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California State University Louis Stokes Alliance for Minority Participation

CSU-LSAMP

PROUD 2014

PROGRAM RECOGNIZING OUTSTANDING UNDERGRADUATE DISTINCTION



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It is my great pleasure to introduce CSU-LSAMP PROUD, the new annual publication of the California State University Louis Stokes Alliance for Minority Participation. This publication features outstanding students from throughout our Alliance, who are being recognized in our new Program Recognizing Outstanding Undergraduate Distinction (PROUD). These PROUD scholars have distinguished themselves in many ways: through their academic achievements, research experiences, service to their campuses and communities, post-graduation achievements, and through their compelling personal stories. CSU-LSAMP has been supporting students in STEM since 1993, and we're "proud" of what we've achieved as an Alliance. Within this publication we will feature some of those achievements and highlight some of our dedicated campus coordinators. However, the success story of CSU-LSAMP is truly best told through the successes of our students. I hope that you enjoy reading the profiles of our PROUD scholars and are as inspired by them as I am.

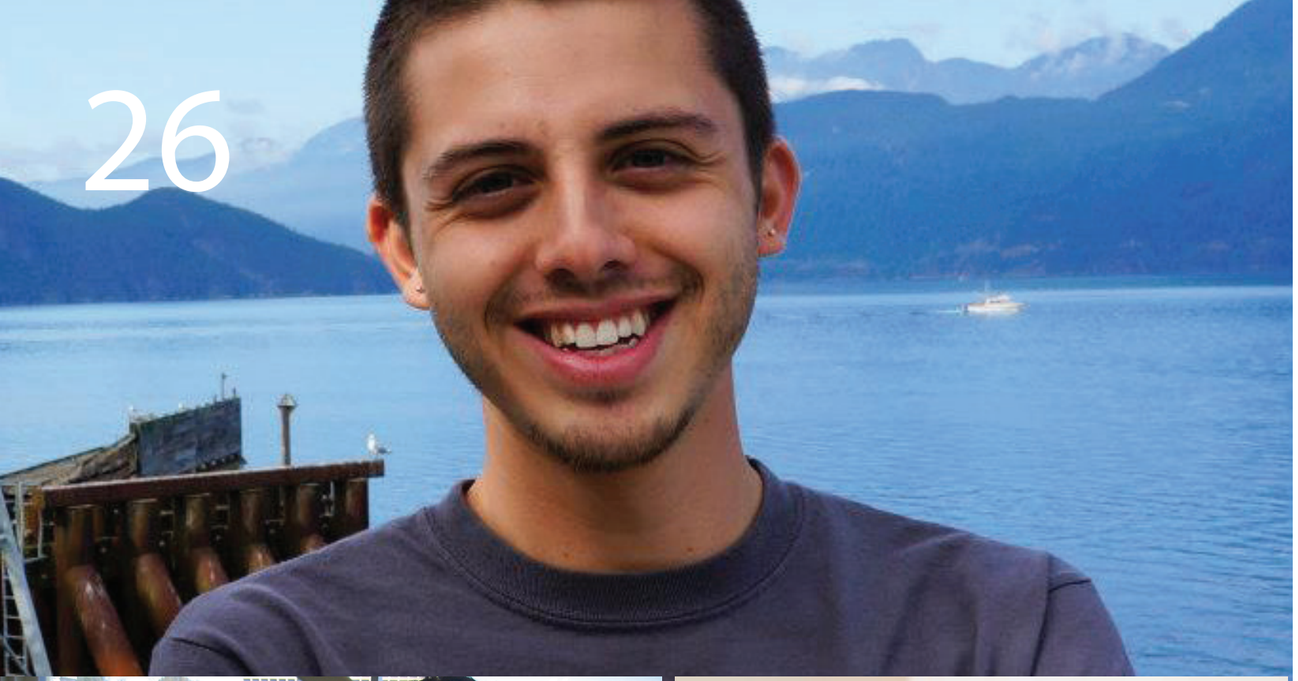
Lisa Hammersley, Ph.D.
Lead Project Director, CSU-LSAMP



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CSU-LSAMP

California State University Louis Stokes Alliance for Minority Participation

CSU-LSAMP STATEWIDE OFFICE

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CSU-LSAMP

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 science, technology, engineering, and mathematics (STEM) disciplines. Over its 20-year history, the CSU-LSAMP Alliance has grown to include all 23 campuses of the CSU, becoming a truly system-wide effort. The primary goals of CSU-LSAMP are to 1) enhance the academic and professional preparation of CSU-LSAMP participants, most of whom are students from underrepresented minorities (URM), for careers in STEM; (2) improve persistence and graduation rates for CSU-LSAMP participants; (3) increase aggregate production of STEM degrees awarded by the CSU to URM students; and (4) increase the number of CSU-LSAMP students who advance to STEM graduate study.

In its early years, CSU-LSAMP focused primarily on the academic preparation of students through hands-on advising, summer bridge programs and supplemental instruction in "gatekeeper" courses. Since then, the range of activities provided by CSU-LSAMP has expanded to include research experiences at local, regional and international scales, funding for conference attendance, assistance with graduate school applications, and professional development. It is this broad approach to student support, encompassing a wide range of best practices, that underlies the success of our program.

