stem Cell Research Award in January 2017 and has since been an intern working in the school of medicine at UC Riverside. Under the advisement of Professor Sika Zheng, she is currently investigating the impact alternative pre-mRNA splicing has on gene regulation in neurons. Cristina has presented her work at the Lake Arrowhead Microbial Genomics, Southern California American Society for Microbiology Annual Meeting, 29th Annual CSU Biotechnology Symposium, and Meeting of the Minds. Cristina was awarded an Emerging Researchers National (ERN) Conference in STEM Travel Award, and the Lake Arrowhead Microbial Genomics Undergraduate Poster Award. Cristina's career goal is to enter a PhD program and perform immunology related research.

Cristina has also been an active volunteer in her community and campus. She previously volunteered in the microbiology lab at Pomona Valley Hospital Medical Center. In 2016, she was a volunteer coordinator for Lambda Sigma Biology Club and Secretary Assistant for Stem Cell Society of Student Research, where she helped organize important events such as the Huntington's Disease Symposium and Be the Match Drive.

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San Diego State University

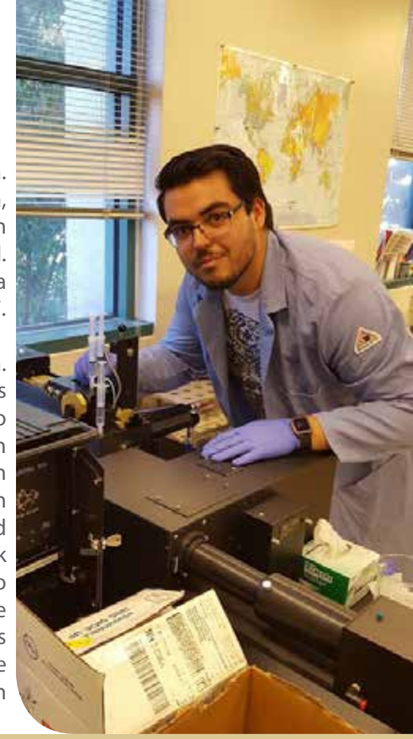
Outstanding Academic
Paula Bejar · Biology

Paula Bejar is an undergraduate biology student at SDSU with one year left before she graduates. Paula is thankful she has had the support of LSAMP during her journey at SDSU. She has maintained an overall GPA of 3.80 and has been on the dean's list every semester. She is proud to say that with the help of strong mentorship, she has flourish not only academically but also personally – from a very shy freshman to an outgoing and more independent college student. Through the LSAMP program, Paula performed research concerning cardiovascular cell activity in neonatal rats at the Cardiomyocyte Dynamics Laboratory (CDL) at SDSU. Over summer 2016, she worked as a teaching assistant for the NIH Bridges to the Baccalaureate Program, which was an enriching experience. With funding from the Minority Health and Health Disparities International Research Training program (SDSU MHIRT), Paula traveled to Taiwan this past summer, where she had the opportunity to conduct research at Kaohsiung Medical University (KMU). The support from LSAMP has been immeasurable and she is excited about her final year at SDSU and what the future brings after SDSU.

Outstanding Service/Leadership
Kevin Archangel II · Electrical Engineering

Shortly after coming to SDSU from Stockton, CA, in 2012, Kevin Archangel began utilizing his leadership abilities to gradually and systematically help others find their inner strengths and passions. Because of his desire to address issues of bringing equality and diversity to campus and improving the status of the underserved within the community-at-large, he became actively involved in organizations that allowed him to help others obtain the skills they need to remain in college, figure out ways to do more for individuals unable to do for themselves, and serve their communities as leaders. His on-campus activities included being a member and officer of the Society of African American Brotherhood (SAAB), the Phi Beta Sigma fraternity, the National Pan-Hellenic Council (NPHC), the Afrikan Student Union (ASU), and the National Society of Black Engineers (NSBE). Kevin also acted as a peer mentor for the Harambee (Swahili for pulling or working together) program. Through each of these organizations and programs, he was responsible for helping incoming students feel as though they were members of the community by assisting them through the maze of rules, regulations, expectations and activities of college life. In addition, because of his interaction with his fellow students and mentees, students learned to assess their attitudes toward studying as well as how to deal with social influences that may be detrimental to their success. Helping 24 high school seniors each year through the San Diego Links Achievers prepare for their college transition has been one of his proudest achievements.

Outstanding Research in STEM
Eric Gonzalez · Chemistry



Eric first joined the LSAMP program in summer of 2012, as an incoming freshman. During that first summer, Eric participated in the summer pre-calculus program, where he honed his math skills and was introduced to research careers. Through this experience, the prospect of earning a Ph.D. and doing research became his goal. Eric graduated with a B.S. in chemistry with emphasis in biochemistry, and began a Ph.D. program at UC San Francisco in chemistry and chemical biology in fall of 2017.

Through the LSAMP program, Eric gained experience in undergraduate research. His experience led him to be accepted into the NIH-funded Maximizing Access to Research Careers (MARC) program at SDSU. Eric also participated in two summer research programs, at UT Southwestern Medical Center and at UC San Francisco. Eric's work at UC San Francisco was later published in ChemMedChem journal, where he is a middle author. Eric had the opportunity to present his research at the Annual Biomedical Research Conference for Minority Students (ABRCMS), and won an Outstanding Poster Presentation Award. Eric's lab later published his work in the Journal of Biological Chemistry, where he is the second author behind two graduate student co-first authors. While doing research and applying to graduate school, Eric also submitted applications to national fellowship competitions, was awarded the NSF Graduate Research Fellowship Program and was given honorable mention for the Ford Foundation Fellowship. Eric's experience in STEM research began through LSAMP and for that he is eternally grateful.

