

# CSU-LSAMP

CALIFORNIA STATE UNIVERSITY LOUIS STOKES  
ALLIANCE FOR MINORITY PARTICIPATION

October 2015 | Vol. 2



PROGRAM RECOGNIZING OUTSTANDING  
UNDERGRADUATE DISTINCTION



## LSAMP

Making an impact on students, the state, and the nation.

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## INTRODUCTION



Welcome to the second 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 23 years of history, CSU-LSAMP has served over 23,000 students, enhancing their academic and professional development through a structured series of activities. In this issue we will highlight the structure of our 23-campus Alliance and the activities offered by our 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 fact that graduates of the CSU-LSAMP program are now employed as faculty at universities across the nation. In this issue we feature interviews with three of those professors and hear about the impact LSAMP had on them.

Earlier this year we were deeply saddened to hear of the passing of Former Rep. Louis Stokes, who had such an important impact on civil rights and equality. This issue of CSU-LSAMP PROUD is dedicated to his memory.

Lisa Hammersley, Ph.D.

Lead Project Director, CSU-LSAMP



**Congressman Louis Stokes  
1925-2015**

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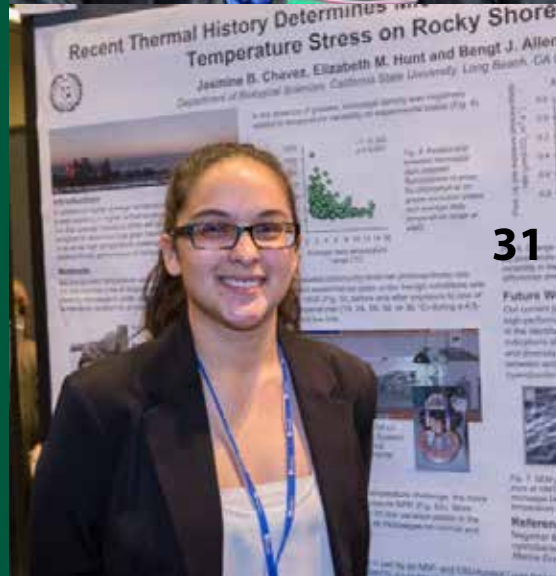
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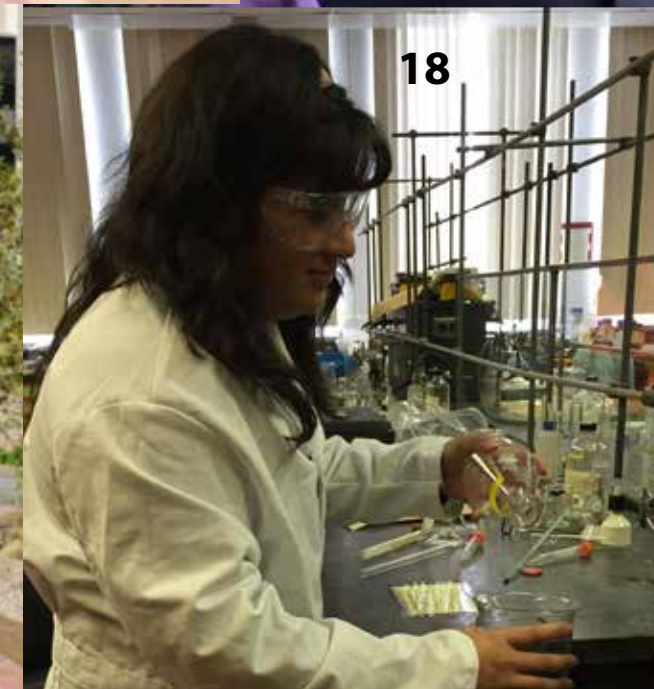
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# CSU-LSAMP

## Achieving our Goals



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 Alliance 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 shows that not only are we exceeding most of our short-term goals, but we have already exceeded a number of our long-term goals. This is exciting news, showing that CSU-LSAMP continues to thrive and to make a difference in students' lives.

Annual Goals	Year 1
At least 2,300 level-one students	✓
500 students in textbook support programs	✓
250 students in STEM summer bridge programs	✓
800 students in academic excellence workshops	✓
300 students in transition programs	✓
500 students in research	✓
40 students in international research experiences	✓
500 students in professional development activities	✓

Longterm Outcomes (By 2018)	Year 1
Increase CSU URM-STEM enrollment by 10%	✓
Increase CSU URM-STEM baccalaureate degree production by 10%	✓
Increase the persistence rate of URM CSU-LSAMP participants in STEM to two times higher than URM non participants	✓
Increase the number of CSU-LSAMP students who graduate each year to at least 500 annually	✓
Increase the number of CSU-LSAMP students who enroll in graduate programs to 250 annually	✓

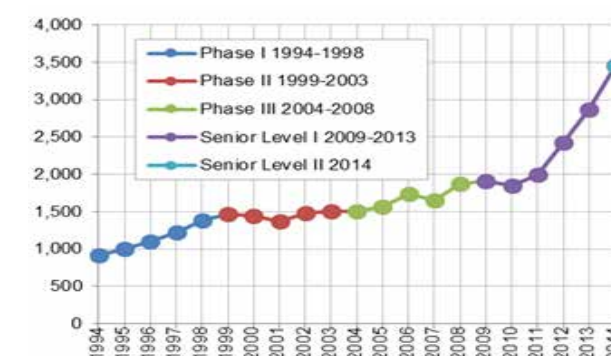
### CSU-LSAMP: SUCCESS WRITTEN IN THE NUMBERS

- Since 1994, CSU-LSAMP has served 23,360 participants, including 19,765 URM students
- The annual number of participants has increased more than four-fold, from 641 in 1994 to 3,520 in 2014
- From 1994 to 2013, CSU URM-STEM undergraduate enrollment increased 208%. STEM enrollment for non-URM students increased by only 23 percent over the same time period.
- From 1994 to 2013, CSU URM-STEM baccalaureate degree production increased 277%
- CSU-LSAMP participants are 1.2-1.8 times more likely than non-participants to remain enrolled in STEM disciplines
- CSU-LSAMP participants are two times more likely than non-participants to graduate with STEM degrees
- In 2014-15, almost 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.

#### 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.



#### 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 degree. 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 152 students, 24 of whom are presently enrolled at Cal State LA in cohorts 11 and 12. Of the 128 students that participated in cohorts 1-10:

- 69 were accepted into STEM Ph.D. programs
- 41 are currently enrolled in Ph.D. programs
- 23 have earned a Ph.D. and 4 have earned an M.D.
- Of these, 4 have entered the professoriate, 4 are employed as physicians, and 11 are engaged in postdoctoral research

The recently completed BD-10 cohort was our most successful cohort to date. All 12 completed their Master's and eleven have entered into Ph.D. programs across the nation, most with substantial financial support in the form of fee waivers, stipends, teaching assistantships and research assistantships. We are PROUD of our BD students and their achievements.

# A STRUCTURE THAT WORKS

*With 23 unique campuses of the California State University system working as an alliance, the needs of students on each campus are varied. In order to make a truly cohesive program, CSU-LSAMP has figured out a way to help each campus provide activities for their students based on those needs of the students and helped them thrive.*

Just as no two LSAMP's in the nation look alike, no two CSU-LSAMP's look exactly alike. Whereas CSU-LSAMP has a common set of services and activities, the Individual programs on the 23 participating campuses maintain a fair degree of autonomy in deciding how their programs are structured. Program size varies widely by campus, ranging from 20 participants to 500 participants. Administrative structure also varies widely; some programs are run by a single campus coordinator, while others are part of a larger unit that manages multiple programs (e.g. McNair or NIH-NIGMS training programs).

In that same vein, activity emphases and delivery modes vary by campus. So long as each of the campuses adhere to a common set of program components designed to meet a common set of objectives, each CSU campus offers a slightly different version of the program that best suits the campuses needs. Some campuses have chosen to provide an emphasis on providing academic support in "gatekeeper" courses and facilitating transitions with the primary goal of improving academic performance, persistence inSTEM, and attainment of the baccalaureate degree.

Other campuses have chosen to emphasize an engagement of students in research and other professional development activities with the primary goal of enhancing professional development and student

competitiveness for and success in advancing to graduate programs and professional careers in STEM.

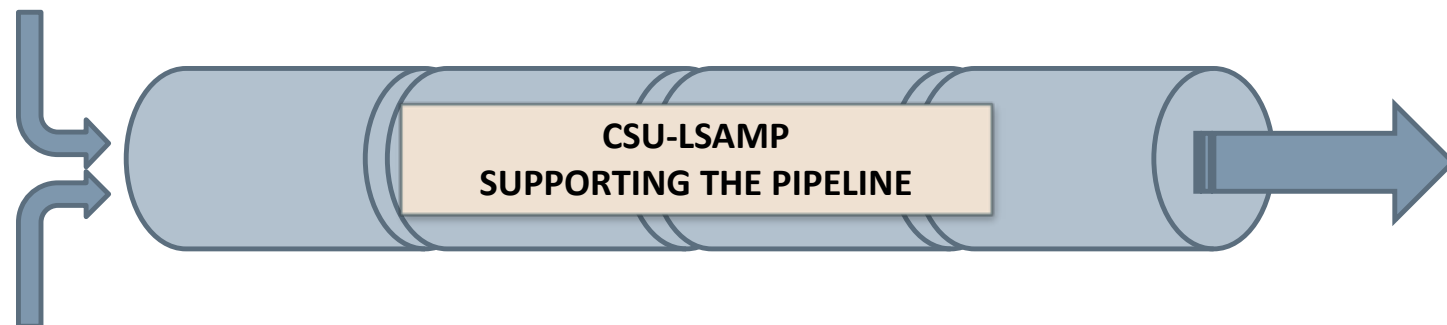
Lastly, comprehensive programs with substantial activities at different stages in the pipeline, include academic support activities, transitional activities, and research and professional development activities, with the dual goals of (1) improving preparation/performance and persistence to baccalaureate degree; and (2) enhancing student competitiveness for success in gaining admission to graduate programs and careers in STEM

Given the breadth and complexity of an alliance with 23 campuses, each being allowed to offer series of activities to meet their emphasis, there is necessity for a strong central office. The "lead institution" is responsible for administration, funding, data collection, evaluation and reporting. However, CSU-LSAMP has adopted a collegial decision making process, whereby campus coordinators meet annually to discuss programmatic elements and the common set of objectives. CSU-LSAMP also utilizes a Program Oversight Committee that meets quarterly to monitor the policies and procedures pertaining to campus budgets, data collection, and reporting. Program Oversight Committee members are selected by and from the 23 campus partner institutions, and are responsible for representing 4-5 campuses.

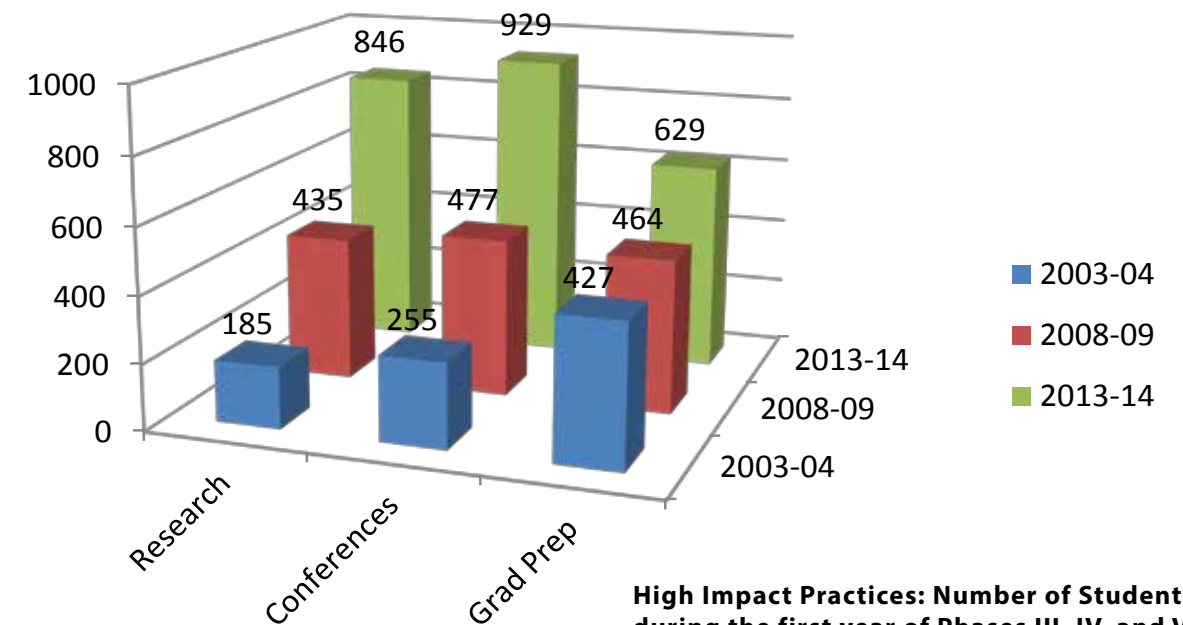
**EMPHASIS 1:**  
ACADEMIC SUPPORT ACTIVITIES

**EMPHASIS 2:**  
COMPREHENSIVE PROGRAM

**EMPHASIS 3:**  
RESEARCH & PROFESSIONAL DEVELOPMENT



**Steven Lopez**  
2015 Summer Research at Chiang Mai University, Thailand  
Cal Poly, Pomona Undergraduate Student



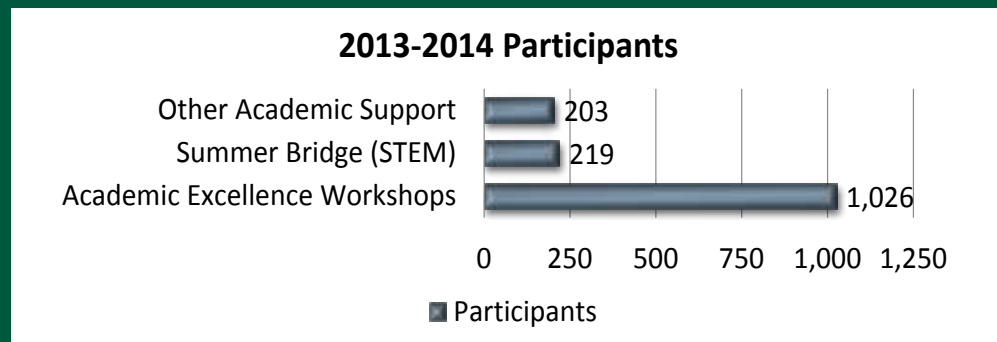
**High Impact Practices: Number of Students participating during the first year of Phases III, IV, and V**

# IMPLEMENTING BEST PRACTICES

CSU-LSAMP offers a wide range of activities that serve students throughout their academic career. These activities fall under the five objectives described here. To accommodate variations in the types of activities that have been institutionalized on different campuses, and to better leverage project funds, CSU-LSAMP has adopted an approach that provides individual campuses flexibility in determining the range of activities to be supported by CSU-LSAMP funds. We have identified five objectives, each with a set of activities that address that objective. The range of activities provided by a campus reflects that campus's particular emphasis. For example, a campus with an emphasis on academic support may primarily offer objective 1 and 2 activities whereas a campus with an emphasis on professional development may concentrate on objective 3 and 4 activities. All campuses are required to offer activities that fall under the common CSU-LSAMP objective.

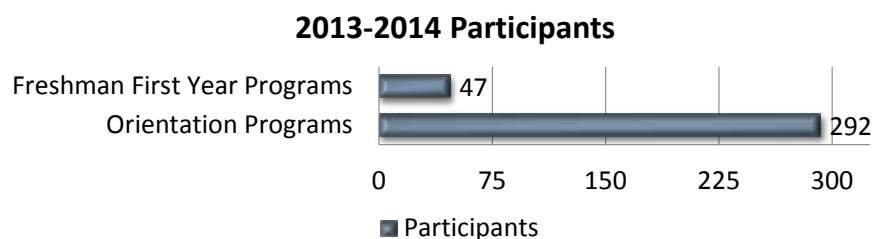
**Objective 1-- Academic Support:** Supporting students in gatekeeper courses in STEM with the goal of improving student performance and persistence in STEM:

- Summer Bridge Programs in STEM
- Textbook Loan/Reimbursement Programs
- Academic Excellence Workshops
- Other Academic Support Activities



**Objective 2 -- First Year or Transition Programs:** Supporting students as they transition into STEM disciplines:

- Orientation Programs
- Summer Bridge (not science/math)
- First Year Programs for Freshmen and Community College Transfers
- Other Transition Activities



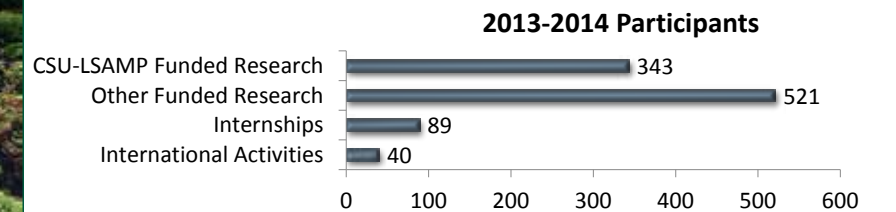
Daniel Wambua  
B.S., Biology, CSUSM '11  
M.S., Harvard University, '13  
Currently employed at Ragon Institute of MGH, MIT and Harvard

Drew York  
Thailand, Summer 2015



**Objective 3 -- Research and International Activities:** Providing opportunities for students to engage in research, internships, and international activities, with the goal of encouraging continuation to graduate school and professional careers in STEM:

- CSU-LSAMP Supported Research
- Internships
- Research Funded by Others
- International Experience

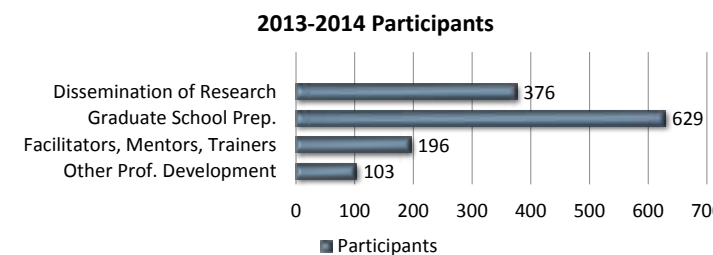


**Objective 4 -- Professional Development Activities:** Providing additional professional development and graduate school preparation activities with the goal of increasing the number of students entering graduate programs and professional careers in STEM:

- Presentation/Publication of Research
- Graduate School Preparation Activities
- Participation as Facilitators/Mentors
- Other Professional Development Activities

**Common Objective:** On-going LSAMP student support and exposure to career and research opportunities in STEM with the goal of increasing persistence in STEM and enhancing interest in pursuing graduate study and professional careers in STEM.