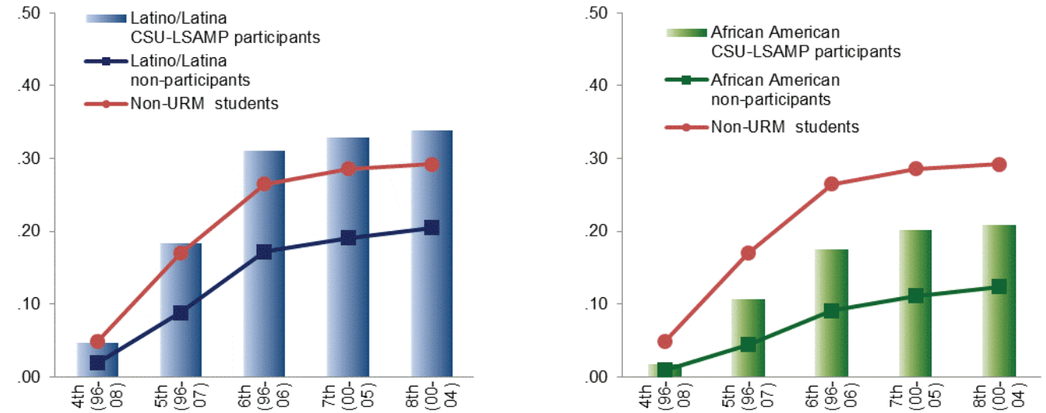
CSU-LSAMP: Success Written in the Numbers

- From 1994 to 2013, CSU-LSAMP served 22,188 undergraduates, including 18,793 underrepresented minorities
- The annual number of participants has increased more than four-fold from 641 in 1994 to 3,520 in 2014
- From 1994 to 2012 CSU URM STEM undergraduate enrollment increased by 174%. In the same time period, non-URM STEM enrollment increased only 18%
- From 1994 to 2012, CSU URM STEM baccalaureate degree production increased 212%
- CSU-LSAMP participants are 1.2 to 1.7 times more likely than non-participants to remain enrolled in STEM disciplines
- CSU-LSAMP Participants are almost twice as likely than non-participants to graduate with STEM degrees
- Almost 30% of Phase III and Senior Level graduates continued on to graduate programs
- In 2013 - 2014, over 900 CSU-LSAMP students engaged in research, whether that be on their own campuses, at national laboratories, through international programs, and through internships
- Almost 400 CSU-LSAMP students disseminated their research through publications and conference presentations

Data obtained from external evaluation reports prepared by the Institute for Social Research, September 2014

CSU-LSAMP: Closing the Achievement Gap

The impact of CSU-LSAMP on increasing persistence and graduation rates for underrepresented minorities in STEM fields is one of our proudest achievements. How do we know that we're making a difference in the lives of our participants? The numbers speak for themselves. The six-year graduation rate for Latino and African-American CSU-LSAMP participants is almost double that for non-participants. A comparison with non-URM STEM majors demonstrates our success even more clearly. In the CSU system, the six-year graduation rate for non-URM STEM majors is 1.5 times higher than the rate for Latino STEM majors who do not participate in CSU-LSAMP, and almost 3 times higher than the rate for African-American non-participants. The graduation rates for CSU-LSAMP participants however, shows the progress we have made in closing this achievement gap. Latino CSU-LSAMP participants now graduate at a higher rate than non-URM STEM majors, and the gap for African-American participants has been closed by 50%.



Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-participant and non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

CSU-LSAMP: Increasing the Number of URM Graduate Students

Not only are CSU-LSAMP participants more likely to graduate with Bachelor's degree in STEM, they are also continuing on to graduate school in increasing numbers. Some of our graduates have gone on from Ph.D. programs to join the faculties at universities across the United States. We're exceptionally proud of the almost 30% of our graduates who have continued on to graduate programs.

We're also very proud of the Bridge-to-the-Doctorate programs developed over the years at three of our campuses: San Francisco, Northridge, and Los Angeles. These programs focus on developing the research skills of talented LSAMP graduates and preparing them for the rigors of Ph.D. programs. Graduates of our Bridge-to-the Doctorate programs have gone on to earn Ph.D.s from some of the most prestigious universities in the nation. Of the 12 students in the most recently completed CSU-LSAMP BD cohort at Cal State LA, ten have already entered into Ph.D. programs.

COORDINATOR PROUD

Dr. Margaret Jefferson



2014 National Academic Advising Association (NACADA) Outstanding Advising Award — Faculty Academic Advising Winner

Margaret Jefferson, Professor of Genetics and LSAMP Coordinator at Cal State Los Angeles, has been selected as an outstanding Advising Award –Faculty Academic Advising Winner recipient from the National Academic Advising Association (NACADA) as part of the 2014 National Awards Program for Academic Advising.

This award is presented to individuals who have demonstrated qualities associated with outstanding academic advising of students. The Faculty Academic Advising category includes those individuals whose primary responsibility is teaching and who spend a portion of their time providing academic advising services to students.

Since 1993, NACADA has honored individuals and institutions making significant contributions to the improvement of academic advising. The goal of NACADA is to promote quality academic advising and professional development of its membership to enhance the educational development of students.

NACADA's membership has grown to over 10,000 faculty, professional advisors, administrators, counselors, and others in academic and student affairs concerned with the intellectual, personal, and vocational needs of students. In addition, NACADA is the representative and advocate of academic advising and those providing that service to higher education.

Dr. Jefferson will be honored and presented with this award in Minneapolis, MN during the NACADA Annual Conference in October.