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Outstanding Resilience & Persistence
Mya Brown · Chemistry

Mya Brown transferred to SDSU as a chemistry major in 2012. As a first-generation college student, she has shown resilience by staying committed throughout her education while working two to three jobs at a time and supporting herself. In fall 2013, Mya was accepted into the LSAMP program, where she obtained tutoring services when enrolled in Calculus III, which helped her stay focused and pass the course. LSAMP has allowed Mya to stay motivated in chemistry and encouraged her to explore opportunities in research. Through her curiosity and support from mentors, Mya performed research for two years in a laser spectroscopy lab under the supervision of Dr. William Tong, and presented her research at national conferences, including the Annual Biomedical Research Conference for Minority Students. Amongst the many accomplishments Mya has earned, she also developed leadership skills during her education journey where she served on the executive board for two years for the Black Student Science Organization. The experience of performing research and showing leadership as an undergraduate motivated her to pursue graduate school. Mya's career goals are to earn a Ph.D. in analytical chemistry and train the next generation of science students through teaching and research.

San Francisco State University

Outstanding Research in STEM
Chinomnso Okorie · Biology

Chinomnso Okorie graduated with a biology degree from SFSU in 2017. Chinomnso has always had a strong sense of community that was instilled by her family. She was brought up to understand that culture and community add to one's character. She is proud to be the first in her family to go to college and to be an example and role model for the youth in her community. As an SF BUILD Scholar, Chinomnso has worked at the UCSF Francis I. Proctor Foundation for Research under the guidance of Dr. Catherine Oldenburg whose research focuses on sexually transmitted infectious diseases, specifically HIV and syphilis. Chinomnso used meta-analysis and mixed methods to analyze data with the intent to identify health disparities among women in Zambia and correlate it to their access to health care. She has presented her work at the SFSU College of Science and Engineering Student Showcase and the Society for Epidemiologic Research. She was an APRI Alumni Scholar Award recipient, an award presented to African American students who have grown into inspiring role models in the Bay Area and to encourage their continuation in higher education. As for her future, Chinomnso intends to become a biomedical health leader who uses translational science to focus on health disparities. Chinomnso says that she is "looking forward to my master's where my focus will be on reproductive health with PTBi-CA, on highest risk of preterm birth — in women of color and lower income — within three communities: San Francisco, Oakland, and Fresno."

Outstanding Research in STEM
Maria Contreras · Biology

Maria Contreras (MC) is studying biology with concentration in physiology at San Francisco State University. MC was born in Guadalajara, Mexico. When she started at SFSU, MC decided to major in biology with a concentration in physiology and minor in Latino studies. In these two different fields, it became apparent to her that science lacked significant ethnic and racial diversity. This did not discourage her. Instead of seeing it as a reason not to pursue science, MC saw it as motivation and a way that she could be an agent of change.

In 2015, she joined SF BUILD and began research in the Asthma Collaboratory with Drs. Esteban Burchard and Marquitta White. Even though she had no prior research experience, in a few short months, she learned the statistical analysis techniques, computer programming and bioinformatics skills she needed to manipulate and analyze "big data" collected from over 10,000 minority children. In 2016, MC was included as an author in a publication in Immunogenetics (PubMed PMID: 27142222) and she is currently working on a separate project, where she will also be a co-author. She also works on ancestry and environmental interactions. She has presented her results at the Health Disparities Symposium, SACNAS and the National Latino Cancer Summit. In the future, MC plans to pursue a PhD and to "…continue to work within my community while continuing to further my education in the research sciences despite the barriers."

Outstanding Service/Leadership
Ghilamichael Andemeskel
Biology

Ghilamichael (Ghila) Andemeskel is a recognized activist who graduated from SFSU in spring 2017 as a biology major. Ghila arrived in the United States at the age of seven as an Ethiopian refugee. Even with a turbulent and challenging childhood, Ghila had an appreciation for the natural world which ultimately led to his pursuing a biology major. Given his passion for social justice, he chose SFSU because of its history of student activism. While at SFSU, Ghila applied to the SF BUILD project because, in his words, "SF Build is focused on increasing diversity in the biomedical field. As an immigrant from Ethiopia who feels that he is not represented in his field, I believe that SF BUILD's mission will help me succeed in my career goals by creating a diverse environment".

Ghila has committed a large portion of his college career to activism ranging from grassroots community work in Oakland with the Coalition for Police Accountability, to working with the Afrikan Black Coalition on private prison divestment from Universities, and hosting an annual conference for Black Student Unions throughout California. Ghila served as vice president and political director drafting the BSU's 10 demands, and establishing the university's first Black residency floor and Black resource center. As for his long-term goals, he plans to receive a Ph.D. and address social disparities from an intersectional research perspective that merges culturally relevant pedagogy, activism, and traditional research methods.

Outstanding Research in STEM
Patricia Castruita · Biology

Patricia Alejandra Castruita (Ale) is a biology major at San Francisco State University. Growing up in a small city with an annual murder rates larger than its surface area, famous for its routinely gory scenery and drug commerce, Ale could never have imagined she would ever become anything more than a high school graduate. Ale has experienced several obstacles that kept her from pursuing a career in science. After coming to SF State and interacting with dedicated scientists who believed in promoting diversity, Ale developed the courage to declare biology as a major. After getting a year's worth of research experience in the Health Equities Research lab, and developing full conviction to pursue a career in research, Ale found herself often wondering about issues in her community related to neurological functioning and neurodegenerative diseases.