- LSAMP Advising
- Exposure to Opportunities
- Communications
- Material Support
- Clubs & Cohesion Activities
- Seminars and Regular Meetings
- Attendance at Conferences (not presenting)

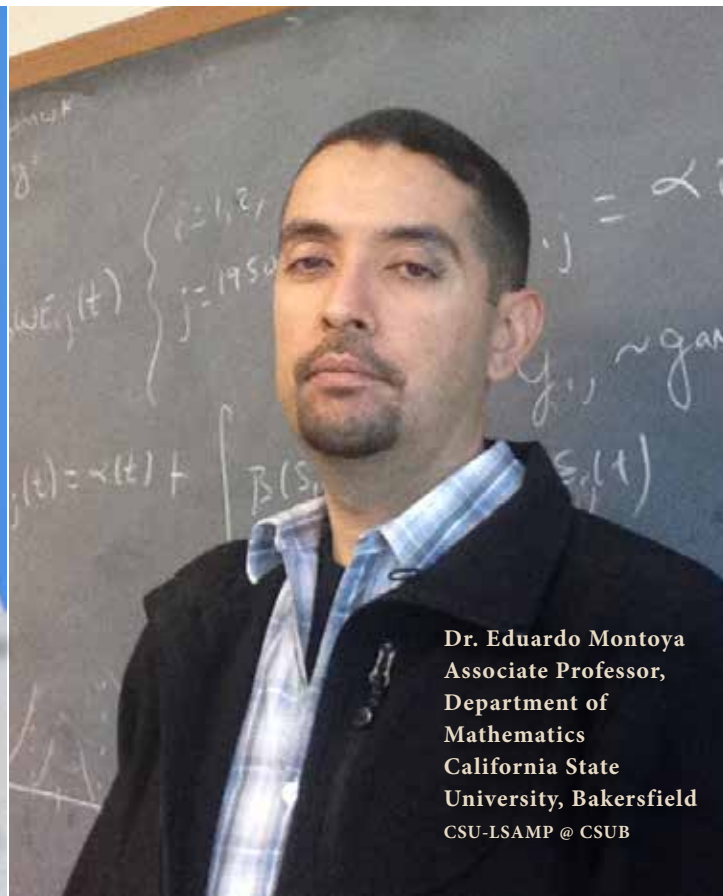


CSU, Fresno CSU-LSAMP students attend the California Forum for Diversity in Graduate Education

## LSAMP SUCCESS



**Dr. Cecilia Zurita-Lopez**  
Assistant Professor,  
Department of  
Chemistry &  
Biochemistry  
California State  
University, Los Angeles  
CSU-LSAMP @ Cal State LA



**Dr. Eduardo Montoya**  
Associate Professor,  
Department of  
Mathematics  
California State  
University, Bakersfield  
CSU-LSAMP @ CSUB



**Dr. Diana Azurdia**  
Associate Director,  
Graduate Programs in  
Bioscience  
University of  
California, Los Angeles  
CSU-LSAMP @ CSULA

# CSU-LSAMP in Academia

**What impact did CSU-LSAMP have on you as a student and/or on your career path?**

**CZL:** The LSAMP Program helped me make better career decisions. It provided a supportive environment where I could be proud of studying biochemistry. Even when my family didn't understand why I spent long hours in a lab or why I spent long hours studying, I had support from friends in LSAMP and the LSAMP coordinator.

**EM:** I enjoyed and performed rather well in the LSAMP math boot camp to the point that I tested into Calculus I and decided to pursue a degree in mathematics. Without this program, I likely would have not pursued a degree in mathematics.

**DA:** Participating in the CSULA LSAMP Program had a huge impact on my retention in Science. I had a very difficult time with math and had to take several courses twice in order to pass. I love(d) Biochemistry and without the tutoring from the LSAMP Program it would have been nearly impossible for me to pass the calculus courses required for the degree. Tutoring seems like a trivial thing to provide a student however, in my case it served to level the playing field and give me access to a field of science that might have been unattainable otherwise.

**What advice do you have for current CSU-LSAMP students?**

**CZL:** To all current CSU-LSAMP Students: Don't let anyone discourage you from reaching your dreams. You were created with a purpose and this purpose is different from those of your family members. You naturally love the STEM disciplines, so follow what you love. Learn as much as you can and then in time, those family members who were constantly asking "when are you finally going to be done with school?" will be the first ones to brag about your great career!

**EM:** Make the most of every opportunity available.

**DA:** Beyond doing the work of a scholar, to have a successful career, it's important to take advantage of every opportunity presented to you and have a mentor (who has walked your path) that you touch base with regularly. The right mentor can be an incredible source of support and insight.

**How do you feel CSU-LSAMP contributes to the broadening of participation in STEM?**

**CZL:** LSAMP is critical for retention of our underrepresented minority students. Most of our CSU students come from humble families and are first generation college students. If they are not first generation, they are usually first generation STEM students. Therefore, our students lack the proper educational and career development support structure at home. LSAMP encourages and supports our students so that they can persist in STEM disciplines.

**EM:** By providing support to students at various stages of their undergraduate studies, such as opportunities for engagement in undergraduate research activities or providing lower division or pre-first year students academic support, CSU-LSAMP is broadening participation in STEM by increasing the persistence, success, and retention of STEM students from underrepresented groups.

**DA:** As a beneficiary of the LSAMP Program and a former LSAMP Program Director, I know first hand about the incredible impact the program has on broadening participation across the nation. The LSAMP program levels the playing field for students who come from underrepresented groups by providing resources such as tutoring, professional development, research opportunities and much more. I believe the CSULA LSAMP Program does an incredible job of preparing students to go beyond the bachelors and I am forever grateful for the investment the program made in me.

## CSU-LSAMP NSF NATIONAL GRADUATE RESEARCH FELLOWSHIP AWARDEES -- 2015

**Kelsie Chiquillo (SFSU)**  
Life Sciences - Evolutionary Biology,  
University of California, Los Angeles

**Theo Crouch (CSUSM)**  
Life Sciences - Bioinformatics and  
Computational Biology,  
University of California, Merced

**Marc Gancayco (SJSU)**  
Chemistry - Chemistry of Life Processes  
San Jose State University

**Carlos Gonzalez (CSUSM)**  
Life Sciences - Proteomics  
Stanford University School of Medicine

**Lydia Jennings (CSUMB)**  
Life Sciences - Environmental Biology  
University of Arizona

**April Makukhov (CSUMB)**  
Geosciences - Marine Biology  
California State University, Monterey Bay

**Matilde Miranda (SFSU)**  
Life Sciences - Developmental Biology  
University of California, Los Angeles

**Jaime Perez (CSUDH)**  
Life Sciences - Ecology  
Case Western Reserve University

**Phillip Silva (SDSU)**  
Life Sciences - Neurosciences  
Yale University

**Krissie Tellez (SFSU)**  
Life Sciences - Developmental Biology  
Stanford University

**Jerrell Tisnado (SDSU)**  
Life Sciences - Cell Biology  
University of California, Los Angeles

**Andrea Valdez (CSUMB)**  
Life Sciences - Ecology  
California State University, Monterey Bay

**Cristina Villalobos (CSUMB)**  
Geosciences - Marine Biology  
California State University, Monterey Bay

**Aaron Ward (SDSU)**  
Chemistry - Chemical Synthesis  
University of California, San Diego

# Nicole Campos Project Manager

“

LSAMP changed my life for the better.

We help change lives. Whether its for a summer, a semester, or the entire four years of a college experience, we make a difference.

”

LSAMP changed my life three times... literally. Over the past 22 years, I've had the unique opportunity to witness a program grow and produce thousands of success stories, seeing first-hand how important the interventions and mechanisms in place through LSAMP help students navigate higher education. While mine isn't a "success" story in the traditional sense in that I don't have a science or graduate degree, I like to think that I've been given the chance to give back and provide the same life altering experiences I was given.

In the spring of 1994, I was ready to graduate from high school and hop in my car to start driving across the country - stopping to work when I needed money. While I can admit it was a naive plan, I had no intention of staying in Sacramento or going to a college nearby. Then I got a letter from a professor at Sacramento State inviting me to join a program that was starting in the summer. I had forgotten that I'd participated in the early admission day for the college as a favor to a friend. After an amazing experience in a high school biology class, I thought for sure I would eventually study microbiology, after I'd traveled and seen the world, of course. Getting the letter and an application, however, I figured it couldn't hurt to apply. I started the CSU-LSAMP Math Summer Bridge that same year, a newly minted Biology major enrolled for the fall. While I didn't graduate with a degree in Biology, I didn't end up walking away from college entirely and, instead, graduated *cum laude*.

The second time LSAMP changed my life I was a senior in college. Part of the contract I'd signed with

CSU-LSAMP included a summer of research following the two years of summer bridge. After taking a course with a transformative instructor, I had changed my major to Anthropology and I figured I would no longer be required to do the research. Quite the contrary however. I was given an appointment with the Director of Science Educational Equity (SEE), Dr. Juanita Barrena, and given a run-down of options open to Anthropology students. As I didn't have any research experience at the time, I wasn't accepted into summer research programs... so they made one up for me. After working in the Anthropology Department for a summer, I was able to apply the following year for a program at the Smithsonian Institution's National Museum of Natural History in Washington, D.C.

The Research Training Program at the NMNH was a 10-week experience for students in various STEM disciplines. With over 450 applicants that year, I was amazed to be one of only 23 students selected and one of only three Anthropology students. The program funded my housing, a modest stipend, and research costs, including travel, if needed. My research was conducted in the Repatriation Office and focused on identifying funerary objects from the Etowah Mounds, in Cartersville, Georgia. While my time as a CSU-LSAMP student helped me apply for the program, it turned out that the LSAMP Program office at the National Science Foundation paid for my internship. LSAMP had partnered with the Smithsonian Institution to support three students in the Research Training Program. I was one of those lucky three. The summer culminated in both an oral

and poster presentation in front of scientists from the various disciplines covered at the Smithsonian. While giving a presentation to some of the top researchers in the country was nerve wracking, it was also infinitely valuable in proving to me that I could publicly speak in front of an audience, a feat I'd never previously tackled. And while I still have nerves when faced with presenting to a room full of people, I'm much more confident thanks to that initial experience; thanks to LSAMP.

In the spring of 2004, I worked for the CSUS High School Equivalency Program, a project funded by the Department of Education and aimed at providing migrant and seasonal farmworkers, and their families, a GED. The program was run through Sacramento State, but classes were spread out through neighboring counties and offered in both Spanish and English. While the job was satisfying, the grant's 5-year cycle was winding down. By a happy coincidence, I was informed that the CSU-LSAMP alliance headquarters was being moved to Sacramento State and they were looking for a Project Manager. Having dealt with budgets, policies and procedures surrounding grant management, and experience with proposal development and reporting guidelines, I started working in the CSU-LSAMP Statewide Office in April 2004; almost exactly 10 years from the time I was first introduced to LSAMP.

I've now been working with CSU-LSAMP for more than eleven years. I've been through four PI changes, two Lead Project Directors, and countless administrative staff. I've seen our alliance grow from 17 campuses to now include all 23 of the CSU institutions. I've witnessed three separate LSAMP grants, and twelve Bridge to the Doctorate cohorts. I've worked 14 days in a row during conferences or meetings or crunch times, and I've arrived and left my office on the same day in the dark, on occasion. My work at times has been stressful; trying to get multiple reports and/or publications submitted at the same time, I've seen tears shed (and shed my own). The one thing I've also seen is extraordinary dedication; not just from me, but from our campus coordinators, the faculty and/or staff that run the day-to-day operations up and down the state. But they aren't the only ones. More importantly, I've seen amazing dedication from our students. The reason why we do what we do, our students have shown up and will get on buses leaving at 5:00 am to attend graduate school preparation activities, or catch red-eye flights so they can go to classes the same day they fly out before an East Coast conference, only to present their research the day they arrive.

I realize I don't get to see all of the students who participate in our program, as I'm sitting behind a desk in Sacramento and our ~3,500 CSU-LSAMP participants are spread out across the state, from Humboldt in the



North, to San Diego in the South. When people ask what I do, I tell them I manage a grant from the National Science Foundation that broadens participation in the STEM disciplines. Technically, that's what I do. But if I'm being truthful, and as anyone who has worked with me on this grant and the dozens like it across the nation know, we do more than that. We help change lives. Whether it's for a summer, a semester, or the entire four years of a college experience, we make a difference. Maybe I can't claim success by the traditional definitions measured by my program, but I can claim success in finding a way to pass along my good fortune, and to give back in a way that makes my every work day feel like I'm doing something right.

LSAMP changed my life for the better, and I'm calling that a success.

Nicole Campos, Project Manager  
CSU-LSAMP  
October 2015





# California State University, Bakersfield

## OUTSTANDING ACADEMIC & RESEARCH MARYAM ALI • CHEMISTRY

Maryam Ali is a Chemistry major with a concentration in Biochemistry. Under the guidance of Prof. Karlo Lopez for the past two years, Maryam has undertaken research on lysyl oxidase, which is an enzyme that initiates the formation of cross linkages between our connective tissue. This opportunity, possible in part due to the support from LSAMP, has been a wonderful experience for Maryam. She has presented her research at the American Chemical Society National Conference and Exposition. Most recently, Maryam presented her on-going work at the CSU Bakersfield Student Research competition. Due to the strength of her research work, Maryam was awarded first place at this competition. As a result of this award, Maryam presented her research at the CSU state-wide Student Research competition in Spring 2015.

In addition to her strong research activity, Maryam has also managed to maintain a high GPA of 3.73 throughout her undergraduate studies. Overall, Maryam is grateful for the support of LSAMP because it has allowed her to conduct research that can be of benefit to the scientific community. As a result, the research experience has improved Maryam's undergraduate experience, and she is now considering pursuing graduate school.



## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP IMELDA IBARRA • BIOLOGY

Imelda Ibarra is a Biology major with a concentration in Chemistry. For the past three years, Imelda has been on Prof. Kathleen Szick's research team where they have been investigating cutaneous bacteria from *Pseudacris regilla*, which inhibits growth of amphibian and human fungal pathogens. Preliminary results of her work suggest that the bacterial isolates inhibit at least one of pathogens used in this study. As she continues her research, she aims to conserve the amphibian population and potentially create new antifungal antibiotics. Imelda has presented her research at various research conferences, such as the CSU Program for Education and Research in Biotechnology, and the Emerging Researchers National (ERN) Conference in STEM.

In addition to her research activity and coursework, Imelda has also contributed to her field by participating in the Global Brigades club at CSU Bakersfield, where she had the privilege of participating in three humanitarian trips abroad. Throughout the school year, she participates in school fundraisers to collect supplies and medications needed to provide the underserved communities of Honduras, Ghana, and Panama with free health care. As a way to motivate high school students to pursue the sciences, Imelda also worked as a student assistant for the CSUB REVS-UP summer program, a program designed to expose high school students to various scientific projects.

Overall, Imelda is a well-rounded student that plans to apply to a clinical laboratory science program and work with a clinical scientist while she awaits acceptance into a graduate program.



## OUTSTANDING ACADEMIC & RESEARCH JESICA GONZALEZ • CHEMISTRY

Jessica Gonzalez was a Chemistry major with a concentration in Biochemistry and a minor in Biology. Under the supervision of Prof. Karlo Lopez, Jessica worked on the regulation of Lysyl Oxidase. Through this nearly three-year research project, Jessica gathered valuable data that will be used in a peer reviewed publication in the near future. She presented her research at the 2015 annual CSU Annual Biotechnology Symposium and the 2015 Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics, among others. In addition, Jessica was awarded the competitive ERN travel award.

While continuing her research work, Jessica maintained an impressive GPA of 3.60 throughout her undergraduate career. Due to her hard work, Jessica made the Dean's list for a majority of the quarters.

Jessica graduated from CSU Bakersfield in spring 2015, and was accepted into several graduate programs, including those at the University of California, San Francisco, and the University of Southern California. She decided on UCSF and will commence her graduate studies in Fall 2016. As a first generation Hispanic female, she is very grateful for the opportunities that LSAMP has provided, and she is enthusiastically looking forward to graduate school.

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## OUTSTANDING ACADEMIC & RESEARCH NKIRUKA ORAGWAM • CHEMISTRY

Nkiruka Oragwam is Chemistry major with a concentration in Biochemistry. Since the fall quarter of 2012, Nkiruka has been active in research under the guidance of Dr. Danielle Solano. Specifically, she has been investigating the synthesis of small molecules that will selectively release BAPN, a known inhibitor of lysyl oxidase (LOX), into the hypoxic environment of tumors. Nkiruka hopes that this will result in the prevention of cancer metastasis, in which LOX is known to play a role. In addition, Nkiruka has presented her on-going work at various conferences, such as the 44th American Chemical Society (ACS) Western Regional meeting in Santa Clara (2013), ACS National Meetings and Expositions in San Francisco (2014) and Denver (2015), and the 2015 Alpha Chi National Convention in Chicago. Furthermore, Nkiruka won best poster presentation at the ACS Western Regional meeting in Santa Clara.

In addition to her strong research performance, Nkiruka has maintained a high GPA of 3.87. Due to her strong academic work, Nkiruka is part of the competitive Helen Louise Hawk Honors Program and a member of the Alpha Chi Honor Society. Nkiruka is also active in the CSUB student body and the CSUB Chemistry club in leadership roles, serving as the 2014-2015 president of the CSUB Chemistry club.

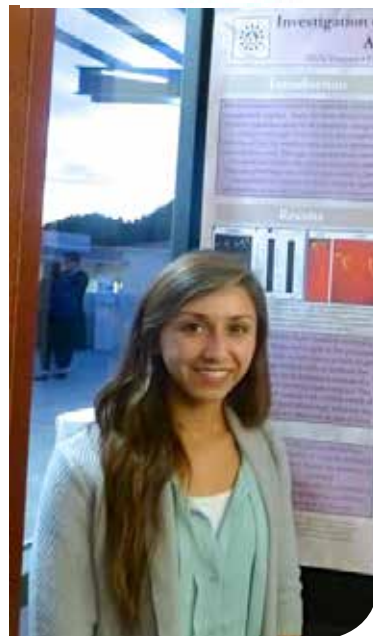
Nkiruka is appreciative of the support LSAMP has provided. Nkiruka has found that conducting research has been a very good experience, and she finds it rewarding that her work is contributing to a larger network of research geared toward helping people.





# Channel Islands

CALIFORNIA STATE UNIVERSITY



### OUTSTANDING RESEARCH ALICIA VAZQUEZ • BIOLOGY

Alicia's hard work has led to challenging research experiences, excellent grades while majoring in Biology (minor in Chemistry) at CSU Channel Islands, and acceptance to Ph.D. studies in Chemistry and Chemical Biology at UC Merced. Alicia's intellectual talents and work ethic impressed many early on. She's a first-generation college student and a native Spanish-speaker, with weak-to-mediocre high school preparation. Initially, a non-science major, she found she liked the majors' introductory Biology class, so tried the second course. Eventually she worked her way into Calculus and General Chemistry, excelling as she did so. This led multiple professors to recommend her for STEM Tutor and Peer Leader positions. This work led Alicia to encounter students who were considering graduate school – a concept foreign to her – and to join CSU-LSAMP. She subsequently applied to REUs, and went to UC Riverside in summer 2013 where she carried out biochemical research in relation to the auxin pathway in Arabidopsi and discovered her enjoyment of, and aptitude for scientific research. In summer 2014, she designed and implemented two research projects in the CSU-LSAMP Costa Rica summer research program: one was evaluating soil characteristics to assess the impact of tourists on a national park trail and another studying the hydrodynamic behavior of three brittle star species.

Alicia's research and experiences as a tutor and peer leader showed her that she likes mentoring people and delights in hands-on research. Her goal is to become a professor and carry on with research and helping students for decades to come.

### OUTSTANDING RESEARCH JANET GARCIA • BIOLOGY

Janet Garcia didn't plan on attending college, but while working in a clerical position for the Fish and Wildlife Service, her office let her shadow biologists working with endangered California Condors, and Janet developed an interest and passion for conservation. She transferred to CSU, Channel Islands, where she graduated in May 2015 with a B.S. in Biology: Ecology, Evolution and Organismal Biology emphasis.

Janet joined CSU-LSAMP her first semester at CI, and was encouraged by the program to apply to REUs. In summer 2013, she was accepted into San Francisco State's Biological Research in Ecological and Evolutionary Developmental Biology program, where she investigated the ability of an invasive mud snail, *Ilyanassa obsoleta*, to respond to increasing global temperatures. Janet left the program excited about research and hungry for more opportunities. She was accepted to the University of New Mexico's Long-Term Ecological Research REU in summer 2014. She conducted independent research under Dr. Ayesha Burdett on the effects of sediment disturbance on macroinvertebrate communities.

Janet now plans on obtaining an M.S. in Ecology, and possibly a Ph.D. She has been working with K-8 students, teaching them about science and paths to careers. She didn't see college-bound Latina/os growing up and she now recognizes a paucity of Latina/os in Environmental Science. She's determined to earn advanced degrees and create a career combining ecological research with teaching and outreach to serve as a role model to future generations of Latinas.



### OUTSTANDING RESEARCH & SERVICE/LEADERSHIP TRAVIS HALL • BIOLOGY

Travis' early fascination with science arose during high school chemistry and a High Sierra program, where he discovered that he could stoke his curiosity while being outdoors and active. After enrolling at CI, he joined CSU-LSAMP and in 2013 participated in the CSU-LSAMP summer research program in Costa Rica, hiking into remote areas of Cabo Blanco Absolute Reserve. There he collected data on over 400 trees in three types of forest categorized by the number of years since human disturbance affected the landscape. This sparked his ongoing passion for forest ecology.