Dr. Jacquelyn Bolman



2013 Society for Advancement of Chicanos and Native Americans in Science, Inc. (SACNAS) - Professional Mentor Award

Dr. Jacquelyn Bolman, Director, Indian Natural Resource Science and Engineering Program (INRSEP), Humboldt State University, is a native of the Great Plains and Black Hills of South Dakota. She earned her undergraduate, master's, and doctoral degrees with a clear and distinct focus on geoscience and tribal science at the University of South Dakota. Her university experiences changed the way in which she participated in the world — especially the natural world — strengthening her commitment to ensuring all people have access to and equity in higher education.

After serving in leadership positions at institutions in the Great Plains and Rocky Mountain regions, Dr. Bolman is currently the director of INRSEP at Humboldt State University. INRSEP, the only program of its kind in California, is an academic and research program designed specifically to ensure American Indian, Alaska Native, and Native Hawaiian students are successful in securing degrees in natural resources and STEM disciplines. This fall, she will serve HSU as the director for the newly created Center of STEM Excellence and assume responsibility for all underrepresented STEM students.

In each of the capacities, Dr. Bolman has worked with K-12 and university students to develop and integrate programming promoting original research dedicated to the ideals of culture and returning to others the gift she received of astute mentoring.

2013-2014 CSU-LSAMP International Activities

During the first year of 2013-2018 CSU-LSAMP, campuses reported 35 students participating in international research experiences spanning 10 countries: Armenia, China, Costa Rica, Dominican Republic, England, France, Haiti, Italy, Japan, and Thailand.

CSU-LSAMP Summer 2014 International Experiences -- Costa Rica and Thailand

CSU-LSAMP RESEARCH EXPERIENCE IN COSTA RICA

The program began in the capital of Costa Rica, San José, with orientation activities and introductory lectures. The group then traveled to the rain forest habitat of Volcán Tenorio National Park to start their study of tropical environments and biodiversity, with lectures, field activities, and workshops. They received hands-on instruction in the development of a research question, fundamentals of experimental design, sampling, hypothesis testing, and the responsible conduct of research. Traveling next to the cloud forest village of San Luis de Monteverde, students stayed with local host families for a cultural immersion experience while they continued their study of tropical ecology, research methods, and the statistical analysis of data. The bulk of the program took place at the San Miguel Biological Station in the Cabo Blanco Absolute Reserve, the first protected area established in Costa Rica. At the San Miguel Station students were introduced to tropical marine ecology and coastal dry forests, and continued building skills in research methods, data analysis and writing. With a firm research background in place, students were able to develop and carry out research projects in small working groups or individually. A research symposium was held in San Miguel at the end of the program.

Learning outcomes from this program included gaining a proficiency in terrestrial and marine ecology, research methods and analyses, science communication, and cultural integration.

CSU-LSAMP RESEARCH EXPERIENCE IN THAILAND

This program provided CSU-LSAMP students with a summer research experience working on projects with Thai faculty supervisors and students at Chiang Mai University (CMU) in Northern Thailand. A cooperative MOU between CMU and CSUF was first signed in 1999 and has been renewed twice. The program emphasizes global awareness and cultural exchanges as well as research experience for students. In the Summer of 2014, 7 CSU-LSAMP students from 5 CSU campuses were selected to participate in the 6 week program.





Above: *Juan Cerda* (CSUMB) conducting field research in Costa Rica. Summer 2014

Left: CSU-LSAMP students at the Elephant Nature Park in Thailand (from Left to Right): *Zoe Estrada* (CSU, Stanislaus), *Sara Newell* (Humboldt State), *Kenya Covarrubias* (Fresno State), *Azucena Yzquierdo* (CSU, Channel Islands), *and Carrie Tambo* (Fresno State). Summer 2014

CSU-LSAMP STUDENTS EARN NATIONAL AWARDS

2014 NSF GRADUATE RESEARCH FELLOWSHIP RECIPIENTS
George Brusch -- Cal Poly -- Pursuing a Ph.D. in Physiology at Arizona State University
Francisco Candido – San Diego State – Will pursue a Ph.D. in Aerospace Engineering at Cornell University
Yvan Delago de la Flor – Humboldt State – Will pursue a Ph.D. in Entomology at Ohio State University
Joy Franco – San Jose State – Will pursue a Ph.D. in Mechanical Engineering at Stanford University
Julia Hofstra – CSU, Fullerton -- Will pursue a Ph.D. in Geosciences/Atmospheric Chemistry at Cal Tech
Allison Moreno – CSU, Monterey Bay – Will pursue a Ph.D. in Earth Systems Science at the University of California, Irvine

2013 ENVIRONMENTAL PROTECTION AGENCY'S (EPA) GREATER RESEARCH OPPORTUNITIES (GRO) UNDERGRADUATE STUDENT FELLOWSHIP
Jairo Luque Villanueva (right) – Humboldt State University -- received an internship and funding for two years to support his research in Environment Resources Engineering at Humboldt State.

2014 NATIONAL GEM FELLOWSHIP
Javier Ibarra-Suarez – Cal Poly -- Portable fellowship that offers 5 years of funding for Javier pursuing a Ph.D. in Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign

2014 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S DR. NANCY FOSTER SCHOLARSHIP
Emily Aiken – CSU, Monterey Bay – Provides two years of support to fund her research in Applied Marine and Watershed Science at California State University, Monterey Bay.