In 2016, she joined the research group of Dr. Lea Grinberg in the Memory and Aging Center. Her first project in the lab was to create three-dimensional reconstructions of the brainstem to visualize changes in a specific region of the brain involved in early Alzheimer's disease pathology. Currently, she is starting to explore multiplex immunohistochemistry methods that will help her probe molecular mechanisms associated with neurodegenerative disease progression. These projects and her experience in biomedical research have fueled Ale to pursue a career that will grant her the opportunity to "serve my community through the advancement of scientific knowledge." She believes that, in doing so, "...the gap leading health disparities can one day disappear."

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SJSU SAN JOSÉ STATE UNIVERSITY

OUTSTANDING ACADEMIC & SERVICE/ LEADERSHIP

ZYRINA ALURA SANCHEZ
BIOMEDICAL ENGINEERING

Zyrina Alura Sanchez is a Biomedical Engineering major at San Jose State University. She believes that getting involved with her community is an important way to promote the sciences and higher education. During her second year at San Jose State, Zyrina Alura co-chaired an event called Science Extravaganza, which serves to encourage middle school students to study in STEM fields. She achieved the year-long preparation for the event with the help of her fellow co-chair, academic and professional advisors, and a dedicated committee. Together they raised over $15,000 from industry sponsors to fund the full day event which includes hands-on STEM activities which served over one hundred student participants. Professionals and other campus organization leaders hosted the workshops to both inspire and serve as role models to those students who may not have these kinds of people in their school or home. She also coordinated presentations to over 1,500 middle school students from three different school districts. Zyrina Alura believes that as a college student who has a passion for STEM, it is her responsibility to give back to younger students who may not have enough resources to achieve their goals in areas that they are passionate about.

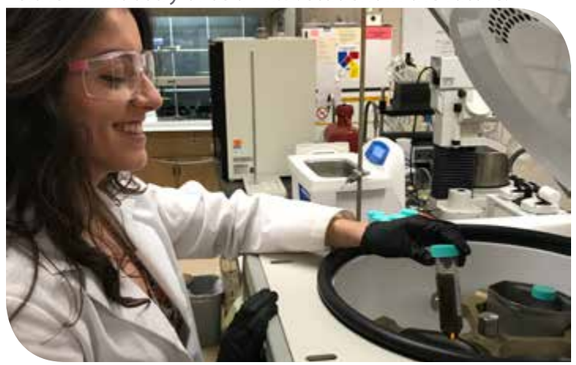
In addition to organizing this essential event, she earned the honor of being a President's Scholar for maintaining a 4.0 GPA for two consecutive semesters. Zyrina Alura enjoys the challenging and exciting topics in her courses and is eager to continue her academic career in upper division classes and graduate studies in the future.

OUTSTANDING ACADEMIC & RESEARCH IN STEM

MELISSA GONZALEZ · CHEMISTRY

Melissa Gonzalez graduated from San Jose State University in May 2017 with a B.S. degree in Chemistry. During her undergraduate career she was a member of several research groups on campus. She first worked in Dr. Lionel Cheruzel's chemical biology group studying light-driven enzymatic syntheses of regio- and stereospecific products. She later joined Dr. Abraham Wolcott's group and his project on gold-silica nanoparticles and their ability to be used for the biodetection of cancer cells. Learning about the functionality and application of synthesized materials, not just about the chemicals that make them up, was a new and fascinating experience for her, and one that she hopes to continue in graduate school. Melissa has presented her work of these various projects at the American Chemical Society conference in 2014 and at the Annual Biomedical Research Conference for Minority students in 2016.

In addition to her work in lab, she also maintained excellent academic standing throughout her time at SJSU and graduated with a 3.7 GPA. Her curricular success placed her on the Dean's List for 4 years and also earned her a membership in the Phi Kappa Phi Honor Society in 2016. She is currently continuing her scientific training at the University of Oregon where she is working towards a master's degree in polymer chemistry. She is looking forward to applying her acquired chemistry knowledge and laboratory experience into her work either in industry or as a Ph.D. student in the future.



OUTSTANDING ALUMNA

YVETTE VALADEZ-CARRANZA
CIVIL ENGINEERING

Yvette Valadez-Carranza received a B.S. in Civil Engineering at San Jose State University in December of 2016. Her research interests revolved around sustainable construction materials, particularly sustainable concrete. During her undergraduate studies, she assisted two different professors on three different research projects at San Jose State University. In addition to her role as research assistant at SJSU, she worked as a student assistant for the California Department of Transportation (CalTrans). She assisted bridge engineers in examining key structural elements of the Bay Bridge.

Yvette has also done summer undergraduate research at Purdue University in Dr. Jason Weiss's lab. She investigated the mechanical properties of the development of cellulose nanocrystalsbased cementitious materials in an effort to achieve increased strength. The advantage of using cellulose is that the nanocrystals are renewable and sustainable. Yvette is currently a graduate student at Oregon State University where she is continuing her research on cellulose nanocrystals' ability to enhance the properties of construction materials.

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OUTSTANDING ALUMNA, ACADEMIC, & RESEARCH IN STEM

ADRIAN RIIVES · CHEMISTRY

Adrian Riives obtained her BS in Chemistry at San Jose State University in May 2017, and is continuing her Ph.D. studies at Rensselaer Polytechnic Institute in Troy, New York. Her area of research at RPI is materials and polymer chemistry with applications toward alternative fuel sources.