For the past two years Travis has combined his part-time position as the first intern at CI's new Santa Rosa Island (SRI) Research Station with his own research interests to become the world expert on the SRI Torrey Pines. His project investigating the population demographics of the SRI Torrey pines is being prepared for publication while already affecting the National Park Service's land management policies. Meanwhile, Travis has trained, supervised, and inspired myriad other students in carrying out research projects on the island. His leadership skills have also come into play in his work as a Resident Assistant at CI, culminating in his receiving the Outstanding Senior Student Leader Award.

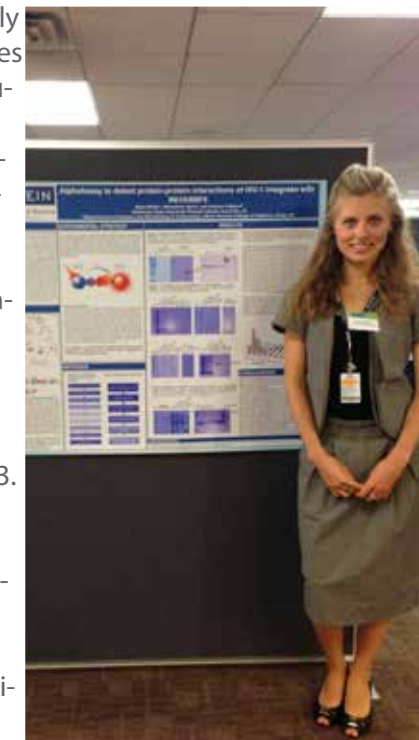
Travis's love of scientific research and leadership is a perfect fit for his intended career as a research professor. His ambitions center on contributing to the body of knowledge and to helping students succeed. He's headed for a fulfilling career as a Ph.D.-level research scientist, professor, and academic mentor.

### OUTSTANDING RESEARCH & SERVICE/LEADERSHIP ALINA MITINA • BIOLOGY

Alina combines a top-rate intellect with a passion for learning, an exceptionally positive personality, and impressive work ethic and motivation. She embraces the CSU Channel Islands CSU-LSAMP cohort model and the wider CI community ethic: mentoring younger students, volunteering to share her love of science and higher education at events, helping classmates with their work, and encouraging all through action and example. Her campus activities include serving a founding Peer Leader, as president of the Free Radicals (Chemistry Club) and the Mortar Board.

Alina, a Biology major and Chemistry minor, excels in research and academics. She earned a 3.98 GPA in a heavy STEM course load while winning prestigious scholarships. Her research engagement spans three summers and two academic-year research groups, including two prestigious NSF Research Experiences for Undergraduates. She explored diffusive transport of a small fluorescent solute into *Candida Albicans* biofilms at University of New Mexico's School of Medicine in 2013. In 2014, she joined a research group at the Albert Einstein College of Medicine, where she investigated protein-protein interaction between HIV-1 IN and SWI/SNF INI-1. She has presented at multiple conferences and is a co-author on one publication in preparation.

Alina speaks of always having goals, and always learning. Her next goal involves earning an M.D./Ph.D. in biochemistry and pursuing research in the biomedical sciences.



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**OUTSTANDING ACADEMIC**  
CHRISTOPHER MARTINEZ • COMPUTER SCIENCE



When Christopher Martinez was a child, his family moved back and forth between El Valle de Guadalupe, Mexico, and Inglewood, California. Moving so much, he would lose close friends and everything changed with each move. The only things that didn't change were computers, so he was drawn to them as a stable outlet. He was able to keep in contact with friends and family. In high school, his science teacher encouraged him to explore Computer Science. He fell in love with Computer Science. He liked the idea of starting off with a blank screen, then working with logic to create something useful. He has been growing in his passion for Computer Science at Chico State ever since.

Chris participated in the CSU Chico LSAMP Summer Calculus Boot Camp and earned the Lemma Award. Chris has maintained a high GPA and he's in the Computer Science Honor Society, Y II E. He is often on the Dean's List, and received a \$3000 scholarship for his excellence in 2014.

After earning his bachelors in Computer Science with a minor in Mathematics, his goal is to earn a Master's of Science in Computer Science and then to begin a career as a programmer. He plans to move up the corporate ladder to become a project manager and later come back to teach Computer Science. He wants to give back to students in Inglewood, a community lacking in superior education and role models. He plans to influence the next generation with his enthusiasm for Computer Science.

**OUTSTANDING ACADEMIC**  
NANCY MARTINEZ • CELL & MOLECULAR BIOLOGY

Nancy Martinez was born in Davis, California, and moved around a lot. Her parents eventually moved the family to Bakersfield, away from all of her close relatives. A family member's battle with depression prompted Nancy to find ways try to alleviate depression. Her Chemistry teacher saw her potential and encouraged her to dedicate her life to helping others. In high school she participated in the Health Careers Academy, which pointed her to the medical field, as a means of combating depression in others. She is now majoring in Cellular and Molecular Biology.

Nancy participated in the CSU Chico LSAMP Summer Calculus Boot Camp and made some good friends. It helped strengthen her math skills. More than that, she was a wonderful contributor in forming an academic community of students striving for excellence. She also volunteers at the local Shalom Free Clinic, steering the less fortunate to good medical care.

In the future, Nancy plans to become a psychiatrist. She will specialize in how knowledge and life skills are assimilated in the brain. Members of her extended family have suffered with anxiety, depression, and other mental disorders. She hopes in some ways to relieve the stigma of mental illness and become an advocate for those who are suppressed by cultural biases.



**OUTSTANDING ACADEMIC**  
HENRY SANCHEZ • MECHANICAL & MECHATRONIC ENGINEERING



Henry's the oldest of four children to a single mother. He excelled in elementary and high school, especially science and mathematics. He was very curious about how things work. He was always taking things apart to find out more. In eighth grade, he wrote a paper on aerospace engineering. A friend of his helped him apply to college and the CSU-LSAMP Summer Calculus Boot Camp (SCBC). He attributes the SCBC with helping him develop a strong work ethic.

Before college, he thought that Mechanical Engineering was about cars and mechanics. He was thrilled to find out that it was much more. He also learned about Mechatronics through a fellow SCBC participant. He has had many leadership roles including chair of LTC academics, a coordinator of MESA days, and co-leader for Energy in the local Blitz Build, a charity event sponsored by the Engineering College to build rehabilitation housing. He was a Calculus II and III Academic Excellence Workshop facilitator, tutor for MESA, and reaches out to volunteer his time to tutor needy students.

Henry is looking forward to graduate studies and hopes that his research in wind-driven power systems with Dr. Alexander in the Mechanical Engineering Department will make him attractive to graduate schools. He is a leader for the Chico team in the Collegiate Wind Competition sponsored by the U. S. Department of Energy.

**OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP**  
JORDAN HARDER • MICROBIOLOGY & REGISTERED NURSING

Jordan is a Mexican-American born in North Hollywood, California, who grew up in South Central Los Angeles, California. Raised in a broken family that struggled with poverty and without a father, his childhood was especially rough.

College wasn't in his plans until two weeks before his first semester. He came to the realization that he had to make something of himself. His brother was miraculously saved from a cancerous brain tumor at a young age. His grandfathers died of leukemia and multiple sclerosis. He also had several friends who died at early ages. Because of these experiences, he felt a duty to help people. He chose the medical fields as his avenue to fulfill this calling.

He attended Butte College, where he earned three associates degrees and graduated with honors with a 3.72 GPA, which was a vast improvement over his high school performance. His majors are Registered Nursing and Microbiology, Clinical Lab Sciences. He participated in the Summer Calculus Boot Camp as a transfer student, raising the bar for our incoming freshmen.

After graduation he plans to go to graduate school and earn an M.S. in Nursing and become a Nurse Practitioner. Then he plans to continue his education by either attending medical school or specializing in emergency medicine. His future research interests include pathology and disease prevention, especially the diseases that are resistant to currently known treatments.



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# California State University Dominguez Hills



## OUTSTANDING ALUMNUS JAIME PEREZ • ECOLOGY & ENVIRONMENTAL SCIENCE

Jaime Perez transferred to CSU Dominguez Hills in Fall 2011 from Riverside Community College as an Ecology and Environmental Science major.

Jaime comes from a traditional Mexican family, in which higher education was not a priority. Consequently, Jaime had to work to support himself financially. Despite these obstacles, Jaime performed exceptionally well in his classes and succeeded in graduating in Fall 2013.

During his time at Dominguez Hills, Jaime became interested in research and obtained more information through his advisors where he learned about international research opportunities that were offered through the Biology Department and the CSU-LSAMP Program. He conducted research in tropical biology and community ecology while an undergraduate. With the support of CSU-LSAMP, he conducted research during the Summer of 2013 at La Selva Biological Station in Costa Rica, in the laboratory of Dr. Terry McGlynn. Jaime conducted experiments to understand and predict how litter-dwellings ants in tropical rainforests are responding to changing light and temperature regimes in association with climate change. The following year, he was supported by a National Science Foundation international research experience grant to conduct research in an Australian government laboratory, in Darwin, to study how fire and carbon management affects biodiversity. He is now a Ph.D. student in Biology at Case Western Reserve University in Ohio, researching community ecology in the laboratory of Dr. Sarah Diamond.

In March of 2015, Jaime was announced as a recipient of the 2015 National Science Foundation Graduate Research Fellowship.

## OUTSTANDING DETERMINATION JAMES TAYLOR • COMPUTER SCIENCE

James Taylor is not your traditional student. He is an older adult student, who decided that it was not too late to finish college and pursue a graduate degree. He came to CSU Dominguez Hills after he transferred from Los Angeles Community College in Fall 2012.

James has been very active in the CSU-LSAMP program, attending events and workshops designed to help him prepare for graduate school. He also attended the 2014 Emerging Researchers National (ERN) Conference in STEM, in hopes of finding more information on graduate programs in Computer Science.

To show how determined he is to finish his education; he's had to work around some obstacles, one of which is not having private transportation. While making it hard for him to plan for his classes, to overcome this obstacle, James travels 2 hours each way to campus, transferring three times while using public transportation.

James' enthusiasm is contagious. He demonstrates the notion of gumption by his initiative, resourcefulness and steadfastness in achieving a higher education. One of his favorite quotes he uses when it gets tough is "I didn't expect it to be easy, so I keep moving forward no matter what." This is what helps keep him motivated.

His positive attitude and hard work has helped him maintain an overall GPA of 3.06. For next year, James is looking forward to working with a faculty member on a research project, which will further help prepare him for graduate school.



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## OUTSTANDING ACADEMIC CARLOS ONTIVEROS COMPUTER SCIENCE

Early in his life, Carlos realized that he wanted to be a computer scientist when someone close to him was hospitalized and he witnessed how software helped improve medical care for patients. This exposure sparked in Carlos an interest in the software field. Carlos developed a desire to improve the software the medical industry uses for diagnosing diseases and other problems in patients.

Carlos transferred to CSU Dominguez Hills in Fall 2013, as a Computer Science major, where he has accomplished his goal of becoming a computer scientist. He understood the importance of obtaining good grades in order to attain his goal of attending graduate school. Due to his high grades, he was selected as a Peer-Led Team Learning (PLTL) Leader for FUSE (First-Year Undergraduate Student Experience) for the Computer Science and Programming section. While working as a PLTL Leader, Carlos found that programming is not only fun and challenging, but rewarding.

Carlos attended the 2015 Emerging Researchers National Conference in Washington D.C. and was surprised by the amount of research being conducted by students, and how there exists an unmet demand for computer science research. This has motivated Carlos to become involved in undergraduate research in order to gain experience to be admitted into a graduate program. He would like to become an expert in the field of data mining by conducting innovative research that will facilitate mass data storage and retrieval for services such as patients' medical records.

## OUTSTANDING RESEARCH SHAWN HER MANY HORSES COMPUTER SCIENCE

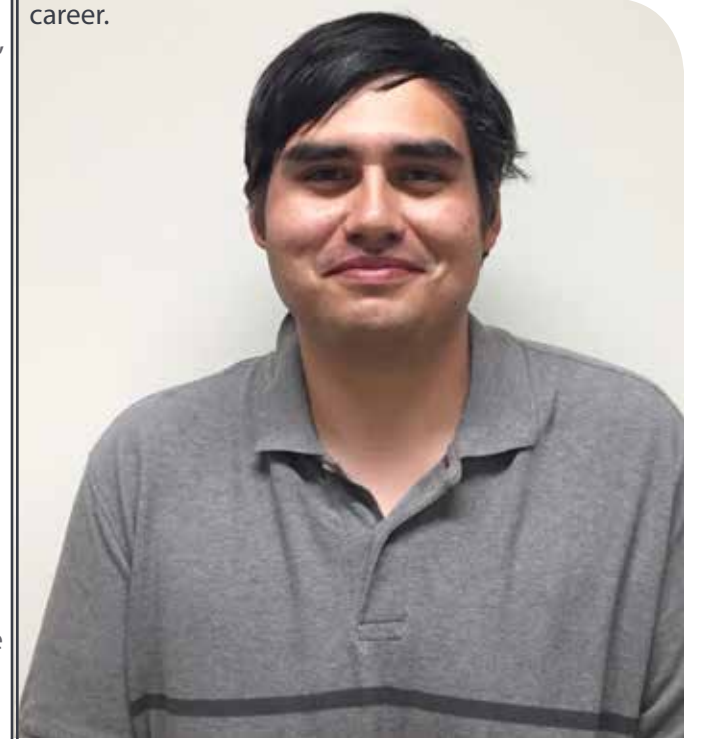
Shawn Her Many Horses is a member of the Lower Brule Sioux Tribe of Lower Brule, South Dakota. He is a long way from home, but coming to Dominguez Hills has helped him achieve his goal of pursuing a degree in higher education.

Shawn is a transfer student majoring in Computer Science and hopes to eventually complete his Ph.D. in the field of Computer Science. He became involved in Dr. Bin Tang's research group after taking a course taught by Dr. Tang. Shawn has been working with Dr. Tang for about two years performing research in the maximization of routing requests in ad-hoc wireless networks.

Shawn presented his research at the annual Dominguez Hills Student Research Day and also presented a poster at the 2015 Emerging Researchers National (ERN) Conference in STEM. He is currently working with Dr. Tang to publish an academic paper featuring the findings of their research to be submitted to computer science journals.

At some point, Shawn would like to return to his home on the Lower Brule Indian Reservation and teach young students the foundation of computer science and help provide the tools they need to apply that knowledge into their chosen fields of study.

CSU-LSAMP is proud of Shawn's work and foundation in Computer Science and how his goal of attending graduate school will help inspire other members of his tribe to choose a STEM field for their career.



# CALIFORNIA STATE UNIVERSITY

## EAST BAY

### OUTSTANDING ACADEMIC ALMA CEJA • BIOLOGY

Alma Ceja began her academic career as a Theater and Nursing double major at CSU Bakersfield. She quickly changed her major to Biology and transferred to CSUEB in 2013. She graduated magna cum laude in June 2015 with a B.S. in Biology and a minor in Chemistry. As an undergraduate, Alma participated in research with her faculty mentor, Dr. Tyler Evans, regarding the effects of climate change on zebra fish physiology. Alma will begin her graduate studies in Marine Biology at San Francisco State University during fall 2015.

Alma's interest in biology began when she was a child in Monterey, CA where she was fascinated by marine life. Her parents are immigrants from Mexico and Alma finds it interesting that she learned English in school at the same time as her parents. She comes from a large family with a stay-at-home mother and a father that has worked very hard since he was young. Alma is the first in her family to attend college and her parents are very proud of her achievement.

Alma has been a volunteer at the Marine Mammal Center where she helps prepare food and clean animal pens. She hopes to become an educational representative for the Marine Mammal Center soon so that she can share her love of marine biology with students. Eventually, Alma wants to earn her Ph.D. and become a biology professor in the California State University system.



### OUTSTANDING ACADEMIC OSAFANMWEN EDOGUN • BIOCHEMISTRY

Osafanmwun (Osa) Edogun was born in Nigeria and moved to the United States with his family when he was five years old. He enrolled at California State University, East Bay in Fall 2011 and graduated magna cum laude with a B.S. in Biochemistry in June, 2015. Osa participated in research with his CSU-LSAMP research mentor, Dr. Marlin Halim, in the Department of Chemistry and Biochemistry. Their research concerned the development of a gadolinium-based MRI contrast agent. Osa worked on binding studies of gadolinium and determining analytical detection limits. Their research results are being refined for publication. Dr. Halim says that Osa has made significant contributions to the project and that he has become a valued colleague and friend to all of the other students in the lab.

Osa is interested in pursuing a career in Pharmacology. After graduation, Osa plans to attend graduate school in a Pharmacy program with an emphasis in research.

Osa was very active in service to the University community. In the Peer Mentor program at CSUEB, he had the opportunity to mentor and teach a year-long general studies course for freshmen alongside a faculty member. Osa described this as a "remarkable" opportunity that galvanized his desire to be involved on campus and help other students. Osa was an officer in the Pre-Pharmacy club, helping provide opportunities for students to prepare and enter graduate programs.

Osa finds giving back and being a resource on campus fulfilling and loves to see people build communities and succeed together.



### OUTSTANDING RESEARCH & SERVICE/LEADERSHIP ARACELY COBOS • PHYSICS

Aracely Cobos has been interested in Mathematics since high school, but with her first physics course she realized that physics was the ideal discipline for her, blending science and math. Currently, Aracely is a sophomore Physics major at CSU East Bay. Under the direction of Dr. Jennie Guzman, who is her CSU-LSAMP faculty research mentor, Aracely is studying atomic physics. Dr. Guzman says that Aracely is a fantastic student both in class and in the lab. Aracely is helping to construct a magneto-optical trap for strontium atoms to test the Spin-Statistic theorem. She believes that her participation in research has helped to connect the concepts she is learning in her classes and is preparing her for graduate studies. Aracely plans to pursue a career in education or research in atomic physics and optics.

Aracely is very active in her community and volunteers for the Hayward Chamber of Commerce. She credits her volunteer work with helping her to find her voice, network in the community, and an ability to connect with others. In High School, Aracely had an assignment where she had to write about a Latina role model in physics and found that there were very few women (especially Latina) in Physics. Now, looking for Latina role models in physics has become a personal interest. As she has begun to take more advanced courses, she finds that she is one of few women studying physics at the University. She hopes to encourage and empower other women to pursue STEM careers.



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### OUTSTANDING ALUMNUS DEVIN SCHAEFFERKOETTER • BIOLOGY

After Devin Schaefferkoetter graduated from the College of the Redwoods, he transferred to California State University, East Bay to study Biology. As an undergraduate, he participated in research through the CSU-LSAMP program with his research mentor, Dr. Tyler Evans, studying the relationship between habitat temperature and physiological processes in marine organisms. In Winter 2015, he completed the CSUEB Honors Program and graduated summa cum laude with a B.S. in Biology (emphasis in ecology and conservation) and with a minor in Chemistry. He entered the graduate program in Biology at CSUEB during spring 2015 and is studying the diversity of fungi in a native California coastal ecosystem.

Devin credits his success in research and entrance to graduate school to the encouragement and support received from his CSU-LSAMP research mentor Dr. Evans. Devin's undergraduate and graduate research relates to the effects of climate change on the biosphere that parallels his desire to be a field biologist. As an undergraduate, Devin was involved in activities such as the Golden Key International Honors Society and the Alchemist's Club at CSUEB for chemistry students. Devin has been active in the community at CSUEB and served as a tutor in the CSUEB Student Center for Academic Achievement where he helped other students succeed in gateway courses for lower division science majors. Devin credits the CSU-LSAMP program for giving him the time and opportunity to participate in undergraduate research that has prepared him for success in graduate school and his future career in field biology.