2014 FORD FOUNDATION FELLOWSHIPS SCHOLAR – DISSERTATION
Jorge Dinis – San Jose State '11 – Fellowship for dissertation completion in the Department of Virology at the University of Wisconsin-Madison.



CSU-LSAMP STUDENTS EARN REGIONAL AWARDS

2014 CSU TRUSTEES' AWARD FOR OUTSTANDING ACHIEVEMENT
Carlos Betancourt – CSU, San Marcos – continuing his studies in Biological Sciences at CSUSM.

2013-2014 SALLY CASANOVA PRE-DOCTORAL SCHOLARS
Francisco Candido – San Diego State – Will pursue a Ph.D. in Aerospace Engineering at Cornell University
Ismael Perez – San Diego State University – Will pursue a M.S. in Electrical & Computer Engineering in the Cal State LA Bridge to the Doctorate program prior to applying to Ph.D. programs.

2013 AMERICAN CETACEAN SOCIETY SAN FRANCISCO BAY AREA CHAPTER STUDENT RESEARCH GRANT AWARD
Cara Gallagher – San Francisco State – Received funding to continue research on marine mammals in the San Francisco Bay.

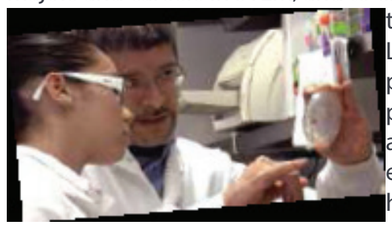
In 2014, the Sacramento State Academic Technology and Creative Services (ATCS) department earned a Bronze Telly for the video production of *LSAMP: Aiming High and Making a Difference.*

The Telly Awards

The Telly Awards is the premier award honoring the finest film and video productions, groundbreaking web commercials, videos and films, and outstanding local, regional, and cable TV commercials and programs.

LSAMP: Aiming High and Making a Difference tells the story of Louis Stokes Alliances for Minority Participation Program, including the program's history, theoretical underpinnings, programmatic structure, and outcomes. The story is told primarily by LSAMP administrators, faculty, staff, current students, and alumni who were interviewed for the production. Although this video is suitable for student audiences, it is intended primarily for an audience that includes University leaders, STEM educators, policy makers, and others who are positioned to promote and support efforts to meet the nation's need for a diverse and able STEM workforce. The video can be seen on YouTube by visiting the following link:
http://youtu.be/53y7QJoH7Co

A second video, *Becoming a Scientist or Engineer: Your Pathway to the Future with LSAMP* is intended primarily for high school and lower division college students from racial/ethnic groups historically underrepresented in STEM fields. The goal of this video is to motivate these students to pursue majors and careers in STEM, and to encourage them



to seek out LSAMP or other programs that provide support and enrichment experiences to help facilitate their success. This video can be seen on YouTube by visiting the following link:
http://youtu.be/Li90yoX_dGA

These videos were produced by the Academic Technology and Creative Services unit in Academic Affairs, under the direction of Dr. Juanita Barrena (former CSU-LSAMP PI), Michaeline Veden, Assistant Director of ATCS, and Keith Rogers, and were funded by NSF Cooperative Agreement HRD-802628.



California State University, Bakersfield

OUTSTANDING ALUMNUS
WALTER MORALES · MATHEMATICS & COMPUTER SCIENCE



Walter came to the U.S. in 2008 from his native Peru, where he had studied computer science for five years, hoping to become an engineer. He entered CSU Bakersfield in spring 2008 and in the summer of 2008 he became an LSAMP participant. Sponsored by CSU-LSAMP, Walter took Combinatorics course in which, without a doubt, he was the best of 15 participants tackling very difficult problems and giving alternate proofs. As a result of his LSAMP participation, Walter did research with Dr. Trigos on Combinatorics and on the Hodge Decomposition Theorem. He also worked under Dr. Haddad's supervision on Multiple Points on a Hilbert Space-Filling Curve. During summer 2011, he took part in an REU at CSU Channel Islands on Constructive Algebras and Borel Sets. Upon his return to CSUB, Walter presented this work to the CSUB mathematics faculty, showing mastery of the materials he had studied. He also presented his results at the Joint AMS-MAA meeting in January 2012 in Boston, MA, where he was given an honorary mention. Walter was also one of the star math tutors at CSUB. Many students with mathematics questions would wait especially for him. Another of Walter's strengths is computers and programming. As a CSUB student, he helped maintain the LSAMP computers. He also taught himself the standard mathematics-typing software LaTeX. Before graduating with a double major in mathematics and computer science, Walter became an intern for Chevron and following graduation was hired by them as a Data Manager supporting Earth scientists and Engineers. Walter is currently in the Master's program in Petroleum Engineering at the University of Southern California, supported by Chevron. He expects to finish his M.S. in summer 2015. Finally, Walter recently returned to for his Alma Mater, teaching precalculus at CSUB.



OUTSTANDING ACADEMIC & RESEARCH
KIEFER RODRIGUEZ · BIOLOGY

Kiefer Rodriguez is a Biology major at CSU Bakersfield and a dedicated researcher. He has spent the last year and a half working with Dr. Antje Lauer on a project to detect growth sites of the fungal pathogen Coccidioides immitis, which is known to cause valley fever in California. He has gathered valuable data, focusing on sampling sites at Sharktooth Hill, near Bakersfield, and in the Allensworth Nature Preserve between Bakersfield and Fresno. Kiefer presented his work at the Annual Meeting of the Coccidioidomycosis Study Group in Phoenix, Arizona. His work is also expected to be used in a peer-reviewed publication in the very near future. Kiefer has also done an internship at the IIRMES technology and research center at CSU Long Beach, where he worked with Dr. Kevin Kelley. He made an impression as an outstanding student who had successfully gained and applied knowledge in proteomic work, and for his dedication, intelligence, and ability to work in a team, not hesitating to take on a lead role.