Diagnosed with dyslexia at age seven, Adrian learned from an early age that nothing worthwhile is accomplished without hard work. Applying this steadfast approach to her studies helped Adrian make the Dean's list at SJSU while also conducting research in Dr. Gilles Muller's group. In the Muller group, Adrian's research involved the design of a non-invasive luminescent lanthanide metalligand coordination complex, Europium-Tetracycline, with potential application as a probe in biomedicine.

Adrian has presented her research at a number of conferences, such as the American Chemical Society Meeting and the Annual Biomedical Conference for Minority Students (ABCRMS). In fall 2015, Adrian received an award for an outstanding poster presentation in Chemistry at ABRCMS. Adrian was also awarded the NIH Research Initiative for Scientific Enhancement (RISE) Traineeship at SJSU. In the summer of 2016 she was also fortunate to be able to perform research at the University of Pennsylvania, where she worked in the lab of Dr. Marisa Kozlowski on the rational design of novel catalysts for use in organic synthesis.

Adrian enjoyed her studies at San Jose State and particularly valued her membership in the LSAMP and NIH RISE programs, as these wonderful programs gave her a sense of purpose and confidence as a young researcher.

Cal Poly

San Luis Obispo

Outstanding Service/Leadership

Carla Simental · Architectural Engineering

Carla Simental majored in Architectural Engineering at Cal Poly, San Luis Obispo. In 2017 she started the blended Master's program, and will graduate with an M.S. in Architectural Engineering in fall 2017.

As an undergraduate, Carla played a visible leadership role in efforts to create a more diverse and inclusive Cal Poly. This work to "give back" was motivated and shaped by her own experiences growing up with a single mother and facing many financial difficulties. With guidance and support, Carla earned honors in high school and the opportunity to pursue her passion in structures at Cal Poly.

At Cal Poly, Carla joined the Society of Hispanic Professional Engineers (SHPE). She was part of an 8-person team that established a local SHPE Jr. chapter to provide a way for Cal Poly students to mentor high school students in Santa Maria. The next year, Carla served as the Outreach Coordinator for SHPE, and continued to build pathways to engineering for youth in Santa Maria and other communities by organizing campus tours, engineering workshops, and financial aid presentations, as well as serving as a speaker and panelist. In 2015-16, Carla was elected SHPE president. Under her leadership, 45 Cal Poly students participated in the SHPE annual conference in Baltimore – the highest participation level by Cal Poly to date. Carla was recognized by the Cal Poly LSAMP Program in May 2014 as Outreach Member of the Year. As a structural engineer, Carla plans to continue to promote STEM to students from underrepresented groups.

Outstanding Research in STEM

Averil Royal · Biological Sciences

Averil Royal is a Biological Sciences major at Cal Poly, San Luis Obispo, with a minor in Microbiology. Originally from Dallas, Texas, he began his education at Cal Poly as a Computer Engineering major. Averil found his passion, however, in biology and switched majors during his 3rd year. For the past two years, Averil has conducted undergraduate research in the Physiological Ecology of Reptiles Laboratory (PERL) at Cal Poly with Dr. Emily Taylor. Since joining PERL, Averil has participated in multiple research projects focused on the environmental physiology of reptiles. He is currently the student lead on a project that tests whether body size has an effect on thermal tolerance in ectotherms (animals that rely on external sources for body heat). The goal of this research is to contribute to understandings of the current and likely future impacts of global climate change on ectotherm populations. In summer 2016, Averil was supported by a Frost Scholarship that allowed him to focus on his research full-time. In June 2017, Averil presented a poster at the Joint Meeting of Ichthyologists and Herpetologists in Austin, TX.

Averil is also an executive board member of the Cal Poly Chapter of the National Society of Black Engineers, founder of the Cal Poly Powerlifting Club, and member of Black Student Union and Pilipino Cultural Exchange. After his graduation in spring 2018, Averil plans to pursue a Ph.D. in Biology and a career as a research scientist.

Outstanding Alumna

Janine Sengstack · Biological Sciences

Janine Sengstack graduated summa cum laude from Cal Poly, San Luis Obispo, in fall 2016, where she earned a B.S. in Biological Sciences with a concentration in Cell and Molecular Biology. In summer 2016, Janine participated in the Amgen Scholars Program at the University of California, San Francisco (UCSF). She began a Ph.D. in the interdisciplinary Tetrad Graduate Program at UCSF in August 2017, where she studies molecular biology, genetics and biochemistry. Janine strives to understand how molecular mechanisms of cell function culminate in the macroscopic phenotypes we see, and how apparently disparate systems are in fact intertwined and inextricably connected. Her goal is to utilize her knowledge to make a positive difference in her community as a researcher in the biotechnology and/or biopharmaceutical industries.

Via reflection on her own experiences – including gratitude for the many positive opportunities she has had – and observations of the challenges experienced by many, Janine developed a desire to support other students in overcoming adversity. To address this goal, Janine volunteered for the Cal Poly LSAMP Program by serving as an Undergraduate Research Experiences student panelist multiple times and collaborating with a CSU STEM VISTA AmeriCorps volunteer to develop a comprehensive guide for LSAMP students to learn how to become involved with on- and off-campus research experiences. Janine also mentored multiple LSAMP students during their application processes for undergraduate research experiences and internships. The Cal Poly LSAMP Program recognized Janine with an Excellence in Commitment to Community Service to LSAMP Students Award in May 2016.