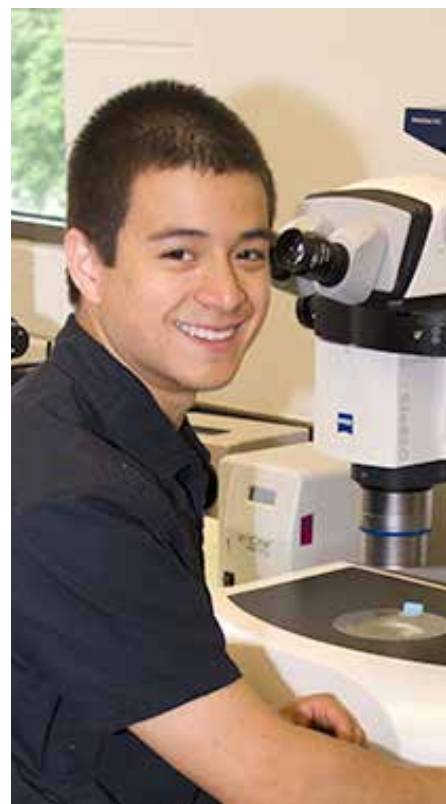


## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP

LEONARDO VELAZCO-CRUZ • BIOLOGY

Leonardo (Leo) Velazco-Cruz is pursuing a B.S. in Biology at California State University, Fresno. Beginning his sophomore year, he conducted research in the evolutionary biology laboratory under the mentorship of Dr. Joseph A. Ross. His undergraduate experience has focused on studying the onset of speciation in the nematode *Caenorhabditis briggsae*. With the guidance of his faculty mentor, Leo has developed an interest in the use of molecular genetics as a tool for the dissection of biological processes leading to scientific discovery and biomedical applications. To further pursue his interest, Leo participated in a summer research fellowship at Washington University where he used patient-specific induced pluripotent stem cells as a system to study telomere dysfunction in Dyskeratosis Congenita patients under the mentorship of Dr. Luis Batista. Leo has presented his research at various conferences including the Annual Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference and Annual Biomedical Research Conference for Minority Students (ABRCMS) where he was awarded for his poster presentation.

Leo's success transcends the research lab and continues into his community and leadership activities. He was president of Fresno State's SACNAS chapter and has successfully led the chapter by increasing its member base and funding. The mission of the chapter is to recruit diverse students interested in STEM, increase opportunities in research, training in presentation and professionalism, and outreach to K-12 students. Leo's a model CSU-LSAMP student and is focused on pursuing a Ph.D. in the field of regenerative biology and biomedical sciences.

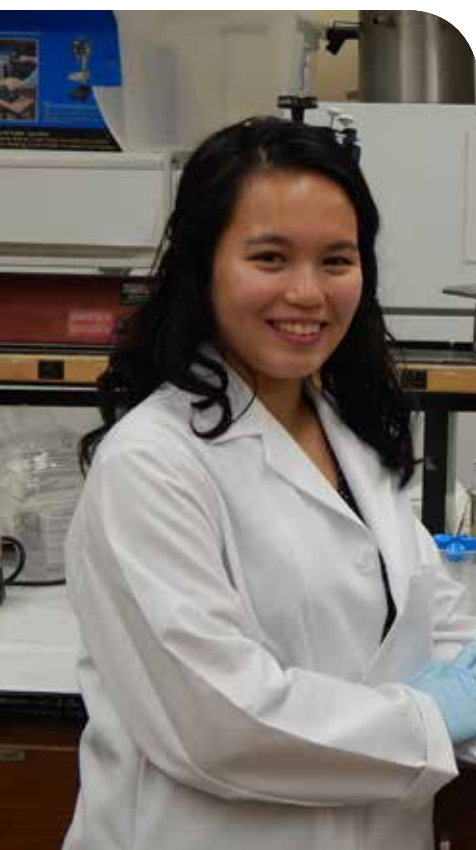


## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP

GEIL MERANA • BIOLOGY

Geil Merana is a junior at Fresno State pursuing a B.S. in Biology. Geil's research interest stemmed from her early undergraduate experience and has strengthened under the mentorship of Chemistry professors Dr. Laurent Dejean and Dr. Alam Hasson. Her undergraduate research is interdisciplinary in nature with a focus on the cellular stress response of macrophages to air pollutants in California. Geil's research includes the utilization of a fluorescence-based assay to quantify the production of reactive oxygen species produced in cells exposed to particulate matter from different temporal and spatial categories. She plans to use flow cytometry to further characterize the localization of ROS production in these cells. Geil has presented her research progress at the 2015 CSU Program for Education and Research in Biotechnology (CSUPERB) Symposium and the 2015 Central California Research Symposium. Furthermore, she has been accepted to participate in the 2015 Summer Research Training Program at University of California, San Francisco.

In addition to her research, Geil has been a recipient of various scholarships and serves in multiple community service and leadership roles, including CSU-LSAMP Peer Mentor, chemistry tutor on campus, volunteer tutor for a high school Academic Decathlon, current President of the campus Biology Club, and active leader in Nature Club. Geil plans to graduate in May 2016 and pursue a Ph.D. in Cell and Molecular Biology.



## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP

ATAHUALPA CONTRERAS • BIOLOGY

Atahualpa Contreras is an undergraduate student pursuing a B.S. in Biology at Fresno State. A first generation college student, Atahualpa spent countless hours working in the agricultural fields of central California, which fueled his determination to attain a college education. After joining LSAMP, Atahualpa participated in the CSU-LSAMP Monterey Bay summer research experience in Costa Rica. There he studied soil characteristics of trails at Volcán Tenorio, a national park, to determine whether tourism along the main hiking trail toward Rio Celeste had an impact on the soil conditions. He presented his summer research at the 2014 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference.

With the support of CSU-LSAMP, he is conducting research on campus under the mentorship of Dr. Joseph Ross in a Genetics and Developmental biology laboratory utilizing *Caenorhabditis briggsae*. His research is focusing on hybrid developmental delay utilizing AF16 strain from Japan and HK104 strain from India.

In addition to research, Atahualpa has been very involved in CSU-LSAMP, including serving on student panels encouraging students to participate in international research and serves as a program peer mentor to lower division students. He plays an active role in the Fresno State SACNAS chapter and Biology Club which includes visiting local elementary schools providing hands-on science demonstrations to encourage young students to pursue STEM fields. Atahualpa aspires to pursue a Ph.D. in Biology with an emphasis in genetics and continue a career in academia.



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## OUTSTANDING ACADEMIC

ALEXANDRA SAXBURG • BIOCHEMISTRY

Alexandra is currently pursuing her B.S. in Biochemistry at California State University, Fresno. Early in her academic career, Alexandra received the Dr. Kenneth W. Chan Scholarship for showing strong promise in the field of chemistry research, which she is fulfilling in the research laboratory of Dr. Joy Goto. Under the supervision of Dr. Goto, Alexandra has been conducting research on two projects: researching the effects of neurotoxicity induced by BMAA, an unnatural amino acid produced by cyanobacteria that is hypothesized to induce neurodegenerative diseases such as Alzheimer's, Parkinson's, and ALS; and analyzing the biological effects of N,N-Diethyl-meta-toluamide (DEET) and DEET like analogs. Alexandra was also a summer research intern at Sanford-Burnham Medical Research Institute in Dr. Marcus Kaul's research lab, focusing on HIV-associated neurodegeneration and dementia. Motivated to influence her peers to also conduct research, Alexandra took a more active leadership role and became a founding officer in the Fresno State SACNAS chapter, with the mission to encourage diversity in STEM.

This past summer, Alexandra participated in the 2015 US/France/Belgium iREU in translation chemistry at University Paul Sabatier in Toulouse, France. In France, Alexandra worked on characterizing the metal binding ability of BMAA and learn methodology used in Dr. Peter Faller's research lab to understand how amyloid beta peptide is connected with metals and Alzheimer's disease. Alexandra plans to pursue a Ph.D. in the area of neuroscience.

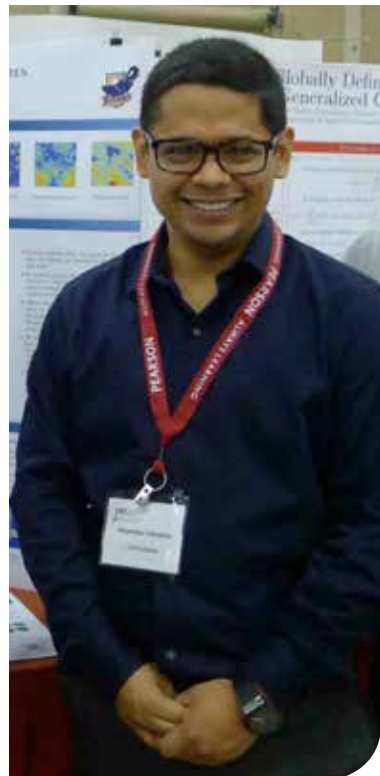




# CALIFORNIA STATE UNIVERSITY FULLERTON™

## OUTSTANDING RESEARCH

### ALEJANDRO CAMACHO • MATHEMATICS



**A**lejandro Camacho started his college years at California State University, Fullerton by taking pre-calculus, not knowing he would eventually pursue a mathematics degree. As a first generation college student, he was unfamiliar with the numerous career opportunities such a major would provide. Alejandro is pursuing a career in industrial research, and in order to reach this goal, he is completing his degree in mathematics with a modeling and computational applied mathematics concentration. Alejandro has been able to apply the knowledge he has learned from the mathematics degree through an internship at Matrix Shafts where he used clustering algorithms to create a golf club that has become the fourth most popular golf club for the 2014 PGA Tour.

After joining the CSU-LSAMP program, Alejandro worked on a year-long research project that produced computer simulations to study different policing strategies to mitigate crime. He presented his results in oral presentations at the Southern California Conferences for Undergraduate Research and the CSUF NSM Interclub Council Research Symposium. He also presented posters at national conferences, including the Joint Mathematics Meetings and the Society for Advancement of Hispanics/Chicanos and Native Americans in Science. His research is currently in preparation for submission to an academic journal.

Upon completion of his degree, Alejandro will participate in the Research in Industrial Projects for Students program at UCLA. At this program, he will work on a project with an industrial sponsor, the Los Angeles Police Department.

Alejandro plans to attend a Master's program in applied mathematics in the fall.

## OUTSTANDING SERVICE/LEADERSHIP

### JEFF LOPEZ • ELECTRICAL ENGINEERING

**J**eff Lopez transferred from Citrus Community College to study Electrical Engineering at California State University, Fullerton. Jeff conducts research in different remediation methods and received funding from the Inter-club Council to incorporate a microcontroller system to his project. He mentors transfer students through (STEM)2, hosting professional development workshops and doing outreach to community colleges, where he is a resource to students interested in transferring to a 4-year university. Jeff has also been involved with helping create two clubs, holding leadership positions in both. The first is the STEM Outreach Club, which focuses on providing opportunities for students that major, minor, or simply have an interest in science, technology, engineering, or mathematics. The second is the Titan Rocket & Engineering Society (TRES), which provides students with opportunities and exposure to aerospace related collegiate competitions, research, and professional development. In the future, he hopes to aid in the development of high-frequency integrated circuits to produce sophisticated, real-time applications, as well as improve productivity and conserve energy.



## OUTSTANDING SERVICE/LEADERSHIP MICHELLE BARBOZA • GEOLOGICAL SCIENCES



**M**ichelle Barboza is a major in Geological Sciences at CSU Fullerton with a long list of academic accomplishments. The daughter of Mexican immigrants, Michelle learned the importance of education at an early age. Her father was a teacher, and her mother dreamed of being one. Both of her parents earned their bachelor's degrees, and Michelle always knew she would do the same. She is, however, surprised to find herself in a STEM field because she always imagined men in laboratories. Since becoming a Geological Sciences major at CSUF, Michelle has participated in a prestigious paleontology internship studying fossils in Panama, conducted fieldwork in Joshua Tree National Park, and traveled to Argentina to study volcanoes.

Michelle draws from these experiences to promote science outreach for the general public, and serve as an example of success for minorities. She has participated in an NSF-funded initiative to provide professional development for K-12 science teachers. In November of 2014, she met with 300 students to introduce them to science as a career. She was recently hired as the "STEM Ambassa-

dor" at the Center for Careers in Teaching. STEM Ambassadors are funded through ENGAGE in STEM, a joint program between Santa Ana College, Fullerton College, and CSUF. As a STEM Ambassador, Michelle is the ENGAGE in STEM liaison to high school students in the Orange County area. Over the course of an academic year, she will travel to >75 high schools to present about STEM opportunities in college and beyond.

## OUTSTANDING ALL-AROUND SCHOLAR

### ISAAC MAGALLANES • GEOLOGICAL SCIENCES

**I**saac Magallanes was fascinated with paleontology from an early age, but did not consider it a valid career choice. While taking a general education class in geology, his passion for paleontology was reignited. Isaac changed his major to Geological Sciences and has become a fixture in the vertebrate paleontology research lab at Cal State Fullerton. Isaac and other students presented on a fossil bone bed study at the Society of Vertebrate Paleontology Meeting. He is currently a mentor for students at Cal State Fullerton and Santiago Canyon College and helps connect students with research opportunities and scholarships. Isaac leads workshops, gives presentations, and works one-on-one with students. His CSU-LSAMP research is a high-profile project: a seven million year old complete fossil walrus specimen that is the logo of the Cooper Center. He has taken full advantage of his CSU-LSAMP research opportunity to make tremendous progress on this project, which is almost equivalent to a Master's thesis. Isaac presented on the fossil walrus, as lead author, at the Secondary Adaptations Meeting, the Western Association of Vertebrate Paleontologists, and has submitted an abstract to the Society of Vertebrate Paleontology Meeting. He was a Co-PI for a funded grant proposal for research visits to the San Diego Museum of Natural History. Isaac has distinguished himself in service and leadership while excelling in research. He's on his way to accomplishing his career goal, to get a Ph.D. in paleontology and study fossils in an academic setting while inspiring future generations of students.



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# HUMBOLDT STATE UNIVERSITY

## OUTSTANDING ACADEMIC & RESEARCH WILLIAM CULVER III • WILDLIFE BIOLOGY

William Culver III, a Wildlife Biology major and pre-veterinary student, used his admission into Humboldt State University as a catalyst for positive life changes. A proud member of the Cherokee Nation, William utilized the guidance offered by CSU-LSAMP and the Indian Natural Resource Science and Engineering Program (INRSEP). Under the mentorship of Dr. Jacquelyn Bolman, William learned how to navigate university academics, seek out research opportunities, and weave western and indigenous values into his education.

During his first semester, William presented his research on fossilized dolphin skull taxonomy at the American Indian Science and Engineering (AISES) National Conference. William then conducted research in Costa Rica in the Native American and Pacific Islander Program (NAPIRE), determining if acoustic methods were an appropriate rapid assessment tool to describe anuran species assemblages in different habitats. William was awarded 1st place in oral presentations and 2nd place in poster presentations at the following AISES conference for his work in Costa Rica.

William was accepted into the Summer Undergraduate Research Program (SURE) at Sanford Research in South Dakota. Under Dr. Dave Swanson's leadership, he performed molecular lab work on avian tissues to determine the source of metabolic plasticity in their winter cold tolerance. William presented this research at the Sanford Research Symposium and at AISES. William seeks a Doctorate in Veterinary Medicine to pursue a career as a public health veterinarian. He'll attend the Virginia-Maryland Regional College of Veterinary Medicine, and greatly anticipates the day when he can guide pre-veterinary native students along their path.

## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP ARAIK SINANYAN • CELL & MOLECULAR BIOLOGY

Araik Sinanyan is a senior undergraduate student at Humboldt State University studying Cellular and Molecular Biology. Throughout his time at Humboldt State, he has proven to be dedicated to scientific research. His passion for understanding the human body has been a motivation for him throughout the past few years. At the 2013 SACNAS conference, Araik received an Outstanding Poster Award in Physiology/Toxicology for his poster presentation, "BPA slows down medial and lateral giant fiber conduction velocity and disrupts regeneration in *Lumbriculus variegatus*".

Last year, Araik secured a research internship in his ancestral homeland of Armenia. During his time there, he conducted research in the Pharmacognosy Department of Yerevan State Medical University. Not only was he able to learn more about his vocational passion for integrative medicine, but he was able to explore these research interests within a cultural context.

As Araik transitions into his graduate education, he is leaving a presence at Humboldt State that will allow other students to follow in his footsteps. By inspiring those around him, Araik is motivating other undergraduate students to pursue research opportunities that are socially and culturally relevant. Araik has recently been accepted in the Master of Public Health program at the University of Southern California and is considering continuing his studies through this program.



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## OUTSTANDING RESEARCH JILMA RACHEL GUINEA • WILDLIFE BIOLOGY

Jilma Rachel Guinea is a first generation college student, single parent, and Marine Corps Veteran who's pursuing a higher education to provide a better life for her son. She's an undergraduate at HSU majoring in Wildlife Conservation Biology/Applied Vertebrate Ecology.

In the summer of 2014, she participated in an NSF Research Experience for Undergraduates at the Raptor Research Center in Boise State University. Under Dr. David Anderson's guidance, she focused her research on forest attributes that Harpy Eagles select when choosing breeding habitats. Based on literature research, she drafted research hypotheses and proposed analytical methods. Rachel traveled to Panama's Darien rainforest, an area known for its rich biodiversity. She presented the results of this research at two local and two national conferences. At the October 2014 Society for Advancing Chicanos and Native Americans in Science (SACNAS) Conference, Rachel received an award for Outstanding Poster Presentation in Ecology/Evolution.

In summer 2015, Rachel participated in the San Diego Zoo's Institute for Conservation Research fellowship program. As part of the Institute's Applied Animal Ecology Division, under Dr. Jeanette Boylan's mentorship, Rachel conducted a study examining the effects of human disturbances on threatened Western Snowy Plovers. Rachel will present her research at SACNAS in October and will pursue an article publication.

Rachel's future path will lead her to graduate school to pursue a graduate degree in Wildlife Ecology. With her unique life experiences, she also wants to become a mentor because she has a special potential to touch the lives of many people.

## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP GRITIDACH 'MATEE' MANAKITIVIPART WILDLIFE MANAGEMENT & CONSERVATION



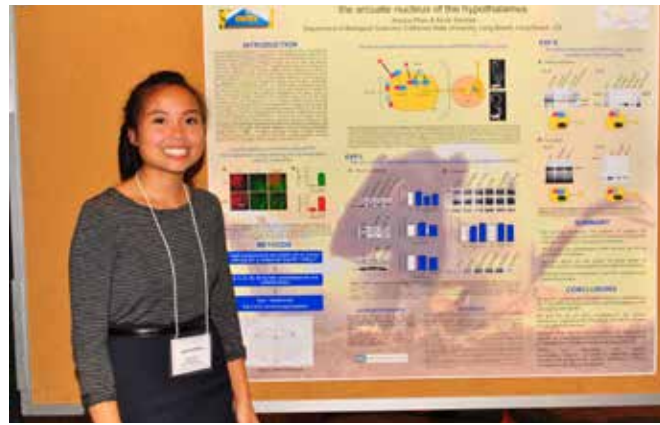
Matee Wolf is a scholar of two cultures. Born and raised in Thailand, his family immigrated to the U.S. when he was 12 years old and he was given his cultural name, Gritidach Manakitivipart. As a Wildlife Management undergraduate, his passion for avian conservation is shared with his interests in marine ecology, eagerness to mentor students and peers, and dedication to the Thai cultural art of fruit carving. His exceptional academic aptitude and professionalism was revealed early on when he completed the 2011 CSU-LSAMP Summer Research in Costa Rica as a first time freshman. His research on marine gastropods in Costa Rica paved the way for his second research experience in Woods Hole, Massachusetts, with the 2013 Partnership Education Program. He was appointed as the Northeast Fisheries Science Center intern, working with James Manning and Dr. Ambrose Jearld, Jr. on a community outreach project involving ocean currents. He designed and built small surface drifters using low-cost, biodegradable materials for use in classrooms and public education activities. Matee was also selected as an intern for the 2014 Missouri Ozark Forest Ecosystem Project where he was extensively trained in bird banding and survey methods. He spent the summer of 2015 in New Mexico with the Sevilleta REU program studying population ecology and nesting successes of the threatened Grey Vireo. Matee plans to enter into an M.S./PhD. Program in avian conservation with the goal of becoming a university professor and establishing a community-based wildlife habitat conservation initiative in his home country of Thailand.