OUTSTANDING RESEARCH & COMPELLING PERSONAL STORY
ALFONSO APUGA · COMPUTER SCIENCE

Alfonso Apuga and his family emigrated from Peru to the United States in 2005. Alfonso worked odd jobs to help him learn English faster, and during his sophomore year, he took an honors course in English, which he felt challenged him intellectually and gave a much better learning environment. He took eight AP courses while in high school, obtaining college credit in all of them. Alfonso enrolled at CSU Bakersfield in 2009 as a Biology major but soon switched his major to Computer Science. He has been conducting research with Dr. Melissa Danforth, which builds upon a genetic algorithm, designed to protect web servers from malicious traffic by analyzing http headers. Alfonso tasked with developing a method to provide the algorithm with live input as packets arriving to the web server. He decided to create a packet parser that would directly feed packet information to the genetic algorithm. Alfonso presented his work at the Emerging Researchers National conference in Washington DC and won first prize in the Computer Sciences and Information Management section. He also won first prize in Engineering and Computer Sciences for his presentation at the CSUB Student Research Competition and will soon participate in the statewide CSU competition hosted at CSU East Bay. After graduating, Alfonso wishes to first visit his homeland of Peru but then return to the United States to get some experience in the workforce before applying to graduate programs in systems programming, algorithms, and possibly security.

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OUTSTANDING ALUMNUS
CHRISTOPHER GUTIERREZ · COMPUTER SCIENCE

Christopher N. Gutierrez is a Bakersfield native and the first in his family to attend college. He began his undergraduate studies at CSU Bakersfield in Computer Science in 2004, joining the LSAMP program in 2005. Christopher conducted research in digital watermarking with Drs. Sam Behseta and Charles Lam, presenting his work at two computer science conferences. He participated in the NSF REU program at University of Virginia, Charlottesville, researching computer applications in medicine. His work with fellow student Max Velado, won first place in the CSUB Undergraduate Research Competition in 2008.

Christopher was also an active participant in campus life at Bakersfield. He was a dedicated computer science and mathematics tutor in the Mathematics Tutoring Center, where his work ethic and dedication led to his selection as head tutor. In recognition of his academic achievement and service to the campus, Christopher was awarded the Outstanding Academic Achievement award by the Computer Science Department upon graduation.

Christopher continued with LSAMP under the Bridge to Doctorate Program at CSU Northridge. He continued his research in digital watermarking and participated in research projects in medical imaging and data mining. Christopher is currently enrolled in the doctoral program in Computer Science at Purdue University, conducting research in the area of behavior and security. Even though he has two more years until graduation, he has already published one research paper and another has been accepted.

OUTSTANDING ACADEMIC, RESEARCH & SERVICE/LEADERSHIP

AFUA ADJEKUM · BIOLOGY



Afua Adjekum is a senior at the California State University Channel Islands majoring in Biology and minoring in Chemistry. Afua started the Pre-health Association in 2012 as a campus club for people interested in the allied health sciences. With her leadership, the club now has about 20 members and was able to sponsor 20 kids at the Teddy Bear Cancer Foundation's Christmas party. She is also the president of the Mortar Board Four Pillars Chapter. Afua received a prestigious African American Achievement award for her multicultural services on campus.

Through LSAMP, Afua has been involved with various research projects and currently performs whale research with Dr. Rachel Cartwright. She also participated in a California State University Monterey Bay LSAMP ecology summer research program in Costa Rica during the summer of 2013.

Afua came to the United State for college from Ghana, Africa. She knows intimately about different cultures, climate and about health problems and sanitation conditions faced by third world countries. Her international exposure, through travel and education, has kindled a desire to help the less fortunate. Her goal is to work on health issues in Ghana.

Afua's future goal is to become an epidemiologist and she will be starting a master's degree program in Global Health and Development this Fall at University College London. Afua believes that it is necessary to ensure that underprivileged populations have access to basic preventative health knowledge. She has won several awards and recognitions for her contribution to the Channel Islands campus.

OUTSTANDING ACADEMIC, RESEARCH, & SERVICE/LEADERSHIP

AURORA GINZBURG · CHEMISTRY



Aurora Ginzburg recently graduated from CSU Channel Islands with a B.S. in Chemistry and will enter the Materials Chemistry Ph.D. program at the University of Oregon. Aurora's first exposure to research was in Dr. Hampton's organic group where she developed a green isomerization experiment for sophomore organic chemistry students. Her paper on this is currently under review at the Journal of Chemical Education. Aurora has also been working on the synthesis of water-soluble curcumin analogues.

Last summer Aurora completed a 10-week summer internship at UC Santa Barbara where she synthesized a chiral phosphoric acid to study as potential enantioselective catalyst. The mentorship she received inspired Aurora to give back to the scientific community though science outreach. She volunteered as the Assistant Coordinator for CSUCI's annual science carnival, an event which provides over 1500 K-8 children from underprivileged neighborhoods with hands-on science experiences. She designed a new section of the carnival to connect girls with science and she recruited female STEM majors to help with this. Aurora also coordinated a workshop sponsored by the American Association of University Women that exposed pre-adolescents to female role models in STEM. She worked with 90 girls to establish connections between feminine interests and careers in STEM.