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Outstanding Service/Leadership

Austin Ramon Rivera · Electrical Engineering

As an undergraduate, Austin Ramon Rivera played a leadership role in multiple organizations designed to create a more diverse and inclusive Cal Poly. As a member of the student-coordinator team, Austin organized the 2017 PolyCultural Weekend, an orientation program for conditionally admitted high school and transfer students from underrepresented groups. The goal of PCW is to connect the 300+ participants to current Cal Poly students, cultural organizations, and resources to build community and a sense of belonging that encourages the students to choose Cal Poly (as the 2013 PCW did for Austin). In 2016-17, Austin also served as chapter president of the Nu Alpha Kappa Fraternity Inc., an organization focused on uniting the Latinx community through academic, social and cultural means, and the promotion of higher education.

In summer 2016, Austin completed 400 hours of service as a CSU STEM VISTA AmeriCorps Summer Associate, a program designed to support the academic and professional success of students from underrepresented groups in STEM. In this role, Austin developed and implemented diversity and inclusivity training for counselors in the Cal Poly Engineering Possibilities in College (EPIC) summer camp; taught engineering labs to middle school and high school students; and provided critical support for new equity initiatives in the BEACoN Mentors and LSAMP programs.

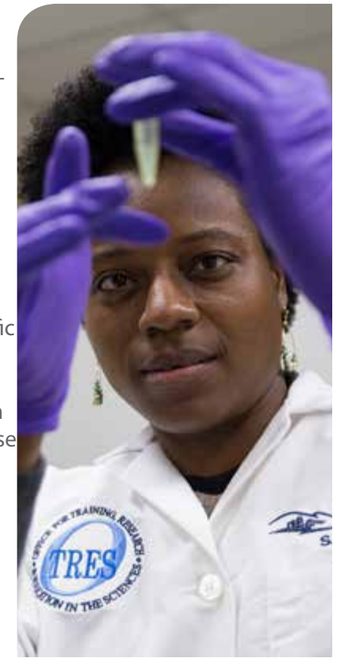
Austin's career goal is to integrate his passion for helping others with his great appreciation for science. Austin will graduate from Cal Poly, San Luis Obispo, with a B.S. in Electrical Engineering this fall.

California State University
SAN MARCOS

OUTSTANDING RESEARCH IN STEM
KEVIN TENERELLI · BIOLOGY

Kevin transferred to California State University, San Marcos in 2014 from Palomar College with an associate's degrees in math and science. He spent that summer and the previous one as a research fellow in the University of California, San Diego Medical Scientist Training Program: Summer Undergraduate Research Fellowship. Soon after transferring to CSUSM, Kevin's work ethic and aptitude for research was widely recognized and he was accepted into the prestigious CIRM Bridges to Stem Cell Research Training Program. As a CIRM Scholar, he worked in Dr. Jeffrey Goldberg's laboratory using human embryonic and induced pluripotent stem cells to mimic developmental cues to drive cell differentiation in optic nerve cells. After successfully completing a year in that program, he became an LSAMP scholar. Based on academic and research excellence, Kevin was accepted into the prestigious Maximizing Access to Research Careers (MARC) program at CSUSM in 2015 and began conducting research at UCSD in the laboratories of Dr. Jeffrey Goldberg and Dr. Adam Engler. Impressively, he is now a co-author on two publications based on the work he conducted in these two stem cell research laboratories. This work has also been presented at several student and professional conferences, including the Annual Meeting of the International Society for Stem Cell Research in Stockholm, Sweden. Kevin graduated from CSUSM with a B.S. in Biology in spring and started the fully-funded NIH Medical Scientist Training Program (MD/PhD) at UCSD this fall.

OUTSTANDING ACADEMICS
SHARON PATRAY · BIOCHEMISTRY



Sharon Patray, formerly Sergeant Patray of the United States Marine Corps, transferred to California State University, San Marcos from MiraCosta Community College in 2014. Shortly after transferring, Sharon became an LSAMP Scholar and continued her work in the biochemistry laboratory of Dr. Sajith Jayasinghe. She worked diligently in his laboratory to examine the protein structure of CsgE. This protein is involved in the formation of curli fibers found on the outer surfaces of some bacteria. Impressively, Sharon co-authored a peer-reviewed article in the journal Intrinsically Disordered Proteins based on this work. She also presented her work at several national and regional conferences. Based on academic and research excellence, Sharon was accepted into the competitive Research Initiative for Scientific Enhancement (RISE) Program. In summer 2015, her hard worked earned her a summer research position at Johns Hopkins University where she conducted research in the laboratory of Dr. Joel Schildback working on isolating mycobacteriophages from the environment. In a short period of time, Sharon contributed to building a database of phage genomes. Sharon is involved in the American Chemistry Society Club and the American Association of University Women. Her last semester at CSUSM, Sharon earned the Dean's Award in the College of Science and Mathematics; the highest honor a student in that college can receive. She graduated from CSUSM with a B.S. in Biochemistry in spring 2017 and started a Ph.D. program at Johns Hopkins this fall. Ultimately, Sharon aspires to work for the Center for Disease Control conducting virus-related research.

OUTSTANDING SERVICE/LEADERSHIP
JESUS PEREZ · PHYSICS

Jesus joined California State University, San Marcos in 2014. He worked full-time and maintained a high GPA while serving in leadership roles, such as being an ambassador for the Alliance to Accelerate Excellence in Education program. The Alliance program has a track record of improving college attendance and completion rates for K-12 students in ten area school districts.