# CALIFORNIA STATE UNIVERSITY LONG BEACH

## OUTSTANDING RESEARCH & SERVICE/LEADERSHIP JESSICA PHAN MOLECULAR CELL BIOLOGY & PHYSIOLOGY



Jessica Phan is a third year Molecular Cell Biology and Physiology Major at CSULB. She has been conducting behavioral neuroendocrinology research in Dr. Kevin Sinchak's lab since her freshmen year and is currently looking at the signaling mechanism of progesterone in female rats that is important for sexual receptivity. By looking at this system, she hopes to have a better understanding of signaling mechanisms that can pave the way for drug discovery and targeted pharmaceutical therapies associated with issues in women's health. Since her time in the lab, she has developed strong skills in project design as well as leading, executing, and troubleshooting experiments. In addition, she has worked with and mentored fellow undergraduates who also have

hopes of pursuing careers in science. During her time in the lab, she has presented at the school's annual Student Research Symposium, as well as three national conferences including Society for Neuroscience, Endocrinology, and American Society of Neurochemistry. In the past year, she has earned recognition from the Faculty of Undergraduate Neuroscience, winning a Student Travel Award to attend the Society for Neuroscience conference, and was also a recipient of the 2015 Howell-CSUPERB Research Scholars Award. Beyond research, she is Vice President of the College of Natural Science and Mathematics Student Council and works to organize various events for the college as well as oversee funding for student organizations. She has a strong passion and drive for biomedical research and hopes to obtain a Ph.D. in neuroscience and continue research in neurological disorders.

## OUTSTANDING ALUMNUS HECTOR GOMEZ CHEMICAL ENGINEERING

Hector Gomez was part of the CSU-LSAMP undergraduate program at California State University, Long Beach and graduated with a B.S. in Chemical Engineering in May 2014. He conducted research in Dr. Mendez's lab, working with Dye-Sensitized Solar Cells. He was also a Promotor of STEM for the HSI-STEM Program for two years where he tutored and mentored undergraduate STEM students. Through his research and involvement with HSI-STEM, he was able to present his work at conferences including the Great Minds in STEM Conference and the Society of Hispanic Engineering National Conference. Upon graduation from CSULB, Hector received the CSU-LSAMP Bridge to the Doctorate (BD) Program Fellowship. He is currently attending California State University, Los Angeles as a BD Fellow, pursuing an M.S. in Mechanical Engineering. He is doing research in the Thermo-fluids lab where he is developing an optimal fuel cell configuration via mathematical modeling, finite element analysis (COMSOL Multiphysics), and optimization algorithms under Dr. Pacheco. Besides his academics and research, he assisted the Mechanical Engineering Department with programs, such as Preview Day, where he presented his work and encouraged incoming students to get involved in research and pursue a career in STEM.



## OUTSTANDING RESEARCH & SERVICE/ LEADERSHIP KATY WIMBERLY • PHYSICS

As her third research project, Physics major Katy Wimberly participated in CSU-LSAMP by conducting Condensed Matter research with Dr. Jiyeong Gu using atomic and magnetic force microscopies to probe into the surface morphology of ferromagnetic nanostructures on modified nanosphere templates. Through the experience and relationships cultivated during her Fellowship, Katy was accepted into a research internship for summer 2014 through Cal Poly Pomona's CAMPARE program at The SETI Institute. She conducted radio astronomy research with Dr. Gerry Harp, analyzing radio signals and automated classification tests which search for extraterrestrial intelligence. She presented her research both at SETI Institute and Cal Poly. In June, Katy presented this work at the national Astrobiology Science Conference.

Following SETI, Katy was accepted into the UC-CSU Cal-Bridge Program, which mentors and prepares SoCal CSU undergraduates for astrophysics Ph.D. programs at participating UC campuses. Through this program, she attended numerous grad school workshops, worked one-on-one with her mentors Drs. Jaikumar (CSULB), and Cooper (UC Irvine), and rigorously preparing for graduate studies. She eagerly accepted an astrophysics internship with Dr. Cooper through the UCI-SURF program.

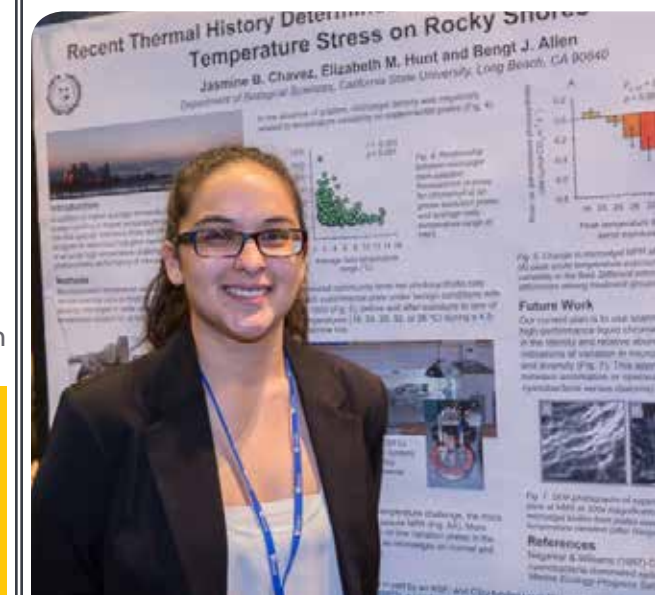
During her time at CSULB, Katy has participated in many outreach events through the Society of Physics Students. She served as Secretary for the past two academic years helping to organize events. Her favorite has been participating in MAES' Science Extravaganza as a group and workshop leader. After she completes her graduate astrophysics studies, her goal is to become an astronomy researcher while participating in outreach for underrepresented groups.

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## OUTSTANDING RESEARCH JASMINE CHAVEZ MARINE BIOLOGY

Jasmine Chavez is a fourth-year student at California State University, Long Beach, majoring in Marine Biology. For the past two years, Jasmine has been a CSU-LSAMP Research Fellow working in Dr. Bengt Allen's Marine Ecology Lab. Jasmine spent 10 weeks this past summer at Stanford University's Hopkins Marine Station (HMS) in Pacific Grove, CA, working with Dr. Allen and four other CSULB undergraduate and graduate students on a project funded by the National Science Foundation. Part of a larger study about potential effects of increasing environmental variation on biological systems, Jasmine's project was designed to determine how prior thermal history and the intensity of an acute high temperature challenge affects post-stress photosynthetic performance of microalgae on rocky shores. To address this question, Jasmine had to learn how to operate an infrared gas analyzer, a technically challenging piece of equipment that measures photosynthesis, and to interpret the resulting data. She found that the more extreme the acute temperature challenge, the more negative the effect on post-exposure photosynthesis. This result may explain why there is a strong negative correlation between maximum rock temperature and micro algal biomass across the intertidal zone at HMS. Jasmine presented her work as a poster at the 2015 Emerging Researchers National (ERN) Conference in STEM, in Washington, D.C. Jasmine plans to continue doing research in Dr. Allen's lab until she graduates next year, shifting her focus to the temperature biology of endangered black abalone.





# CAL STATE LA

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

## MARITZA SANCHEZ • MECHANICAL ENGINEERING

**M**aritza Sanchez joined CSU-LSAMP in Fall 2013 when she transferred from UCSB. In the year-long LSAMP Undergraduate Research Training Program, she focused in the laboratory of Dr. David Raymond on the development of a valid model for fracture formations in bones to aid forensic scientists on clearly diagnosing a cause. She participated in a 10-week research internship at UCSB in the laboratory of Dr. Carlos Levi, where she investigated the toughness of various compositions used for thermal barrier coatings on gas turbines and jet engines. In Summer 2014, she received an REU fellowship from Princeton University to conduct research in the laboratory of Dr. Jay Benziger, where she focused on understanding the physics behind water formation and movement in polymer electrolyte membrane fuel cells. She was accepted into the Northwestern University Materials Research Science & Engineering Center REU Program for Summer 2015. Maritza has presented her various research projects at several national conferences.

She has maintained an overall GPA of 3.572 and a major GPA of 3.867, leading to scholarships and memberships in various honor societies. Her leadership and community outreach roles are demonstrated through her involvement with the Society of Hispanic Professional Engineers (SHPE). Every year she has participated in 15-20 Noche De Ciencias, a program that teaches younger students about the STEM fields. Currently Maritza serves as the Region 2 Regional Student Representative (RSR) for SHPE. Her role as RSR is to oversee all the undergraduate SHPE chapters in southern California, Arizona, and southern Nevada.



## OUTSTANDING ALUMNA

### DR. CECILIA ZURITA-LOPEZ • BIOCHEMISTRY

**D**r. Cecilia Zurita-Lopez joined the CSULA-LSAMP undergraduate program in Fall 2000 and participated in various activities until she graduated with a B.S. in Biochemistry in June 2004. She completed her Ph.D. in Biochemistry & Molecular Biology at UCLA in June 2011. She is currently completing her first year as an Assistant Professor of Biochemistry at CSULA. Prior to this appointment, she was a postdoctoral researcher, where, under the direction of Dr. Andrea Armani at the University of Southern California (USC), she took part in the development of a non-invasive detector for early-stage cancer cells. Her research is centered on the cross-talk between arginine methylation and phosphorylation of histone proteins. She is convinced that these types of interactions are critical to understanding fundamental processes and can lead the way to greater therapeutics and individual analysis of patients. In addition, her group is also investigating the effects of UV light on protein arginine methyltransferases. She is committed to sharing her knowledge, skills and love of science with enthusiastic students. One of her goals is to make her research interdisciplinary so that students from a variety of backgrounds ranging from biology, biochemistry, physics and chemistry can benefit. As an under-represented minority of Latino descent she has benefited greatly from programs that have explicitly embraced diversity. She does not believe she would currently be an Assistant Professor without the positive experiences she received as an undergraduate student and without programs such as LSAMP that offer support to minorities in science.



## OUTSTANDING ACADEMIC, RESEARCH & SERVICE/ LEADERSHIP

### ERIK AVILA • CIVIL ENGINEERING

**E**rik Avila joined CSU-LSAMP at CSU, Los Angeles with a major in Civil Engineering in Spring 2013. During his tenure at CSULA, Erik demonstrated academic excellence by maintaining an overall GPA of 3.545. In fact, during the 2014-2015 academic year, Erik was able to raise his GPA further by receiving a 4.000 GPA each quarter. Erik has been able to achieve this while taking numerous upper division engineering courses, and being actively involved in research and service activities. Erik is currently doing research with the Vice Chair of Structural Engineering at UC San Diego. Prior to this, Erik participated in the George E. Brown Network for Earthquake Engineering Simulation (NEES) REU program. Erik presented his findings at the Young Researchers' Symposium at the University of Nevada, Reno and at the 26th Annual HEENAC conference in New Orleans, Louisiana. He received a presentation award, as well as having his technical paper and poster published online at <https://nees.org/>. In addition, Erik serves on the executive board of the CSULA chapter of Chi Epsilon, the civil engineering honor society. Erik also volunteers in the community with the MESA program and as the college captain for the Great Minds in STEM Organization. In his role as college captain, Erik serves as a mentor for young high school students and volunteers once a month to share his experiences of being a minority in engineering. After graduating, Erik plans to further develop his research skills and knowledge by obtaining a graduate degree in Civil Engineering.

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## OUTSTANDING SERVICE/LEADERSHIP & PERSEVERENCE ISABEL VAZQUEZ • BIOCHEMISTRY & ENGLISH

**I**sabel joined CSU-LSAMP in Fall 2012. Isabel is currently a dual major in biochemistry and English. During her first three years, Isabel maintained an impressive GPA of 3.601 as a dual major. While her GPA dropped slightly due to personal hardships, Isabel was still inducted into the Epsilon Theta chapter of Beta Beta Beta (Tri-Beta) National Biological Honors Society and the Golden Key International Honors Society. Isabel has shown her perseverance and motivation to succeed by thriving in other activities, such as the LSAMP Undergraduate Research Training Program. As a participant, Isabel is working with Dr. Amelia Russo-Neustadt investigating the possibility of dendritic growth in embryonic hippocampal neurons due to *Withania somnifera*. In addition, Isabel is heavily involved in service and leadership activities at CSULA and in the surrounding LA community. She is currently treasurer for both Tri-Beta and Kappa Delta Chi Sorority, Inc., and an active member of Chicanos/Chicanas for Community Medicine. Isabel is a part of the Leadership Academy on campus, and a student assistant at the Center for Student Involvement. In addition, Isabel actively volunteers in her community with the Reading to Kids Program and the Burrito Project. During Fall 2014, Isabel helped organize the Cal State LA Burrito Project where CSULA students made burritos, and gathered other resources, for the homeless community of Downtown LA. Isabel also volunteers for various run/walks and health fairs. She enjoys organizing and taking part in events, which help make a difference in the community, whether large or small.





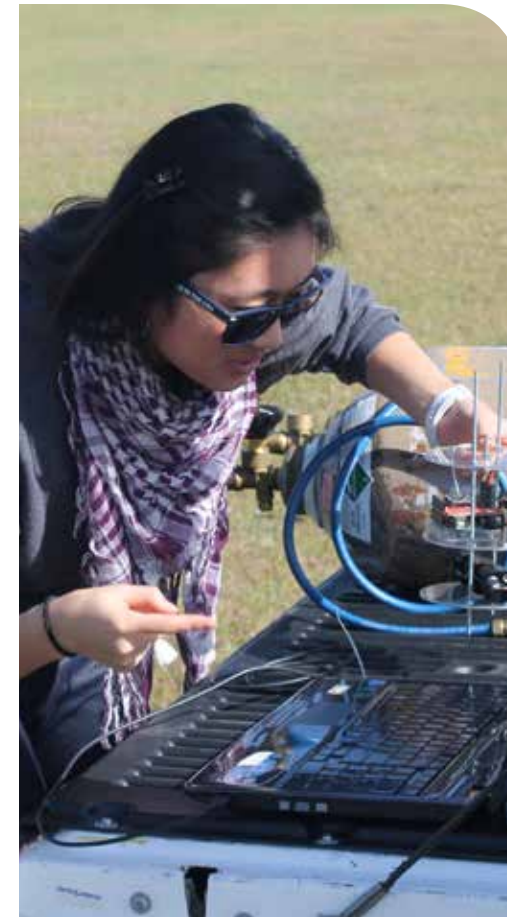
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## OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP ERICA MCCLINTON • MECHANICAL ENGINEERING



Erica McClinton is a Junior working towards her B.S. degree in Mechanical Engineering at CSU Maritime Academy. She is also part of the first crop of students working towards the campus' new minor in Mathematics. Erica maintains one of the highest GPAs in her major and has proven to be an exemplary student throughout her coursework. Her efforts have helped grow and improve the LSAMP program at CSU Maritime Academy. Erica also consistently demonstrates leadership in her work as a STEM tutor in CSU Maritime's Tutoring Lab.

In addition to her academic excellence and on-campus leadership, Erica finds time to volunteer with high school students in her hometown of Vallejo, where CSU Maritime Academy is located. As a local student from Vallejo, which faces higher than average dropout, unemployment and poverty rates, Erica understands the challenges faced by many students of the surrounding area, particularly in pursuing STEM careers. Erica finds time outside of her demanding engineering schedule to volunteer at Jesse Bethel High School in Vallejo, her alma mater, and provides tutoring and guidance for students looking to enter STEM fields as undergraduates. She has conducted her own outreach initiatives and tutoring sessions after-school, and has involved other LSAMP students to help prepare local students in the community to be better equipped and informed about what it takes to succeed at the university level.



## OUTSTANDING RESEARCH NAOMI TAM • MECHANICAL ENGINEERING

Naomi Tam completed her B.S. degree in Mechanical Engineering at CSU-Maritime Academy in April 2015. For the past four years, she has been committed to gaining engineering knowledge both in the classroom and during internships in order to positively contribute to the engineering profession. Her passion for engineering was fostered by the many stories her grandfather told her since childhood. She was enthralled by the stories of his apprenticeship and the importance of learning both the practical and theoretical aspects of engineering. It was those stories of commitment to his craft to improve not just his skills, but also his quality of life, that really motivated her to pursue a career in engineering.

Her Senior Capstone Project involved designing a flight structure that would be capable of carrying a rocket to be remotely launched while midflight. She completed the calculations that would give an approximation as to what altitude the rocket could reach using the assisted rocket launch system. The design of the flight structure used weather balloons to provide a lifting force for the flight system. She worked on the project advised by Dr. Michael Strange and Dr. William Tsai. LSAMP support provided necessary funding to perform a test launch of the flight structure and rocket. The testing demonstrated that by using the assisted launch system, the rocket was able to reach 200 feet higher in altitude than the projected altitude of 500 feet suggested by the rocket motor size for an actual altitude of approximately 700 feet.

## OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP PHILIP HATCHETT MECHANICAL ENGINEERING



Philip Hatchett is a Junior working towards his B.S. degree in Mechanical Engineering at CSU Maritime Academy, while also being a part of the inaugural cycle of students working towards a newly offered minor in Mathematics. Philip carries one of the highest GPAs in the LSAMP program and has produced at the highest level throughout his engineering studies. He has proven to be a leader in the growing LSAMP program and has learned to be successful in the classroom by working with others in forming study groups for his higher-division engineering and math courses.

Philip gives back to the community in many ways, but has primarily dedicated himself to volunteer work through the CSU Maritime Academy Office of Community Engagement. He has earned multiple service ribbons and awards for his dedication and efforts to serve the community. Some of his many volunteer efforts have included mentoring elementary school children in an after-school program, participating in campus clean-up and beautification initiatives for the campus' waterfront, and helping out at a Vallejo community garden. He has shown especially enthusiastic dedication to Rebuilding Together Solano County, a non-profit that renovates homes for low-income veterans and seniors.

CSU Maritime Academy is proud to recognize Philip as a CSU-LSAMP PROUD Scholar for his academic achievements in challenging STEM coursework throughout his undergraduate career, and for his profound impact on serving the campus and surrounding community through volunteer work, community engagement and academic outreach.

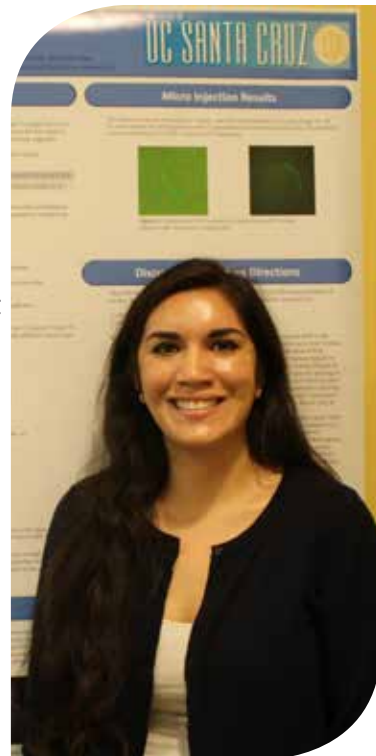


# California State University MONTEREY BAY

Extraordinary Opportunity

## OUTSTANDING RESEARCH ELIZABETH CARRILLO • BIOLOGY

Elisabeth Carrillo is a Biology major at CSUMB who has not only excelled in undergraduate research, but has also demonstrated a level of perseverance in her research that is truly exceptional. Elisabeth's interest in molecular biology began in her lab courses, where she realized that she was fascinated by how tiny alterations at the molecular scale could impact serious diseases. Her first research experience at Oregon State University's REU in molecular genetics introduced her to the dramatic impact that one enzyme, a single tiny molecule, can have on the health of cells. She studied a reverse polymerase and tRNA that when mis-regulated may contribute to diseases like diabetes. This experience drove her to hone her knowledge of RNA biology through research, lab meetings, seminars, and journal clubs. Elisabeth's first research experience pushed her beyond her comfort zone, took her up the West Coast, and made her more confident of her impressive skills as a researcher. She has now narrowed her research interests to RNA biology, investigating the disease implications of errors in alternative mRNA splicing in Dr. Alan Zahler's lab at the University of California, Santa Cruz (UCSC). For the past year, Elisabeth drives an hour several times a week to pursue this research, which may ultimately help develop treatments for the disease cystic fibrosis. This research placement is especially exciting for Elisabeth's ultimate career goals because UCSC is her top choice for doctoral studies in molecular genetics.