Recognizing the impact of effective mentoring, Aurora took on the responsibility of assisting her research group's new students in their laboratory techniques and preparation for graduate school applications. She recently received Honorable Mention for the NSF Graduate Research Fellowship Program.



OUTSTANDING ACADEMIC & RESEARCH

ARELI TEJEDA · BIOLOGY

Areli Eunice Tejeda is about to graduate from CSU Channel Islands with a BS in Biology (emphasis in Cellular and Molecular Biology). One of five siblings, Areli spent most of her childhood in a low-income, predominantly Spanish-speaking community. She is the only person in her family to finish high school. Seeing college as an escape from a troubled background, Areli attended community college while working full time. Social and financial challenges made college seem unattainable but she eventually transferred to CSUCI where she discovered biology.

At the end of her second semester, Areli was invited to join Professor Rachel Cartwright's research group. For three years she has been examining baleen whale muscle tissue and testing its buffering capacity at different developmental stages, as well as tissue typing and measuring myoglobin levels to explore whether there is a correspondence between these factors and developmental stages. This work is prepared for publication.

Through LSAMP, Areli learned about other opportunities and began considering graduate studies. She attended the CSU-LSAMP Research Experience for Undergraduates in Costa Rica. She developed a research experiment exploring sea cucumbers' preference for covering their backs with shell fragments, small rocks, or sand, and whether this behavior could be predicted from environmental conditions. Her work is being prepared for publication.

Areli's experience has made her determined to help children reach their potential, especially those who struggle with the challenges she faced. Areli now aspires to earn a Ph.D. in biology, which will allow her to pursue a research-based career while also showing children that anything is possible.

OUTSTANDING ACADEMIC, RESEARCH, & SERVICE/LEADERSHIP

HAIDI AHMED · BIOLOGY & CHEMISTRY



Haidi Ahmed's curiosity for Biology was sparked when she first arrived at CSU Channel Islands by the passion and enthusiasm of her professors. Haidi's love for Biology is most evident in the lab, where the ability to work hands-on has strengthened her interest. She approaches failures as opportunities to excel by strategically implementing the methods she learned to find a solution.

As a first generation immigrant to the United States, Haidi had to overcome economic and language barriers. Despite those obstacles she has managed to excel. She is a fellow for The Henry L. "Hank" Lacayo Institute for Workforce and Community Studies. Selected through a competitive process to intern at a biotech company, Ms. Ahmed gained invaluable first-hand experience and further solidified her passion for the industry. In addition to conducting research in biology and chemistry, Ms. Ahmed has also had experience analyzing whale muscle isotypes and the synthesizing therapeutic oligonucleotides.

Haidi strives to instill her passion for science and education in others as a mentor and a tutor, utilizing her insight, tenacity, and compassion. She enjoys watching others learn and grow as students and as individuals. She understands that the type of students who seek a mentor are self-starters who only need gentle nudges in the right direction, which Ms. Ahmed believes is a catalyst for great thinkers. This mentor-mentee relationship often turns into a friendship, which on a personal level, becomes gratifying to Ms. Ahmed who wholeheartedly believes that true potential and success is achieved through community.

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California State University
Dominguez Hills



OUTSTANDING ACADEMIC
ALEJANDRA VILLALBA · ECOLOGY & ENVIRONMENTAL BIOLOGY

Transferring to CSU Dominguez Hills in Fall 2012, Alejandra Villalba is an Ecology and Environmental Biology major with plans of becoming a marine biologist. Alejandra's path to undergraduate education has not been an easy one. The first in her family to pursue a university education, Alejandra did not have advice on how to apply to college or find ways to pay for her education. Despite the barriers she faced, Alejandra persevered because she knew that higher education was her key to a successful future.

Alejandra has excelled in her courses since arriving at CSUDH, holding an A average in courses taken in residence. In the upcoming academic year, Alejandra will be immersed in marine biology because she has been chosen to participate in the Fall 2014 Catalina semester; Alejandra is ecstatic that she has been selected for this unique educational experience. The Catalina semester and her upcoming summer research experience at the University of Michigan will prepare Alejandra well when she applies to doctoral programs. Due to her strong performance in her biology courses, Alejandra serves as an academic excellence workshop student facilitator, working with students having difficulty with their lower division biology courses. Alejandra has been an important resource for these students. CSUDH LSAMP is pleased to recognize Alejandra's outstanding academic performance. Her dedication to education is a fine model of how hard work pays off. We look forward to watching Alejandra develop into a marine biologist interested in making new discoveries of marine organisms while protecting our oceans.

OUTSTANDING SERVICE/LEADERSHIP
JESSICA SHARPE · ECOLOGY & ENVIRONMENTAL BIOLOGY

When meeting Jessica Sharpe, one cannot help but notice her steadfast determination and drive, and it is these qualities that have helped her enjoy success during her undergraduate education. Jessica grew up in a household where neither parent had attended college. Pursuing a B.S. in Microbiology at CSU Dominguez Hills, Jessica has sought out field and research opportunities to satisfy her hunger for science. She ultimately plans to obtain a doctorate in order to make major contributions to our understanding of how microorganisms are affected by, and can be the answer to, various environmental issues, such as ecological damage and water pollution.