Not only does Jesus excel in service, but his drive and initiative have led him to excel in research. In fall 2016, Jesus participated in the Science of Undergraduate Laboratory Internships program at the Princeton Plasma Physics Laboratory in New Jersey. At Princeton, he worked in a physics laboratory focusing on designing the Remote Planterrella experiment, which can recreate and simulate astrophysical phenomena such as auroras, magnetospheres, ring currents, and solar coronas, and can be used by laboratories around the world. Based on academic and research excellence, Jesus was accepted into the prestigious Research Initiative for Scientific Enhancement (RISE) program in spring 2017. Jesus has recently joined the laboratory of Dr. Stephen Tsui at CSUSM. His research project focuses on condensed matter physics; specifically he is synthesizing and characterizing rare earth othoferrites. Jesus is developing his project into publishable work. As further evidence of Jesus' research skills, he received the CSUSM Library Award for Undergraduate Research, Scholarship, and Creative Activity for Empirical Research.

Jesus is expected to graduate in spring 2019 and is well on his way to achieving his goal of applying to graduate programs and obtaining his Ph.D. in physics.

OUTSTANDING RESEARCH IN STEM
JUDITH FLORES · CHEMISTRY

Judith began her studies at California State University San Marcos in 2013 and joined LSAMP the same semester. Based on her research and academic excellence, in 2015 she was selected as a Minority Access to Research Careers Scholar, and began working in the laboratory of Dr. Kambiz Hamadani studying protein translation. She has presented her work at various student and professional conferences across the country. In addition to her work at CSUSM, Judith attended a summer research program at the University of Kansas characterizing a new method of production of whispering gallery mode resonators to optically analyze samples. Judith also attended a summer program at Stanford University where she focused on examining the phosphorylation kinetics of a protein involved mitotic changes. Judith has extensive research experience and is an exemplary scientist. In addition to excelling in her academic work and research, Judith remained involved in the community through her roles as the Vice President of the Society for the Advancement of Chicanos and Native Americans in Science, a member of the American Association of University Women, a Golden Key International Honour Society member and a Chemistry and Biochemistry Learning Community member.

Judith graduated in spring 2017 with a B.S. in Biochemistry and will be attending a Ph.D. program in the Department of Chemistry and Biochemistry at the University of California, San Diego. She received the very prestigious National Science Foundation Graduate Research Fellowship, which will support her in her doctoral work.

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SONOMA
STATE UNIVERSITY

OUTSTANDING RESEARCH IN STEM
ABRAHAM PALMERIN · ELECTRICAL ENGINEERING

Abraham comes from a low-income background and speaks his parent's native language at home. Neither of his parents attended college and after graduating high school, Abraham had no intention of going to a four-year institution. After some motivation from friends, Abraham attended Santa Rosa Junior College. While taking his first math course he knew he would declare a major in a STEM field. Once he had enough units to transfer, Abraham declared Electrical Engineering as his major and was determined to pursue his goal of receiving a Bachelor's of Science.

Abraham continued as an Electrical Engineering major at Sonoma State University. After receiving an LSAMP research stipend, Abraham worked on extensive undergraduate research on underground wireless communications. He studied the power loss between two antennas after burying them underground in different types of soil. Abraham has presented his research at the 29th Annual CSU Biotechnology Symposium, the 2017 Northern California Undergraduate Mathematics Conference, and the School of Science and Technology Science Symposium at SSU. Abraham graduated in May 2017 with a B.S. in Electrical Engineering and was selected by the faculty of the Electrical Engineering Department for the award of Graduation with Distinction. Abraham was also selected to be the student banner carrier for the School of Science and Technology at the 2017 SSU commencement ceremony. He entered a graduate program in Electrical Engineering at UCLA in the Fall of 2017.

OUTSTANDING IMPROVEMENT
JUAN ESCOBAR SALSEDO · MATHEMATICS

Juan Escobar Salsedo graduated in May of 2017 from Sonoma State University with a B.A. in Mathematics. He is the first in his family to attend college. The youngest of 6, he was born and raised in Sonoma County, while most of his family was born in Mexico. During his senior year of high school, his family became homeless for about half a year. Ever since, he has had the responsibility of working to help his family pay their bills. Juan's family has always been very supportive of his education and expected him to go to college. After graduating from high school, Juan attended Santa Rosa Junior College and then transferred to Sonoma State University. His grades were affected by long work hours and family responsibilities, but eventually Juan earned a term GPA of 3.547, including an A- in the very difficult Modem Algebra course, during his last semester.

Despite his difficulties balancing school, family responsibilities, community work, and personal aspirations, Juan joined the CSU-LSAMP program at Sonoma State. Once a part of the program, he was inspired by the opportunities that LSAMP offers. Because of the CSU-LSAMP program, Juan travelled to Tashkent, Uzbekistan for a collaborative research experience in Leibniz Algebra in the summer of 2017. The CSU-LSAMP program also inspired Juan to apply to graduate school. He entered a Master's program in Mathematics at Cal State LA in the Fall of 2017 and is part of the BD cohort.

OUTSTANDING ACADEMIC
JENNIFER JUAREZ YOC · BIOLOGY & SPANISH

Jennifer Juarez Yoc is a Biology (BS) and Spanish (BA) double major in her third year at Sonoma State University, and has maintained a perfect 4.0 GPA her entire college career. With advanced placement credits, Jennifer is a junior.

Jennifer has overcome many hardships on her way to academic success. Her mother immigrated from Guatemala, and Jennifer is the first in her family to attend college. For a time, she and her family were homeless. She has taken care of her three younger brothers, co-parenting with her mother. In spite of these difficulties, she has consistently challenged herself with difficult course-loads.