## OUTSTANDING RESEARCH JULIO MARTINEZ • BIOLOGY

As a Biology major and burgeoning plant pathologist, Julio Martinez's path to excellence in undergraduate research has been a direct result of his experiences living in Salinas, CA, the "salad bowl of the world." His exposure to the difficult socioeconomic conditions and challenges faced by agricultural field workers has been the catalyst for his desire to pursue a doctoral degree in plant pathology. He plans to conduct research that contributes to finding solutions to global food security and agriculture productivity problems by managing the pathogens that produce diseases that affect our food supply. Julio's first research experience, which he presented at the 2014 SACNAS conference, examined the effectiveness of nitrate reduction using a woodchip bioreactor. While this research addresses a key source of pollution from agricultural systems, Julio's dream of working to reduce the impacts of plant diseases led him to pursue a research opportunity at the United States Department of Agriculture's Agricultural Research Service in Salinas, CA. Julio is conducting research under the mentorship of Dr. Carolee Bull, developing an alternative natural method to manage plant diseases that uses natural protein toxins, produced during competition between plant pathogens, instead of pesticides that expose field workers to dangerous chemicals. Julio has presented his research and been recognized with several honors and awards, including being designated a 2014 CSUPERB Presidents' Commission Scholar. Julio's commitment to science and deeper understanding of the impacts his research can have on the world make him an exceptionally valuable member of the agricultural research community.



## OUTSTANDING RESEARCH BRIANA BECERRA • ENVIRONMENTAL SCIENCE, TECHNOLOGY, AND POLICY

Briana Becerra is pursuing an Environmental Science, Technology, and Policy degree at CSUMB. She intends to pursue a Ph.D. in Ecosystem Ecology that investigates the impacts of climate change and other disturbances on ecosystem level processes. Her research interests center on the investigation of how to quantify the impacts of disturbance, predation, and resource limitation on ecosystems, with the ultimate goal of promoting effective ecosystem management. Briana's passion for investigating disturbance dynamics stems from her research experience at the Hubbard Brook Experimental Forest in New Hampshire under Dr. Natalie Cleavitt of Cornell University. Her research quantified the influence of factors that contribute to tree seedling regeneration following a large-scale tree harvest that had occurred thirty years prior. This valuable undergraduate research experience instilled a strong appreciation in Briana for effective communication of science. With the help of funds received as an LSAMP participant, Briana was able to present this research at the 2014 SACNAS National Conference where she received the University of Kansas, Department of Geology award for an outstanding research presentation. Briana will soon be collaborating with desert ecologists at the University of New Mexico as well as exploring new issues in tropical ecology as a CSU-LSAMP participant in the CSUMB Costa Rica Tropical Ecology program. In addition, Briana has clearly combined her passion for the communication of science with her interest in guiding other students like herself towards success in STEM as a peer mentor and in her role as Vice-President of the CSUMB SACNAS chapter.

## OUTSTANDING RESEARCH EMILY KING • MARINE SCIENCE

Emily King's ultimate academic goal is to pursue a doctoral degree in animal physiology, focusing on the direct effects of environmental variables on changes in gene expression. As a Marine Science major at CSUMB, she has excelled both academically, maintaining a 3.9 GPA, and in the development of several undergraduate research projects. Emily has been exceptionally successful at securing highly competitive research experiences that have allowed her to pursue her deep curiosity about how environmental change can impact the physiology of marine organisms. She cites her pivotal experience as a Duke University Marine Science and Conservation Scholar in 2014 as one of the many opportunities that helped her identify this passion for animal physiology. At Duke, Emily investigated the physiological response of fiddler crabs to changes in oxygen availability. Soon after, she traveled to Oregon State to conduct research into the role of physiological condition as a driver of larval flatfish settlement, which further solidified her interest in investigating the physiological responses to change. In Summer 2015, Emily continued to explore her interest in gene expression experimental techniques and made connections with potential graduate advisors while working with Dr. Jonathan Stillman of San Francisco State University and UC Berkeley, where she hopes to complete her doctoral studies. Emily has presented the products of these research collaborations at multiple research symposia, including SACNAS and the Association for the Sciences of Limnology and Oceanography (ASLO) international conference in Granada, Spain, receiving top honors for both presentations.



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# California State University Northridge

## OUTSTANDING SERVICE/LEADERSHIP MICHAEL PEREZ MECHANICAL ENGINEERING

Michael Perez served as the President for the Society of Hispanic Professional Engineers (SHPE) student Club. He was also President of Sigma Lambda Beta and a Tau Beta Pi initiate. His extracurricular activities also included being a cast member for TAKE XXIII, a CSUN freshman orientation performance to increase awareness of diversity and curb prejudice. He was a Salsa Libre Performer for 2 years and a Competitor (1 year), and he was on a 1st place regional college congress team.

Michael was awarded the C.R. and Ila Johnson Memorial Endowed Scholarship for Engineering Education. His senior design was the Human Powered Vehicle and he held the roles of Components lead and Assembly and Fabrication lead on a team that placed 6th overall, out of 36 schools. He was also part of a team which earned a Senior Design award.

Michael graduated Spring, 2015 and had multiple interviews for jobs. He was offered a position as a Petroleum Engineer in New Mexico, but instead accepted a position at Esterline Mason, Control Systems as a Mechanical Design Engineer.



## OUTSTANDING SERVICE/LEADERSHIP TRAVON MYLES COMPUTER ENGINEERING

In fall of 2013, the NSBE Student Club was re-established at CSUN under the guidance of two LSAMP students, Travon Myles and Noral Walker. Travon began as Vice President, and then qualified with Associated Students to become the Treasurer. In Fall 2014, Travon was elected President of NSBE CSUN Chapter. Under Travon's leadership, the NSBE Club initiated a campus-wide version of the Program "Guaranteed 4.0." This program was presented to students, primarily in STEM majors, to teach them such skills as time management, study skills, and stress management. They extended the original program to include nutrition and money management.

At the winter holiday season, Travon and NSBE organized a large and successful food, toy and clothing drive to benefit the Rescue Mission Alliance. The Club conducted two fruitful fundraisers this year!

During the spring 2015 semester, the students hosted "Meet the Professionals." The professionals included a faculty member and others from such companies as Northrup Grumman, Snapchat, NASA/JPL and Los Angeles Department of Public Works to mentor students in engineering and computer science and computer information technology.

Travon is currently being considered for a Support Engineer position with Microsoft Corporation once he graduates.



## OUTSTANDING SERVICE/LEADERSHIP NORAL WALKER STRUCTURAL ENGINEERING

California State University, Northridge student Noral Walker wants engineering to be a household name within the African-American community.

Before graduating in May with a bachelor's in engineering, Walker was elected to the 2015-2016 national executive board of the National Society of Black Engineers (NSBE), an organization dedicated to fostering and supporting African-American engineers on pre-collegiate, collegiate and professional levels in the United States and internationally. He was appointed National Programs Chair in March after serving two years as the NSBE Pre-College Initiative Chair at regional and national levels.

Now a graduate student in structural engineering, Walker said the NSBE's mission statement, "to increase the number of culturally responsible black engineers who excel academically, succeed professionally and positively impact the community," resonates with him. The organization sponsored 17 Summer Engineering Experience for Kids (SEEK) camps this year in 16 cities across the country, fostering interest in engineering for almost 4,000 students at no cost to their families. Walker said these programs could help inspire more African Americans to become engineers. Walker hopes the lack of diversity in engineering at the student and faculty level will change with the help of NSBE, and a push by universities to engage African-American students.

Looking toward his own future, Walker is deciding between pursuing a Ph.D. in engineering or working for a corporation developing blast-resistant structural design. Walker may or may not pursue teaching, but he knows that whatever he does, he will continue to mentor African-American engineers.

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## OUTSTANDING ACADEMIC GENEVA CAPOS • COMPUTER INFORMATION TECHNOLOGY

Geneva Capos credits CSU-LSAMP in helping her achieve the Women Studying Information Security (SWSIS) award in 2014. Awardees of the SWSIS scholarship had the choice of pursuing a job or internship with Hewlett Packard (HP). Geneva started work at HP on June 22, 2015. She is working on a project in their ArcSight Research and Development department. Geneva went through 6 interviews to secure the job at HP.

Geneva also served as President of the Layer 8 Systems and Security Club. She earned a scholarship from the College of Engineering and Computer Science. Earlier this year she worked at an internship in security analysis at the Aerospace Corporation.

Geneva earned a Varsity N academic award. These student-athletes were recognized for having achieved a 3.2 GPA over the previous two semesters while playing at least one season of varsity competition at CSUN. She was also named All-Academic by the Association of Collegiate Water Polo Coaches (ACWPC). Additionally, she was named to the Big West All-Academic team where she scored two goals along with five assists, three steals and two field blocks in 21 games.



# CAL POLY POMONA

## OUTSTANDING ACADEMIC

### ELIZA HERNANDEZ • BIOLOGICAL SCIENCES

Eliza Hernández was a Biological Sciences major with an Option in Zoology and a minor in Chemistry at Cal Poly Pomona. She graduated in Spring 2015 with a 3.88 GPA. Her interest in environmental science has evolved throughout her undergraduate learning and led Eliza to pursue a career in environmental conservation to sustain biodiversity in Southern California. She plans to apply to graduate school to research anthropogenic impacts on Southern California ecosystems.

Eliza engaged in various undergraduate research experiences that focused on studying human impacts on local ecosystems. As an Environmental Toxicology Intern, Eliza had the opportunity to participate in research at the Pacific Coast Environmental Conservancy (PCEC) at CSU Long Beach under Jesus Reyes. She investigated and quantified chemical contamination in local marine habitats, as well as in resident organisms. After her internship, she continued to conduct research at Cal Poly Pomona that focused on nitrogen deposition, an anthropogenic impact unique to Southern California. Working with her research mentor, Dr. Erin Questad, she studied the effects of nitrogen deposition on arthropod communities and investigated how the deposition affected the litter decomposition of a native California grass versus that of an invasive grass. She performed research with the help of the SEES Research Apprentice Program funded by the Hearst Foundation, the Ronald E. McNair Scholars Program, and the Ernest Prete Jr. Environmental Science Student Research Fellowship. Winner of the prestigious Dr. Paul C. Hiemenz Scholarship, she was honored at the Hilda Solis Scholarship Dinner & Reception.

## OUTSTANDING ACADEMIC

### ANTONIO AGUAYO • BIOLOGICAL SCIENCES

Antonio Aguayo was a major in the Biological Sciences Department with an emphasis in Microbiology, and a minor in Spanish at Cal Poly Pomona. He graduated in Spring 2015 with a 3.82 GPA and ten consecutive quarters on the Dean's List. Coming from a small Mexican city where the majority of the population lived in poverty and access to an education or a physician was a luxury most families couldn't afford, the transition into an undergraduate program in the College of Science was a turbulent one. However, with the support of his family and mentorship of his former physician, he managed to maintain a high level of motivation during his academic career.

Antonio performed research in neurobiology under the direction of Dr. Andrew Steele and studied the circadian rhythms of food anticipatory activity in mice in dopamine D1 receptor knockouts. His projects aimed at identifying the neural circuitry behind these rhythms in response to restricted feeding. He was also a volunteer student in the Department of Neurological Surgery under Dr. Mark Krieger, Chief of Surgery at Children's Hospital of Los Angeles.

Antonio received many student scholarships in support of his research and academics. These awards included the SEES Pre-Professional Research Fellowship, NSF S-STEM Scholar, David F. Steele Pre-Professional Scholar, Kellogg Undergraduate Research Scholar, and was honored at the 2015 Hilda L. Solis Scholarship Dinner & Reception. Antonio's decided to attend medical school specializing in pediatric neurosurgery. He gained early admittance into Western University School of Health Sciences.



## OUTSTANDING RESEARCH LUCAS DE BUREN • CIVIL ENGINEERING

Lucas De Buren is a Civil Engineering major at Cal Poly Pomona and will graduate in December 2015. He has excelled academically and was named to the Dean's List for 11 consecutive quarters and the President's List every year. Lucas has been a part of the Tau Beta Pi Engineering Honor Society since 2014.

Lucas is working as a research intern for the Watershed Resource and Policy Initiative Program on developing a protocol for Inland Water Desalination Brine Management for Central California. He is also working on developing a procedure for the fiber modeling of Unbonded Post Tensioned (UPT) Precast Concrete Walls using SAP-2000 software. He plans to pursue a Ph.D. in Structural Engineering with an emphasis in seismic design and preventative measures. Lucas' passion for learning comes from being able to solve complex problems through innovative developments to help increase public safety. He participated in the summer REU Program at Cal Poly as part of the McNair Scholars Program in 2014, where he worked alongside Dr. Felipe Pérez, in identifying discrepancies in fiber model analyses of Unbonded Post-Tensioned (UPT) Precast Concrete Walls using DRAIN-2dx. He has presented his findings at multiple conferences, including the Emerging Researchers National Conference in Washington D.C. Through the Achieve Scholars Program at Cal Poly Pomona, Lucas is working with Dr. Ali Sharbat, developing a technological review of innovative technologies for water reuse and control of contaminants of emerging concern (CEC's) in water effluents from inland desalination and water treatment plants throughout Southwestern United States.

## OUTSTANDING RESEARCH DAVID VELAZQUEZ • CHEMISTRY

David Velazquez graduated from Cal Poly Pomona in Winter 2015 as a major in the Chemistry & Biochemistry Department. He is a first generation Hispanic student and the first to graduate from a four-year university in his immediate family. His goal is to obtain a Ph.D. in Inorganic Chemistry and to eventually enter industry, working at a well-established chemical company. He was recognized on the Dean's List during eleven quarters, finishing with a 3.73 GPA. David was awarded a CSU-LSAMP research fellowship and scholarships from the Chemistry & Biochemistry Department and NSF.

David performed research under the direction of Dr. Michael F. Z. Page. The research work was to develop and synthesize renewable green polyurethanes. Polyurethanes are heavily employed in many commercial products, but the source to create them comes from non-renewable petroleum. Using various plant oils, which are renewable resources, he was able to synthesize environmentally friendly polyurethane plastics. Tests were performed on the products to analyze their thermal properties in order to determine if they would be competitive with current materials. Following the completion of his research project, he went to two conferences to present his work. He participated in the Southern California Conference for Undergraduate Research and at Emerging Researchers National (ERN) Conference in STEM in Washington, D.C. At ERN, he was awarded 1st place in Chemistry for undergraduate posters, an award that bears national recognition. David was also involved in the American Chemical Society (ACS) and in tutoring chemistry and physics.



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# SACRAMENTO STATE



## OUTSTANDING ALUMNUS ERIC GUERRA ELECTRICAL & ELECTRONIC ENGINEERING

**E**ric Guerra was a member of the third cohort of CSU-LSAMP students at Sacramento State, entering the program in 1996. A child of migrant farmworkers, Eric grew up picking fruit in the fields of northern California with his family members.

Coming from a background of poverty and hard work, he has been devoted to improving opportunities for others through a life of public service. While excelling as an engineering student, he was elected President of the Associated Students of Sacramento State, and also served as student trustee to the California State University. After graduating with a degree in electrical and electronic engineering, Eric entered the Assembly Fellows Program, which placed him as a staff member in the office of a California legislator. He earned a master's degree in Public Policy and Administration in 2008, and has served as staff, and chief of staff, for assembly members who share his values. He has put his background in electrical engineering to good use, working on legislation that advances alternative energy solutions. He wrote the landmark California Dream Act while working for Assemblyman Gil Cedillo, which has dramatically improved the quality of life for countless Californians.

Eric has served on the Sacramento County Planning Commission for five years, including two years as chair. He is president of the Sacramento State Alumni Association. Most recently, Eric was elected to the Sacramento City Council, representing the neighborhood he has lived in since his days as a college student.

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## OUTSTANDING SCHOLAR NATALIE FLORES BIOLOGICAL SCIENCES

**N**atalie Flores is a senior at Sacramento State majoring in Biological Sciences with a concentration in Ecology, Evolution and Conservation. Throughout her education, Natalie has maintained a high-level of involvement in several organizations, including CSU-LSAMP, the Science Educational Equity Program, the Peer Assisted Learning (PAL) Program, McNair Scholar Program, and the Field Biology Group. Natalie is a true scholar who brings a passion for learning, in both the classroom and field, to her peers. She currently works as a PAL Facilitator, where she facilitates the learning of a small cohort of students in second semester general chemistry. In addition to her academic accolades, Natalie is involved in undergraduate research at Sacramento State under the mentorship of Dr. Ronald Coleman, studying parent-offspring communications of convict cichlids. Her research experiences include the SEE/LSAMP Introduction to Science Research Program, the SEE/LSAMP Academic Year Research Scholars Program, and the McNair Scholars Program. In her own words, Natalie feels it is her duty, as a steward of the earth, to conserve and protect life, which has driven her volunteer efforts and professional development as a student. In turn, Natalie wants to pursue a graduate degree and a career in academia where she can share her passion for the study of living organisms. This past summer, she traveled to the University of Vermont where she engaged in an REU Program researching the human impacts on the Lake Champlain Ecosystem. Natalie is expected to graduate in Fall 2015.

## OUTSTANDING RESEARCH JAIME FUENTES BIOLOGICAL SCIENCES

**A**s a student working towards his B.S. in Biological Sciences with an emphasis in Biomedical Sciences, Jaime Fuentes has dedicated himself to learning, teaching and developing a variety of laboratory skills in the areas of microbiology, molecular biology, and genetics. This groundwork has led to a research project focused on the microbial effects on wound healing in a diabetic mouse model. Dr. Thomas Peavy and Dr. Robert Crawford, in the Department of Biological Sciences at Sacramento State, mentor Jaime, who has extensive personal experiences with diabetes through family members, as well as his participation in health education programs for diabetic patients. His project is a part of a cross-institutional collaboration with Dr. Rivkah Isseroff at the University of California, Davis. Jaime's research has gained local accolades as his poster, with his research partner Clayton Wagner, was awarded first prize at the 2015 Provost's Research Symposium. In addition to research, Jaime has been involved in various activities and communities that have fostered and welcomed a differing perspective. He has participated as a member of the ceramics club, the Science Educational Equity Program, and has served as a teaching and learning assistant for undergraduate, lower- and upper-division courses. Jaime will be graduating Spring 2016 and will continue his education in the field of bacterial pathogenesis at the Master's level in Dr. Robert Crawford's lab at Sacramento State. Jaime aspires to attend medical school and become a general practitioner.





**OUTSTANDING ACADEMIC & RESEARCH**  
ILIA GONZALES • MATHEMATICS

Ilia Gonzales is an undergraduate student completing her B.A. degree in Mathematics at CSU San Bernardino. Ilia has maintained an impressive major GPA of 3.891 and overall GPA of 3.762, and has conducted research on Graph Theory and Knot Theory. She started her research in Graph Theory for the PRISM program at CSU San Bernardino in summer 2012, where she worked on the topic of Radio Labeling of Cycle Graphs under the mentorship of Dr. Min-Lin Lo. She did an independent study on Knot Theory during the winter quarter of 2014 under the guidance of Dr. Rollie Trapp. She continued Graph Theory research in the summer of 2014 for a REU at CSU San Bernardino on the Radio Labeling of Seventh Powered Graphs with Dr. Min-Lin Lo as her advisor again. She has disseminated her research at several Mathematical Association of America (MAA) conferences, at the Annual Joint Meeting of the MAA and the American Mathematical Society, and also at the ERN conference. Ilia already had the goal of attending graduate school when she started her undergraduate studies. She joined CSU-LSAMP in 2011, as a freshman, and has been an outstanding participant in the program. Ilia expects to graduate in December 2015, and plans to apply for Ph.D. programs in Fall 2016.

**OUTSTANDING ACADEMIC**  
JESSICA LUNA RAMIREZ • MATHEMATICS

Jessica Luna Ramirez graduated from CSU San Bernardino with a B.A. in Mathematics in 2012. Jessica is the oldest child of Mexican immigrant parents and a first generation college student. During her college career she was a member of CSU-LSAMP from 2009 until she graduated, participating in research and graduate school activities. She did research on Graph Theory under the mentorship of Dr. Lo. Jessica presented her research at several mathematical meetings, more prominently at the 2012 Mathematics Annual Joint Meetings, held in Boston. Jessica also received the Math and Science Scholar (MASS) scholarship for the duration of her undergraduate career. She became an expert facilitator and worked for the CSU San Bernardino LSAMP Math summer program, peer mentoring many LSAMP students. Jessica has a daughter named Luna, who was born while Jessica was still in college. Having a child made it difficult for her to complete her undergraduate requirements but she did it with distinction. Jessica was admitted into the M.A. program in mathematics at CSU San Bernardino in Fall 2012. She will finish her degree this fall. Her career goal is to become a community college math professor.