Along her path to a career in science, Jessica learned of the discrepancies faced by women in science, and that girls are still not the target audience for many science programs, thereby missing the chance to capture their interest in future STEM careers. Feeling the need to have this conversation at CSUDH, Jessica founded the Women in STEM student organization and is currently serving as President. Jessica also played a role in organizing the Women in STEM conference held at CSUDH in April 2014. She assisted faculty and administrators in selecting speakers for the event and determining appropriate topics for discussion, relevant to students. CSUDH LSAMP is very proud of Jessica's efforts to make women in science more visible on our campus, and to allow for women (students and faculty) to be a part of the conversation on how they may work toward both personal and professional goals while pursuing successful STEM careers.



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OUTSTANDING RESEARCH
ERICA PARRA
ECOLOGY AND ENVIRONMENTAL BIOLOGY

Erica Parra has been transformed by her research experience during her undergraduate education at CSU Dominguez Hills. Erica was the first in her family to attend college. Despite the financial burden, her parents encouraged Erica and her siblings to attend college because they valued higher education. Originally a Microbiology major, Erica soon realized her passion was in Ecology and Environmental Biology and her love of field work intensified with every research experience she was involved in. Erica has been a member of Dr. Terry McGlynn's research team since Summer 2012. She has conducted research at the La Selva Biological Station in northern Costa Rica for two summers. The first project examined the effect of diet on nectar production in ants, and its findings were published March 2014 with Erica as a co-author. The second project correlated climate change with the diversity of ant species in the habitat. Erica was highlighted in a 2013 University news article about her accomplishments as an undergraduate researcher and was quoted as saying, "Being involved in these research projects is giving me an idea of what it's going to be like in a graduate program and to understand the path to get into a Ph.D. program." Erica has just returned from Australia where she conducted research on the effects of flooding on diversity of species living in the rainforest. CSUDH LSAMP is proud to recognize Erica Parra for demonstrating how the undergraduate research experience can have an influential impact on the professional development of STEM students.

OUTSTANDING ACHIEVEMENT (OVERALL)
EDDIE BANUELOS-CASILLAS PHYSICS AND MATHEMATICS

Eddie Banuelos-Casillas transferred to CSU Dominguez Hills in 2012 with plans of a fresh start after experiencing personal challenges that had hampered his undergraduate education. Eddie is a first-generation college student, and earning his undergraduate degree in Physics and Mathematics is a significant accomplishment for him and his family. Eddie plans to earn a doctorate in Physics. Clearly focused on this professional goal, he has participated in every opportunity available to prepare him for graduate school.

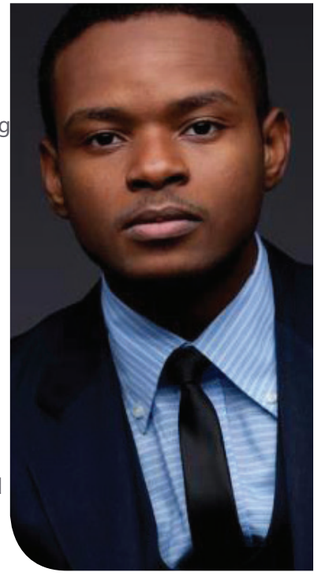
Eddie has been conducting research with Dr. John Price in computational physics, including a summer research opportunity at the Thomas Jefferson National Accelerator Facility in Virginia. Eddie received a travel award to present his research at the 2014 Emerging Researchers National Conference in Washington, DC. While there, Eddie was approached by representatives from a Washington state-based research institute, offering employment upon his graduation. This validated Eddie's hard work, strengthening his desire to earn a Ph.D. and conduct research in nuclear physics. The CSUDH Physics Department recognized Eddie's achievements by selecting him as a recipient of the 2013-2014 Philip Johnson Scholarship.

Eddie has been a valuable asset to science students at CSUDH, serving as an academic excellence workshop student facilitator in precalculus, calculus I & II, and general physics. Eddie has received acceptances from CSU Fresno and CSU Long Beach for graduate work in physics. Eddie is also being considered to conduct research at UC Riverside this summer. CSUDH LSAMP has enjoyed witnessing Eddie's evolution from a shy student to a confident budding researcher with a promising future ahead of him.



CALIFORNIA STATE UNIVERSITY
EAST BAY

OUTSTANDING SERVICE/LEADERSHIP
HENDRIX ERHAHON · BIOCHEMISTRY



Hendrix was born in Benin City, Edo State, Nigeria, and on March 26th 2014, became a US Citizen. He enrolled at CSUEB in Fall 2010, choosing CSUEB because his brother, Heinrich, went there, and because of the Biochemistry option. Hendrix did not pursue student research until introduced to it by Dr. Eric Helgren during his Physics 2701 class. After applying to the LSAMP program and being accepted, Hendrix immediately started working with Dr. Danika LeDuc and Mr. Ladley Tcheing on poplar proteins. Under their supervision, Hendrix was able to explore and create experimental procedures and/or carry out procedures to test the absorbency of the proteins. "This is so fun and fascinating as I get to explore and be creative and acquire more knowledge and learn from mistakes."