Jennifer hopes to become a doctor, a desire that began when she witnessed chronic illness among her family, locally and abroad in a small village in Guatemala. With scarce access to basic resources and adequate healthcare, her grandfather suffered from a digestive disorder and died in agony. Additionally, her father was diagnosed with colon cancer, and as a consequence of a lack of medical assistance and treatment in the U.S., he had to seek care in Guatemala. The lack of appropriate medical care abroad and in the U.S to underserved communities created her desire to advocate and improve the lives of those who suffer by following a MD/MPH (Medical Doctor and Master of Public Health) route. She wants to improve the laws that affect her community's access to primary care and treatment and provide a well-rounded physician to serve them. Jennifer spent the 2016-2017 academic year studying abroad in Madrid, Spain.

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California State University | Stanislaus

OUTSTANDING ACADEMIC
JOSÉ GODINEZ · CHEMISTRY

José Godinez is a first-generation college student from a Mexican immigrant family. Despite financial hardship and language barriers, he graduated from high school with honors and began undergraduate studies in Chemistry. His outstanding academic achievements have been recognized on the Dean's Honor List every semester. José is a recipient of the CSU Trustee's Award for Outstanding Achievement, an award given to students who demonstrate superior academic performance, personal accomplishments, community service and financial need. José is also a recipient of the One Purpose Chemistry Scholarship and the Prof. Hobart Hamilton Scholarship Award.

As part of Dr. Elvin Aleman's research group in the Department of Chemistry, José is currently conducting research using Single-Molecule Fluorescence to study the repair mechanism of different enzymes that use DNA base-flipping in the repair process. José attended the ACS National Meeting, where he participated in research talks, professional workshops, and networked with other researchers during poster sessions. In summer 2016, he was awarded a fellowship to an REU in the Merced Nanomaterial Center for Energy and Sensing at UC Merced. In fall 2016, José participated in the DOW-MIT ACCESS Program, which provided him information on professional preparation and the graduate application process.

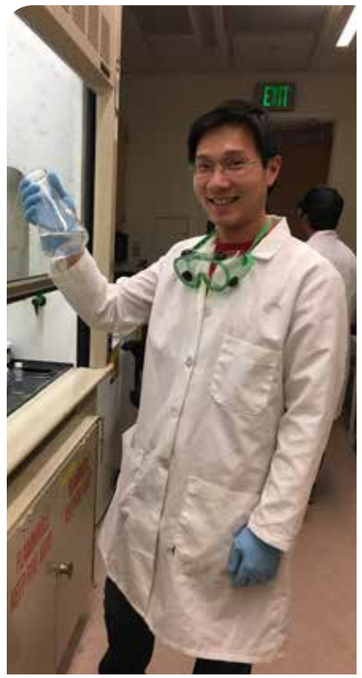
José is an active member of the Warriors Chemistry Club and has volunteered in numerous service learning activities, such as Science Day, Science Saturday, and Science Olympiad, to encourage young students to continue studies in science. After completion of his degree, José plans to study Physical Chemistry at the graduate level.

OUTSTANDING ALUMNA
NYESA ENAKAYA · CHEMISTRY

Nyesa Enakaya obtained her B.S. in Chemistry in 2015 from CSU Stanislaus. While completing her undergraduate degree, she conducted research in the field of analytical chemistry under the direction of Dr. Scott Russell. Her honors thesis was entitled, "Rapid Detection and Identification of Bacteria in Milk Products by Matrix Assisted Laser Desorption/Ionization Tandem Mass Spectrometry (MALDIMS/MS)." She also served as a Supplemental Instruction Leader for Organic Chemistry. With the help of CSU-LSAMP, she had the opportunity to participate in the LSAMP Global Awareness Program in Chiang Mai, Thailand during the summer of 2015. In Chiang Mai, Nyesa studied the kinetics of the reaction between hydrogen peroxide and indigo dye for the application of an assay for hydrogen peroxide using traditional Thai and Japanese clothing. After returning from Chiang Mai, she entered the graduate program in chemistry at CSU Sacramento.

At Sacramento State, Nyesa conducted research in the field of chemical education. Her thesis, "Student Engagement and Belonging in an Introductory Chemistry Course," focused on increasing student engagement and academic achievement in introductory chemistry courses by implementing affective learning objectives, socially relevant topics and growth mindset philosophy. Nyesa completed the graduate program at CSU Sacramento in the summer of2017. Currently, she is interested in conducting research in the fields of organic and analytical chemistry as well as the non-traditional field of chemical education. In fall 2017, she started a Ph.D. program in chemistry at Howard University with plans to become a university professor.

OUTSTANDING RESEARCH IN STEM
KA CHAN · CHEMISTRY



Ka Chan graduated from Stanislaus State with a B.S. degree in Chemistry (biochemistry concentration). Ka joined Dr. Nhu-Y Stessman's research group in 2014. His research project title was "Total Synthesis of Suberedamine A". Suberedamine A is a natural product isolated from the marine sponge Suberea sp. The compound possesses anti-bacterial, anti-malarial and anti-cancer activities and is a leading compound in the drug development aspect of his research project. Ka made tremendous progress on the synthesis of suberedamine A. His work was presented in regional, national and international conferences. He presented posters at the 26th Annual Northern California Undergraduate Research Symposium and at the College of Science Poster Celebration in 2016. His project was presented at the Pacifchem Conference (The International Chemical Congress of Pacific Basin Societies 2015) by Dr. N. Stessman. Ka received the 1st place award at the 31st Annual Student Research Competition at CSU Stanislaus in spring 2017 in the undergraduate natural and physical sciences' category. He was one of three students in this category to compete at the CSU Undergraduate Research Competition at Cal Poly on April 29, 2017.