**OUTSTANDING RESEARCH**  
GILBERT FELIX • MATHEMATICS & COMPUTER SCIENCE



Gilbert Felix is a first generation college student at CSU San Bernardino, majoring in Mathematics and Computer Science. Gilbert started his undergraduate studies at San Bernardino Valley College. He transferred to CSU San Bernardino in 2013, and joined the CSU-LSAMP program. Gilbert's goal is to attend graduate school in mathematics, and he has been very active in the graduate school preparation activities of the CSU, San Bernardino LSAMP program.

Gilbert participated in the Graph Theory REU program at CSU San Bernardino. Under the mentorship of Dr. Lo, Gilbert did research on Radio Labeling for seventh powered path graphs during Summer 2014. During the 2014-15 academic year, he presented his research at several local and national conferences. The two national conferences in which he presented research are the Joint Annual Meeting of the Mathematical Association of America and the American Mathematics Society, and the Emerging Researchers National (ERN) Conference in STEM. Gilbert plans to graduate in 2017 and apply to Ph.D. programs in Mathematics.

**OUTSTANDING RESEARCH**  
NICOLE LOPEZ • PHYSICS

Nicole Lopez is a sophomore at CSU San Bernardino, majoring in Physics. Her progress in LSAMP has been very swift. She joined the CSU-LSAMP program in the winter quarter of 2014, and immediately applied to research programs. She was admitted into the CREST research program for Spring 2014, and also participated in the PRISM program during Summer 2014. Since her freshman year she has been working under the mentorship of Dr. Tim Usher in the Physics department working on material science. Nicole presented her research at the 2015 Emerging Researchers National (ERN) Conference in STEM in February, and the Southern California Conference for Undergraduate Research (SCCUR) in 2014. Nicole has also attended the Lincoln Nebraska CREST conference in order to gain exposure to the research of the other scholars. In addition, she has presented her work to her peers. In summer 2015, Nicole received a summer internship with the NASA Armstrong Flight Research Center where she worked at their Aero institute. Nicole expects to publish the work on piezoelectric materials she did with her fellow lab partners in spring 2016. Nicole's career goal is to complete her Bachelor's degree and gain acceptance into a Ph.D. program.



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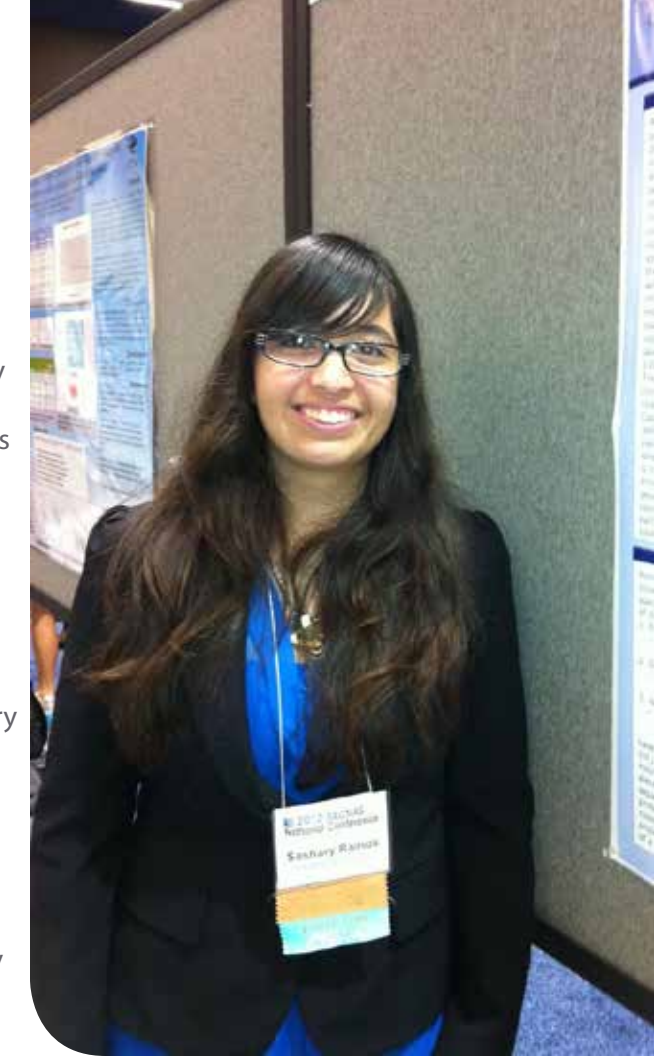


**OUTSTANDING RESEARCH**  
**SASHARY RAMOS • CHEMISTRY**

**S**ashary Ramos, graduated with a B.S. in Chemistry in Spring 2015. She first stepped onto the SDSU campus as a high school student who spent her summers working in an office that assisted students in becoming competitive for doctoral programs in STEM fields. During that time, Sashary discussed her interest in science, specifically chemistry with the students. She was also able to shadow a college student in the analytical chemistry lab of Dr. William Tong. She spent the next four years conducting research in the Tong lab leading to over ten presentations and one publication.

Sashary enjoys sharing her passion for chemistry and research with other students. Sashary allowed students to shadow her in the lab; led tours of the labs during SDSU's Science Sampler days; presented to the CSU-LSAMP summer program students, offering them tours; and is a mentor for a female engineering student through her participation in Alpha Omega Epsilon, a professional sorority for women in STEM. Sashary served as the Executive Director for the Student-Mentored Academic Research Training (S.M.A.R.T.) Club. She also assisted in setting up lab tours for over 50 high school students in the Mesa STEM Engagement for the Enrichment of Diverse Students (SEEDS) program.

Sashary wants others to see how exciting science and research can be and promote careers in the sciences, especially to females. She entered into the chemistry doctoral program at Indiana University in July 2015, where she will continue her practice of mentoring students in the STEM fields.



**OUTSTANDING ACADEMIC & RESEARCH**  
**ALICIA ZAMUDIO MONTES DE OCA • BIOLOGY & PSYCHOLOGY**

**A**licia Zamudio Montes de Oca graduated summa cum laude in 2015 with a B.A. in both Biology and Psychology. She was selected as the outstanding graduate in the department of biology.

Through her participation in CSU-LSAMP and the Institute for Maximizing Student Development (IMSD) programs, Alicia began conducting research in the Cell & Molecular Biology laboratory of Dr. Ralph Feurer. Alicia became more involved in neuroscience and added a double major in biology. Alicia continued to conduct research in the Feurer lab and, in the summer of 2013, was selected as an intern at Massachusetts Institute of Technology in the Picower Institute for Learning and Memory. MIT researchers were so impressed with Alicia they asked her to return as a visiting student for spring and summer 2014. After returning to SDSU, Alicia was accepted into the prestigious SDSU Stem Cell Internship Program where she joined the lab of Dr. Jing Zhao at Sanford-Burnham Medical Research Institute. Throughout these research experiences, Alicia has had over ten research presentations, one submitted publication, and one in preparation.

Over her years at SDSU, Alicia has been an outstanding research scholar and excellent honor student. Alicia applied to 13 competitive Ph.D. programs in biology and biomedical science including MIT, Harvard, Stanford, UC Berkeley, etc. She was invited to 12 interviews and accepted to 10 programs. Alicia is excited to be attending MIT this fall in the Ph.D. program in Biology.




# SAN DIEGO STATE UNIVERSITY

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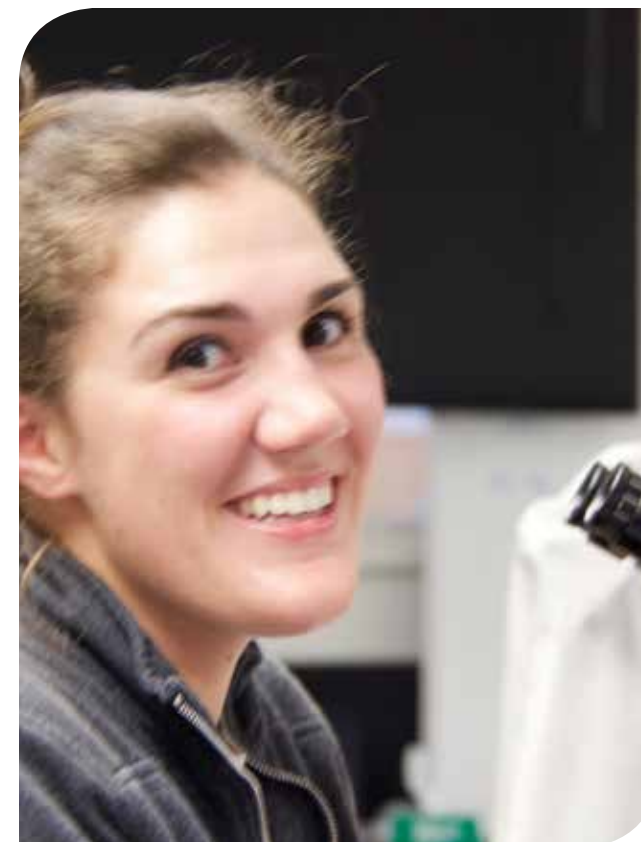
# SAN FRANCISCO STATE UNIVERSITY



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## OUTSTANDING RESEARCH & SERVICE/ LEADERSHIP PINGDEWINDE SAM PHYSIOLOGY

**P**ingdewinde Sam (Sam) is an exceptional young scientist and humanitarian. Sam's originally from Burkina Faso, a small developing nation in West Africa, which Sam says, is "a country with a future." Through a green card lottery, Sam came to the United States in 2008 without his family. Because people in Burkina Faso face a 9.1% infant mortality rate and a life expectancy of 56 years, Sam made the decision to help improve conditions in his home country. In 2011, Sam founded a non-profit organization, Teêbo, to fight poverty in Burkina Faso and improve and maintain the health of the Burkinabés through education and humanitarian work (<http://www.teebo.org>). Sam knew research was going to be required to address these problems so he sought research opportunities and secured a position in the laboratory of Dr. Linda Noble at UC, San Francisco. In the Noble lab, Sam used various instruments to assess motor performance and evaluate behaviors in mice to investigate the behavioral consequences of traumatic brain injury at adolescence. Their group demonstrated that age at time of injury should be considered when developing therapies for brain-injured children. The results of his work were published in PLoS ONE (Semple BD, Noble-Haeusslein LJ, Jun Kwon Y, Sam PN, Gibson AM, et al. (2014) Sociosexual and Communication Deficits after Traumatic Injury to the Developing Murine Brain). Sam received his B.S. in Physiology from SFSU in spring 2015 and began graduate work at Johns Hopkins University in Fall 2015 while continuing his work with Teêbo.



## OUTSTANDING RESEARCH BRIDGET HANSEN MICROBIOLOGY

**B**ridget is a first generation college student who comes from a working class family of Native American heritage. From the age of fifteen, Bridget has held a job of some kind, which she says has helped her develop a strong work ethic, time management skills and the ability to communicate with people from various backgrounds—all of which helped in her transition to college. These skills became even more critical when Bridget had to become financially and socially independent in her freshman year. Bridget continued to work full time to support herself because she knew that getting her education was critical to breaking out of the pattern that she had seen growing up.

Bridget is deeply committed to her current research project in marine microbiology because she has "strong feelings towards the way our earth is being treated, how the animals all the way down to microbes are affected and how we are interconnected." Bridget has participated in the CSU-LSAMP, RISE and MARC research programs and she recently received the Howard Hughes Medical Institute-Exceptional Research Opportunities Program (HHMI-EXROP) award. She has the goal of becoming a professor at a research university.

# SJSU SAN JOSÉ STATE UNIVERSITY



## OUTSTANDING ACADEMIC CANAAN MULNEUH CHEMISTRY

Canaan Muluneuh started his college education at San Jose State University in Fall 2013. Although he first declared a major in Biological Science, he found that he also enjoyed his chemistry course work and elected to change his major to Chemistry with a concentration in Biochemistry. His current GPA is a 3.83. Because of his strong performance in his chemistry course work, Canaan was able to be a workshop facilitator for a CSU-LSAMP summer preparation workshop for General Chemistry.

Canaan is still deciding whether he wants to continue to a Ph.D. or an M.D. degree. He recently started doing research in the laboratory of Dr. Alberto Rascon, a biochemist. Dr. Rascon's research focuses on the digestive enzymes (proteases) of the virus carrying mosquito, *Aedes aegypti*. These enzymes play an essential role in digesting blood meal proteins for nutrient release needed for the egg laying process. His group hopes to develop inhibitors against these proteases, with the idea of minimizing the mosquito population, and hence, minimize viral transmission. Canaan is working in collaboration with another student on AaET, an early trypsin enzyme involved in the digestion process.

## OUTSTANDING ALUMNUS CHRISTIAN ESPINOZA MATERIALS ENGINEERING

Dr. Christian Espinoza received his B.S. degree in Materials Engineering from San Jose State University in May of 2009. He received his Ph.D. in Materials Science and Engineering from the University of Illinois at Urbana-Champaign in May of 2014. His thesis is titled "Design and Fabrication of Ceramic Beads and Laminated Composites for the Study of Stress Wave Mitigation." His research was funded by the Department of Defense (DoD) under the Multidisciplinary University Research Initiative (MURI) and the Graduate Research Fellowship Program of the National Science Foundation (GRF-NSF).

Dr. Espinoza's professional experiences include working with Engineers without Borders. He spent several weeks in Guatemala working to improve water quality for local villagers ("Guatemala Biosand Water Filter Project"). Results included designing and conducting an instructional program to teach Guatemala villagers about the benefits of using the biosand water filter. He then participated in developing and installing three prototypes to repair biosand water filters. Dr. Espinoza also has held several internships throughout his education including: testing carbon nanotube composites at NASA Ames Research Center; developing new synthesis processes for ablators at Boeing Materials and Process Technology; and analyzing the microstructure of complex ceramics for Fiberlite Technologies, Inc.

He is currently employed as an advanced Engineer/Scientist at Owens Corning in Ohio working on hybrid composites for the automobile industry. In his free time, Dr. Espinoza serves as a mentor for students in the educational pipeline through the Society of Hispanic Professional Engineers and Scientists (SHPE).



## OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP ANGEL GONZALEZ MECHANICAL ENGINEERING

Angel Gonzalez began his education at San Jose State University in Fall 2012. As a mechanical engineering major, Angel is excelling in his course work, maintaining a B+ average. Soon after starting at SJSU, Angel became involved in the Society of Latino Scientists and Engineers (SOLES) and currently serves as a Co-Vice President for this very active club. He also served as the Chair for Science Extravaganza, one of SOLES main activities. Science Extravaganza, hosted by SOLES with the support and participation of industry professionals, campus organizations and current SJSU students, is a one-day endeavor that aims to generate an interest among younger students in the STEM fields while reinforcing the value of higher education through activities, and role modeling. Participants have the opportunity to conduct a number of experiments across technical and scientific fields, speak and learn from industry professionals and current SJSU students, while attending presentations.

Angel also participated in the Summer 2015 Global Technology Institute (GTI) in Taiwan. He is one of 25 SJSU students selected to participate in an intensive three-week workshop at Chung Yuan Christian University in Jungli, Taiwan. As stated in the GTI website "The International Innovation and Entrepreneur Leadership workshop offers the opportunity for engineering students to create an innovative product and then develop a business model to market it."

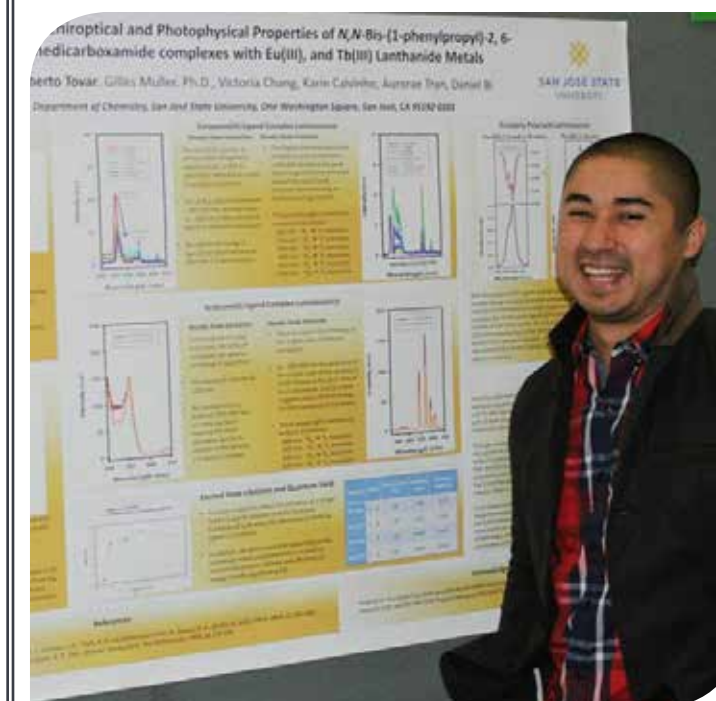
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## OUTSTANDING RESEARCH ROBERTO TOVAR • CHEMISTRY

Roberto Tovar started his education at San Jose State University in the fall of 2008 as an economics major. A challenge from his sister led him to enroll in a General Chemistry class. He found that he excelled at chemistry and elected to change his major. As he progressed in the courses, he got the opportunity to do research with Dr. Gilles Muller, an inorganic chemist. Roberto's research involves investigation of the photophysical and chiroptical properties of lanthanide complexes, with the potential for biological probing. The photophysical characteristics he studied were efficiency of energy transfer, lifetimes, and quantum yield (QY) through steady-state and time-resolved luminescence at 298 K and 77 K. His data supports the existence of 1:3 species of R,R (L(Et)) and lanthanide(III) complex present in solution when ligand is in excess. This research experience fortified the scientific training he received in classes and challenged him to acquire skills operating sophisticated analytical instruments. During his three years of undergraduate research he produced sufficient results for two poster presentations and a publication in the journal *Tetrahedron Letters*.

In a desire to explore the world, Roberto did a semester abroad in Germany. This experience led him to apply for the NSF-iREU program in France. After he graduated in May 2015, Roberto traveled to France to spend six months at CEMES-CNRS Laboratory in Toulouse doing research with Dr. Andre Gourdon on the novel synthesis of long-chain hydrocarbons with the potential for superconductivity.



# CAL POLY

SAN LUIS OBISPO

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP

JEFFREY SILVA • ENGINEERING

Jeffrey Silva, an Industrial Engineering major, has been extremely involved in the campus and local communities. He is an active participant in the LSAMP program, but also serves as the President of the Society of Hispanic Professional Engineers (SHPE), Vice President of the Partner Ambassadors, Alternative Breaks Coordinator for the Center for Community Engagement, a Multicultural Engineering Program volunteer, a College of Engineering Ambassador, and an Honorary Board Member of Delta Tau Delta.

As President of SHPE, Jeffrey has actively recruited his fellow SHPE members to join LSAMP, and has strengthened the relationship between Cal Poly's LSAMP program and SHPE Chapter. In the past year, he created more opportunities for students to network with professionals and enter leadership positions while simultaneously developing programming that made the infrastructure of the Society more sustainable. Additionally, Jeffrey facilitated networking sessions between first generation students and industry representatives, workshops preparing the Hispanic community for college applications, finding scholarship opportunities, and workshops about the benefits of entering the STEM fields. He also attended the SHPE National Conference, where he developed his leadership and mentorship skills and networked with industry members.

Jeffrey is also proud of his involvement with the Partners Ambassadors program -where he focuses on K-12 outreach among underrepresented student populations - and with the Center for Community Engagement, where he serves as the Alternative Breaks Coordinator. This year he coordinated community service trips to New Orleans and Chicago, where students worked with non-profit agencies on projects combating homelessness, environmental issues, and food insecurity.