Ka gave back though volunteering at events such as Science Day and the Science Olympiad and through tutoring and mentoring. He also worked as a Supplemental Instruction Leader for Chemistry and was president of the Warrior Chemistry Club; organizing tours and activities to promote students' interest in chemistry. In the summer and fall, he worked as an intern at E&J Gallo. He is currently applying to graduate schools.

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
JULIO DIMAS · COMPUTER SCIENCE

Julio Dimas is a Computer Science major and Physics minor. He is a first-generation college student who overcame the challenges of attending disadvantaged schools growing up. Julio's outstanding academic record and high GPA have put him on the Dean's list every semester and he has been initiated into the Honor Society of Phi Kappa Phi.

Julio's academic accomplishments have caught the attention of faculty and earned him positions of leadership and service at Stan State. He has been a Supplemental Instruction Leader for Calculus, an Early Start Math Student Assistant, and a LSAMP Research Intern under the mentorship of Dr. Martin and Dr. Aleman studying the chemical informatics of wine. His research focuses on applying computer science data mining and machine learning techniques to chemical data provided by E&J Gallo Wineries in order to explore patterns, possibly predict wine attributes, and ultimately improve the wine quality. His interdisciplinary research experience led him to receive a summer internship at the NSF-CREST Center for Cellular and Biomolecular Machines at UC Merced. He hopes to work as a Software Engineer and later pursue his M.S. in Software Engineering.

Julio is a co-founder and active member of the Computer Science Club at Stanislaus State. In addition, he works to motivate students from disadvantaged communities to excel in academics and strive for higher education by giving talks at elementary schools in the Central Valley. He hopes to inspire future students to do what they love.

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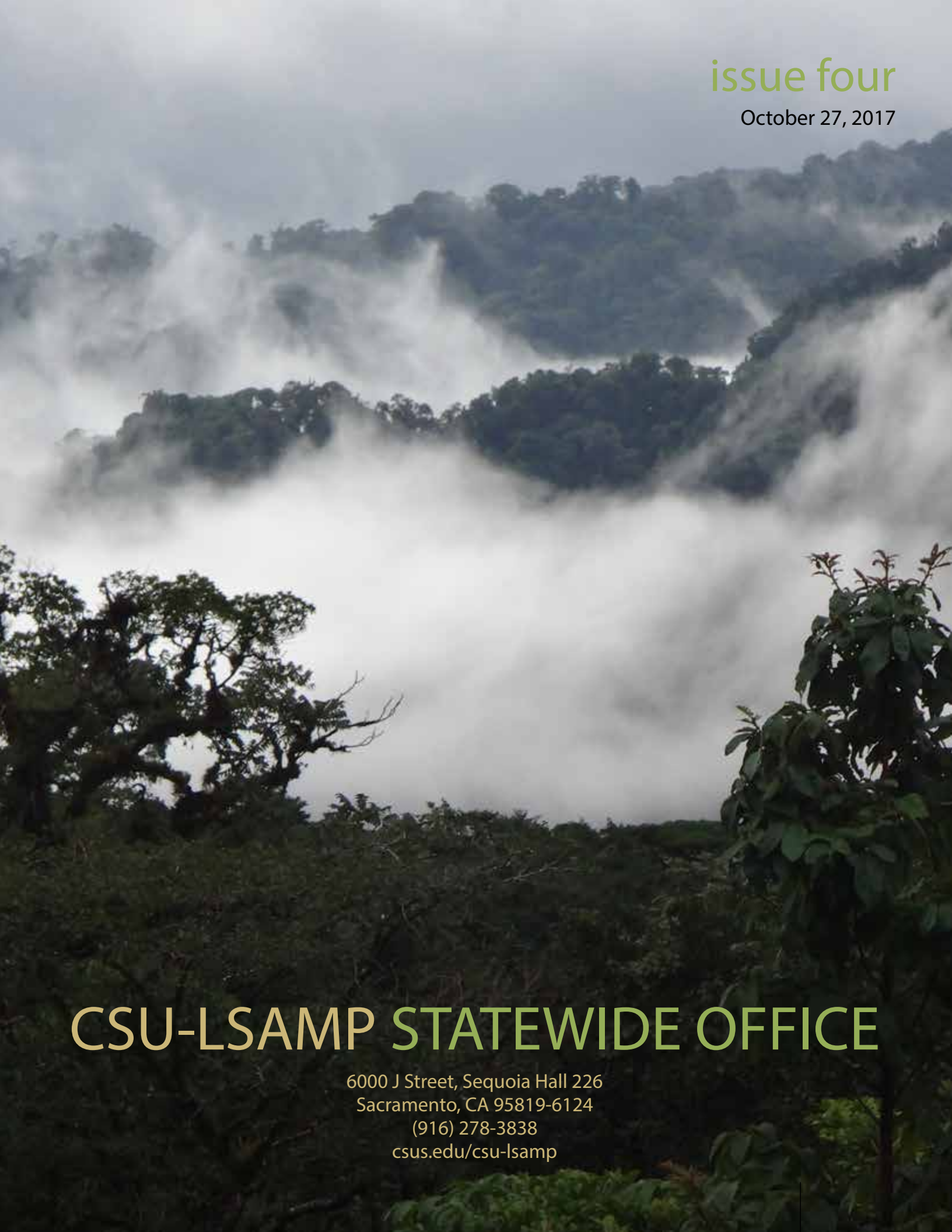

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