## OUTSTANDING COMMUNITY DEVELOPMENT AND SOCIAL CHANGE ADVOCACY

ROCIO GONZALEZ • NUTRITION SCIENCE

Rocio is a Nutrition Science major, first generation college student, and an active participant in many organizations at Cal Poly, San Luis Obispo, including CSU-LSAMP. She's a member of the Student Diversity Advisory Council in the Office of Diversity & Inclusivity, where she has worked on such projects as restructuring the cultural sensitivity training for orientation leaders and increasing the amount of culturally diverse artwork on campus. As a Peer Advisor for Student Academic Services' First Year Seminar and a Coordinator for Cal Poly's Orientation for United Raza, she oriented, advised and provided resources for over 50 first generation college students. Rocio has earned her distinction as Outstanding Community Development and Social Change Advocate for integrating her social justice knowledge with her STEM major, as is evidenced by her research projects. The first project she was involved in focused on obesity prevention for pregnant women of color. She presented her second research project, entitled "Infants Eating Junkfood? Feeding Practices in a Diverse Population," in a poster presentation at Cal Poly in May 2014, and at the Obesity Week/Obesity Society Annual Conference in Boston, MA in November 2014. This work examines maternal infant feeding practices in vulnerable populations, and how these practices relate to an increased risk of chronic health diseases. Rocio worked as a health policy intern with the Latino Coalition for a Healthy California in Sacramento during summer 2015, where she further explored the connections between scientific research, policy, practice, and lived experiences in the area of food justice.

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## OUTSTANDING RESEARCH

ALICIA ROMERO • MICROBIOLOGY

Alicia Romero graduated with a B.S. in Microbiology from Cal Poly, San Luis Obispo in June 2015. She transferred to Cal Poly in 2012, but her interest in STEM started long before then. In high school, she shadowed a community college professor in a molecular biology lab where she gained hands on experience with tissue culturing and PCR reactions. Her first full-time research experience, in the summer of 2013, was under the guidance of Dr. Harber at Oxnard College. Her research aimed to develop an alternative method to indirectly identify algal species via genetic detection of associated aquatic bacterial species. In the following year, she presented a poster of her work at three national research conferences. In the summer of 2014, she was accepted into the Amgen Scholars Stanford Summer Research Program where she solidified her desire to pursue a Ph.D. in Molecular Biology. She presented her research from Stanford as a poster and as an oral presentation at three national conferences and was awarded a Runner-up Prize at the LSMCE (Louis Stokes Midwest Center of Excellence) Conference for her poster. During her last year at Cal Poly, she conducted research in Dr. Michael Black's lab, where her group worked to generate a therapeutic strain of *Lactobacillus reuteri* for pro biotic use in Celiac Disease. She also spoke on the LSAMP Undergraduate Research Experiences Panel in Fall 2014. She is currently pursuing admission into postbaccalaureate programs before applying to graduate school.



## OUTSTANDING ALUMNA

NICOLE PERETTI • BIOMEDICAL ENGINEERING

Nicole has earned recognition as Cal Poly, San Luis Obispo's Outstanding Alumna because of her tremendous academic success and her ongoing dedication to the CSU-LSAMP program. Nicole recently graduated with a 4.0 in the Biomedical Engineering Master's program at Cal Poly. She participated in a CSU-LSAMP Global Awareness Experience at the Innsbruck Medical University Genetics Lab in Austria in 2012, and identifies this as the first stepping-stone to her success today. Not only did she meet a life-long friend through this experience, but the research she did in Austria opened doors to future presentations and networking. For example, Nicole presented her Austrian research on protein expression in liver function at both ABRCMS and ERN, and was invited as a guest speaker at an ERN International STEM Research Collaboration Session in 2012. As a result of the connections she made at these ERN presentations, Nicole was offered an off-campus summer research opportunity at Duke University in the Laboratory for Psychiatric Neuroengineering in 2012. This research experience was supported by a Sally Cassanova Pre-Doctoral Scholarship. During her summer research experiences at Duke University, Nicole received an invitation to participate in a one-year research internship at the Alberto Santos Dumont Association for Research Development Clinical Neuroscience Lab in Brazil. When she returned to Cal Poly to finish her graduate studies in 2014-15, Nicole reconnected with the LSAMP program to share her success story in a panel discussion where she motivated other students to participate in undergraduate research and international experiences.





# California State University SAN MARCOS

## OUTSTANDING SERVICE/LEADERSHIP TANYA ESPINO • BIOCHEMISTRY



**T**anya transferred to California State University, San Marcos from Palomar College, and is now in her third year pursuing a biochemistry degree. Tanya joined the Chemistry Laboratory of Dr. Sajith Jayasinghe where she studies protein structure and folding. Specifically, she is working to elucidate the conformation of certain peptides and their ability to interact with artificial lipid membranes and membrane-mimetic environments, as a first step toward determining possible mechanisms of membrane interaction. Tanya presented research findings from this work at 27th Annual CSU Program for Education and Research Biotechnology Symposium earlier this year. This past summer, Tanya further participated in a Genetics and Biochemistry Summer Program at Ohio State University. In addition to her academic work and research, Tanya is involved in service and leadership activities. She is the Public Relations Officer for the CSU San Marcos local chapter of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS). Tanya is leading the growing number of SACNAS members in STEM outreach activities, including hands-on workshops, targeted primarily to underrepresented minorities in underserved high schools. She contributes to organizing professional development activities for undergraduates and peer-networking events. In 2014, she attended the SACNAS Annual Meeting with the help of a CSU-LSAMP Travel Award. Earlier this year, Tanya was awarded two American Association of University Women scholarships in recognition of her academic excellence. Tanya has been a CSU-LSAMP Scholar since 2013 and her academic goal is to obtain a doctoral degree in biochemistry.

## OUTSTANDING ACADEMIC JOSEPHINE GONZALEZ • BIOLOGY

**J**osephine Gonzales graduated with a biology degree from California State University, San Marcos (CSUSM) in 2015. A CSU-LSAMP Scholar since Spring 2012, she was awarded the prestigious Dean's Award from the College of Science and Math in recognition of her academic excellence, research endeavors and community outreach activities that include STEM ambassador, learning assistant for the STEM center, and Supplemental Instruction leader for Biostatistics. Josephine started her research career at CSUSM in the genetic laboratory of Dr. Denise Garcia where she extracted DNA from the Pacific Blue Shrimp. In summer 2013, she participated in the Leadership Alliance Summer Program at the University of Miami. That same summer she was accepted into the competitive Maximizing Access Research Careers (MARC) NIH funded program at CSUSM. She conducted research in the immunology laboratory of Dr. Julie Jameson. Her research focused on analyzing wound healing in renal transplant patients who were administered the immunosuppressant drug Everolimus. Josephine was Vice President for the local Chapter of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) and received two awards from SACNAS for travel to national conferences. Josephine also presented her research findings at the American Association of Immunology conference in Pittsburg Pennsylvania, among other conferences. In Fall 2015, Josephine will be joining the Biochemistry, Molecular & Cell Biology doctoral program at Cornell University.



## OUTSTANDING ALUMNUS THEO CROUCH II • COMPUTER SCIENCE



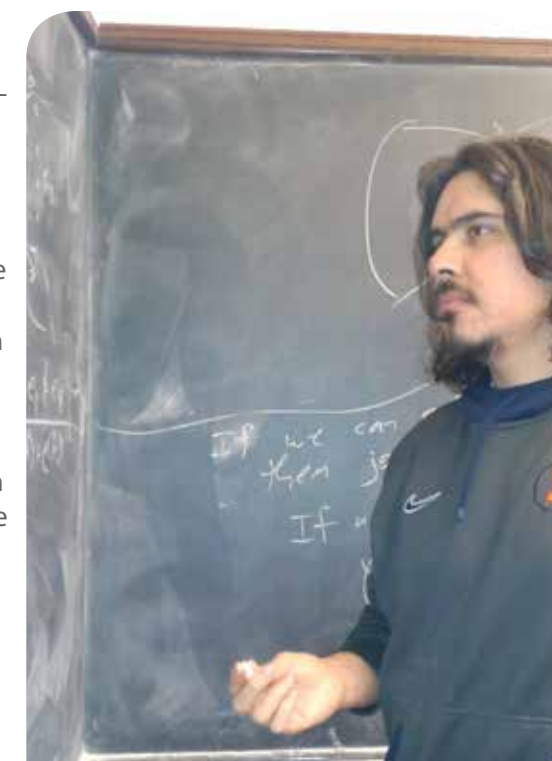
**T**heo Crouch II is an African-American veteran completing his second year as a doctoral student in Quantitative and Systems Biology at the University of California, Merced. Theo is performing research with Dr. Fabian Filipp in the Systems Biology and Cancer Metabolism Group at UC Merced on the differential mapping of transcriptional coactivation in prostate cancer.

Theo transferred from Palomar College to California State University, San Marcos, at which time he became a CSU-LSAMP Scholar. He graduated with a Bachelor of Science degree in Computer Science from CSU San Marcos in 2013. While an undergraduate at CSU San Marcos, Theo conducted research in the genetics research laboratory of Dr. Denise Garcia. His research focused on computationally analyzing biological data sets using Serial Analysis of Gene Expression (SAGE) to facilitate scientists' discovery of differentially expressed immune response genes. In Dr. Garcia's laboratory he incorporated his computer science expertise to study *Litopenaeus stylirostris*, western blue shrimp, as a model specimen for the innate immune system. In addition to his research, Theo was the founding student president of the local chapter of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) and was an active member in Phi Theta Kappa, an International Honors Society.

Theo is a recipient of the 2015 National Science Foundation fellowship in Life Sciences- Bioinformatics and Computational Biology in recognition of his excellence in research.

## OUTSTANDING ALUMNUS MICHAEL SANTANA • MATHEMATICS

**M**ichael Santana is completing his fourth year of graduate studies in the Department of Mathematics at the University of Illinois at Urbana-Champaign. Michael transferred from Palomar Community College and received a B.S. and M.S. in Mathematics from California State University, San Marcos. He received a perfect score of 800 on the math section of the Graduate Record Exam, which together with his other accomplishments earned him invitations to multiple Ph.D. programs. He has also received an M.S. in Teaching of Mathematics from the University of Illinois at Urbana-Champaign. He is currently researching extremal and structural problems in graph theory under the supervision of Professor Alexandr Kostochka. Michael has earned numerous awards, including the Dean's Most Outstanding Graduate for the College of Arts and Sciences from CSU San Marcos. Recently, he received a Ford Foundation Predoctoral Fellowship from the National Academy of Sciences in recognition of his research accomplishments. He has a publication in the Journal of Combinatorial Mathematics and Combinatorial Computing and three papers submitted for publication. Michael has presented his work at several conferences and has been an invited speaker at several universities across the country. In addition to research, Michael has a passion for teaching, evidenced by his Departmental Teaching Award and nomination for a campus-wide teaching award.



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### OUTSTANDING ACADEMIC & RESEARCH SHOUA LOR • BIOLOGY

Shoua Lor was born in a refugee camp in Thailand, and has witnessed the challenges faced by people from diverse backgrounds in navigating the U.S. healthcare system. This was the beginning of Shoua's interest in healthcare; an interest that became stronger as she entered college as a biology major with an applied statistic minor.

Shoua has participated in summer and volunteer opportunities to gain exposure to health professions and ways to contribute to underserved communities. In the summer of 2014, she provided administrative and logistic support to the Fatal Child Abuse and Neglect Surveillance program. As a Health Career Connection College Intern for South Sacramento Kaiser Permanente in the summer of 2013, she was involved in tracking and facilitating the process of two performance improvement projects. Shoua has also volunteered as a receptionist and a CalFresh enrollment assistant in the Jewish Community Free Clinic every semester since 2012.

Shoua is also a McNair Scholar with an ongoing research project under the guidance of Dr. Nick Geist since the fall of 2012. She observed western pond turtles (*Emys marmorata*) at the San Francisco and Oakland Zoos in order to assess the species phenotype, morphology, and competitive behaviors. She participated in four different research peer-reviewed poster symposiums and contributed to the McNair journals.

In the future, Shoua hopes to incorporate research into evidence-based practices within her profession and plans to take part in performance improvement projects. She will be applying to an Entry Level Masters of Science in Nursing program in Fall 2015.



### OUTSTANDING RESEARCH

#### VICTOR SOSA ALFARO • BIOCHEMISTRY

Victor Sosa Alfaro was born in Mexico, where he was raised until the age of six before immigrating to California. A first generation college student, he began his undergraduate career as a Chemistry major; a first step towards a medical career. Gradually the implementations of chemistry to biology caught his attention, and during his sophomore year he decided to combine his curiosity of chemistry and biology by declaring Biochemistry as his major.

In the last three years he has been engaged in research projects with Dr. Fukuto, a chemistry professor at Sonoma State. Victor's first research project was titled "The Effects of Nitroxyl (HNO) on Selenoprotein Thioredoxin Reductase" which was presented in both the annual Sonoma State McNAIR symposium and the 26th Annual CSU Biotechnology Symposium. Currently he is involved on the investigation of the chemical biology of persulfides. The ongoing progress of the project has been presented in four different symposiums and he plans to publish his results in the Sonoma State McNAIR Journal. He is thankful to the CSU-LSAMP and McNAIR Scholar programs for the support given to him throughout his undergraduate career. His future plan is to attend a Biochemistry master's program, beginning in the fall of 2015, in preparation for a doctorate graduate program. The decision to continue his education at a doctorate level was influenced by his undergraduate course work, involvement with CSU-LSAMP and McNAIR, and his research experience.



### OUTSTANDING INTERNATIONAL EXPERIENCE TRAVIS HAYES • MATHEMATICS

Travis Hayes was born in San Francisco, California and grew up in Napa, California. He is currently in his third year at Sonoma State University. He came to SSU with the aspiration of being a middle school or high school mathematics teacher, but after being introduced to the CSU-LSAMP Program, Travis is now aiming to become a university math professor. During his time at SSU, Travis has presented two projects at the M\*A\*T\*H Colloquium series, presented at St. Mary's College of Moraga, competed in the Mathematical Contest in Modeling, and is currently assisting Mr. Dowdall and Dr. Brannen in rewriting parts of a geometry textbook. Travis' planned graduation date is the Spring of 2016 and he will then continue his mathematics education in a Master's Program, beginning in the fall of 2017.

Travis had the opportunity to spend the summer of 2015 at Chiang Mai University in Thailand, participating in the CSU-LSAMP Global Awareness Program, conducting collaborative research with Thai faculty and local students. After a summer in Thailand, he will study abroad for three months in the CSU-LSAMP Costa Rica Fall semester program to learn about tropical biodiversity, quantitative field methods, and to develop an understanding of the Spanish language and the culture of Costa Rica.



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### OUTSTANDING RESEARCH KIMBERLY TREVINO • CHEMISTRY

Kimberly Trevino is originally from Fresno, CA. She began her undergraduate education as a kinesiology major with an intention to become a physical therapist but switched to chemistry after she became interested in exploring chemical methods for medicinal purposes. She joined Dr. Carmen Works' research team in the summer of 2012, working on the biological effects of chromium. In the summer of 2014, she began researching the quantification of a photo carbon monoxide releasing molecule using a binuclear rhodium(II) compound. Kim also participated in the CSU-LSAMP Global Awareness Program in Thailand where she researched computational methods studying HIV integrase enzyme. She has enjoyed being a supplemental instructor as well as a chemistry tutor. Kim graduated in the spring of 2015 and accepted an offer to the UC Davis Ph.D. program in chemistry with a Bradford Borge Fellowship. She is especially grateful for the support from CSU-LSAMP, the McNair Scholars Program, and the SSU chemistry department.



# California State University | Stanislaus

## OUTSTANDING ALUMNUS EDGAR CAMPBELL • BIOLOGY

Edgar Campbell is from the Central Valley of California and stuck close to home for his undergraduate education by attending CSU, Stanislaus. He became a Biology major during his sophomore year. Edgar's hard work in his biology courses led him to Washington University in St. Louis where he was selected to participate in The Genome Institute's Opportunities in Genomic Research 2011 summer research program. Edgar worked in the Siteman Cancer Center in the lab of Dr. Matthew Walter where he investigated the U2AF1 mutation's role in blood cancers. He learned a lot from his first lab experience and returned the next summer to continue the project, working in the lab of Dr. Timothy Graubert developing an assay to detect and measure a drug's efficacy in modulating the effect of the U2AF1 mutation in hematopoietic cell. His results earned the 1st place award in the undergraduate poster competition at the 2013 Emerging Researchers National Conference in STEM.

In 2013, Edgar graduated from CSU, Stanislaus and almost immediately boarded a plane to France. He participated in a two-month NSF international REU in the city of Grenoble. Edgar worked at the European Molecular Biology Laboratory (EMBL) in the lab of Dr. Ramesh Pillai. When the REU was finished, Edgar was invited to remain at EMBL. He ultimately remained in France for 18 months. His work resulted in a co-first author publication in RNA. Edgar will pursue his Ph.D. in Chemical and Systems Biology at Stanford University School of Medicine.



## OUTSTANDING SERVICE/LEADERSHIP BRANDON HALPIN • COMPUTER SCIENCE

Brandon Halpin transferred to CSU, Stanislaus from Modesto Junior College in Fall 2013 as a Computer Science major. As a student at Modesto Junior College, he was a founding member of the Electro-Mechanical Creations Club where he was the lead programmer in a team that competed in NASA's 2012 Robotic Mining Competition. He joined CSU-LSAMP in the spring of 2014, after which he began research in autonomous robotics and computer vision under the mentorship of Dr. Megan Thomas. His interest in robotics led to the creation of the CSU, Stanislaus Quadcopter research group, which worked to raise funds to purchase a quadcopter for use by the Computer Science department in present and future research.

Brandon also worked for the Central Valley Math and Science Alliance on campus as a mentor and tutor for students in STEM. He took his role as a mentor and tutor to heart and gained recognition among students and faculty for his ability to help students to navigate their coursework and academic life. He strives to share his passion for computer science with his peers and is constantly working to help them achieve their goals. He graduated with a B.S. degree in the spring of 2015 and plans to apply his knowledge in robotics and gain experience in the industry before pursuing a Ph.D. in Computer Science.



## OUTSTANDING SERVICE/LEADERSHIP ESHANI NANDITA • CHEMISTRY



Eshani Nandita is a senior chemistry major at California State University, Stanislaus. Selected as the 2014-2015 Outstanding Student for Bachelor of Science program in Chemistry, she also received the Dean's Excellence Award. She has been on the Dean's list for multiple semesters and has been recognized by Phi Kappa Phi, for her academic achievements. Eshani received a subject-specific undergraduate award in Analytical Chemistry from the American Chemical Society in 2013. Eshani has conducted research under the supervision of Dr. Scott Russell for two years and presented at the 26th Annual CSU Biotechnology Symposium, at the Conference for Undergraduate Women in Lincoln, Nebraska, and at the regional ACS Research Symposium. Her experience prepared her for a 2014 summer internship at Procter and Gamble in Cincinnati, Ohio.

Eshani has held multiple leadership positions at CSU, Stanislaus. She served as an LSAMP peer facilitator in organic chemistry for two semesters. She is the current President of the ACS Student Affiliates and helped organize Science Day and the Science Olympiad in 2015. Eshani was also the Vice President and co-founder of the Blue Green Hand Society where she collaborated with the Mangrove Action Project in fundraising to support the replacement of mangroves in areas where shrimp farming had left behind barren land. She attended leadership conferences in Houston and Orlando as the Executive Vice President of the National Society of Collegiate Scholars representing CSU, Stanislaus. Eshani brings her enthusiasm for the sciences into her service activities bringing meaning to her leadership roles.

## OUTSTANDING ACADEMIC EMMANUEL ESTRADA • MATHEMATICS

Emmanuel Estrada grew up in the small town of Empire, California as the youngest of five brothers. He is the first person in his family to attend college; neither of his parents completed high school. He is majoring in mathematics with a physics minor. Emmanuel is in his junior year at CSU, Stanislaus and has been on the Dean's List every semester. In recognition of his excellent academic performance, he has been invited to join two honor societies: Pi Mu Epsilon and Phi Kappa Phi. Emmanuel has participated in the challenging Putnam Competition two years in a row and received a positive score both times. Emmanuel has also been elected President of the student chapter of the Society of Industrial and Applied Mathematics (SIMA) at CSU, Stanislaus.

Emmanuel is involved in undergraduate research under the guidance of Dr. Jung-Ha An. Their research focuses on mathematical modeling of smoothing three-dimensional images of simulated brain data. Emmanuel has presented his research at the Joint Mathematics Meeting and the Northern California Undergraduate Mathematics Conference. He also participated in CSU, Stanislaus' Student Research Competition in which he won second place. In summer 2015, Emmanuel participated in a Research Experience for Undergraduates at the University of Nebraska, Lincoln. After graduating, Emmanuel plans to attend graduate school to pursue a Ph.D. in Mathematics.



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