Recently, Hendrix ran for ASI Board member as Director of Public Relations. Although he did not win this election, he was appointed as a Student Representative on the Internal Affairs Committee, Fairness Committee, and Programming Council. As a student representative, Hendrix has the opportunity to be the Student Coordinator for 'al Fresco: The Fall Welcome Back Festival,' where he was the co-host and contributed to the coordination and planning of the entire event. Due to his contribution with al Fresco, Hendrix very proudly received a personalize Thank You from the CSUEB President Leroy Morishita and immediately asked to be a student lead in the Homecoming Committee. For this event, Hendrix contributed in planning the activities during Homecoming Kickoff.



OUTSTANDING RESEARCH
LORRAYNE SERRA · BIOLOGY

Lorrayne completed her lower division courses at local community colleges before transferring to Cal State East Bay in fall 2011. She graduated in the summer of 2014 as a Biology major (Cell and Molecular focus). Lorrayne met Dr. Maria Gallegos at the science festival at CSUEB during her first semester, volunteering to help showcase Dr. Gallegos' glowing worms to the community. Throughout the day, Dr. Gallegos talked about her research with the public and Lorrayne peppered her with questions. By the end of the day, Dr. Gallegos invited Lorrayne to work in her research lab. Although she worried because she had not taken upper division biology classes or worked in a lab, she was very enthusiastic to learn and have hands-on lab experience. Dr. Gallegos helped Lorrayne develop skills and knowledge required for research. Lorrayne worked by Dr. Gallegos' side full time for 10 weeks in summer 2012 on the Presidents' Commission Scholar Award presented by the California State University, Program for Education and Research in Biotechnology (CSUPERB). Lorrayne also was awarded a travel grant to LA last year to present a poster at the CSUPERB 25th symposium. A few months later in April of 2013, she presented another poster at the Bay Area Worms Meeting at UC Davis (BAWM). Last summer, she was awarded a travel grant from LSAMP to attend an international worm meeting at UCLA, and in February, she traveled to Washington, D.C. with a travel grant to present a poster at the Emerging Researchers National (ERN) Conference in STEM.



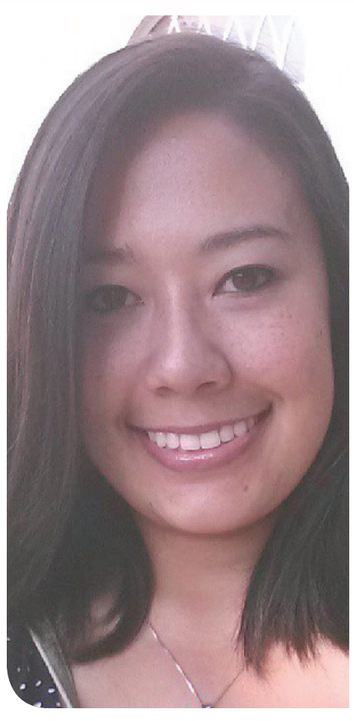
OUTSTANDING ALUMNA
TRINITY JOSHI · PHYSICS

The whole idea of using science to probe the unknown fascinated Trinity since early childhood and this is the reason why she became an experimental Physicist. After taking her first course in Physics, she realized how interested she was in the subject. Unfortunately, there were no physics research program in her home country of Nepal, but despite this, she kept towards her goal of pursuing a Ph.D. in the United States.

Trinity started working in Dr. Derek Kimball's frequency comb spectroscopy lab three years ago when the "frequency comb laser" was first installed. The focus of Trinity's research was to use the rubidium atom to better understand two-photon direct frequency comb spectroscopy in room temperature atomic vapors. Trinity published her result in a paper in Physical Review A explaining the spectra as a function of repetition rate.

She presented her research at the 2011 American Physical Society (APS) California-Nevada Section Meeting. She was honored to receive the Steven Chu Award for Best Experimental Research by an undergraduate at this conference. She also presented a poster on her research at the 2012 Women in Physics Conference, and at the 26th and 27th Annual CSU Student Research Competition. She presented at the 2012 APS Division of Atomic, Molecular and Optical Physics (DAMOP) Meeting, and in the spring of 2013, Trinity received the 2013 National Science Foundation (NSF) Graduate Research Fellowship. Currently she is pursuing her Ph.D. in physics at UC Berkeley.

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OUTSTANDING ACADEMIC
JERLYN SWIATLOWSKI · PHYSICS

Jerlyn Swiatlowski came to CSU East Bay from Dublin High School in Dublin, California pursuing a B.S. degree in Physics. Jerlyn started research her sophomore year after asking Dr. Derek Jackson Kimball if she could join his Spin Gravity research. She stayed in this lab for a year and a half, in that time she presented their research at the 2011 APS Regional Conference and is also a co-author on a paper. She then moved to Dr. Kimball's Frequency Comb lab where she has presented their research at the 2013 Division of Atomic, Molecular and Optical Physics Conference (DAMOP) and has continued helping forward this research since.

To figure out what area of research is right for her, she attended two summer internships. She attended the Summer of Applied Geophysical Experience in 2012 where she gained research experience in Geophysics. Her group presented their combined research at the 2012 American Geophysical Union Conference. Jerlyn also attended an internship, this past summer, at the University of Nebraska-Lincoln (UNL), where she conducted research in understanding basement faults in Southeastern Nebraska. She has presented her work twice, at a research symposium at UNL and at the 2013 GSA Annual meeting. She also gave a talk at the 2014 GSA North-Central Section Meeting and is writing a paper to be published.

In these past 5 years, Jerlyn has maintained a cumulative GPA of 3.762 and a major GPA of 3.73. She is currently pursuing a Ph.D. in Geophysics at the University of California, Riverside.

FRESNO STATE

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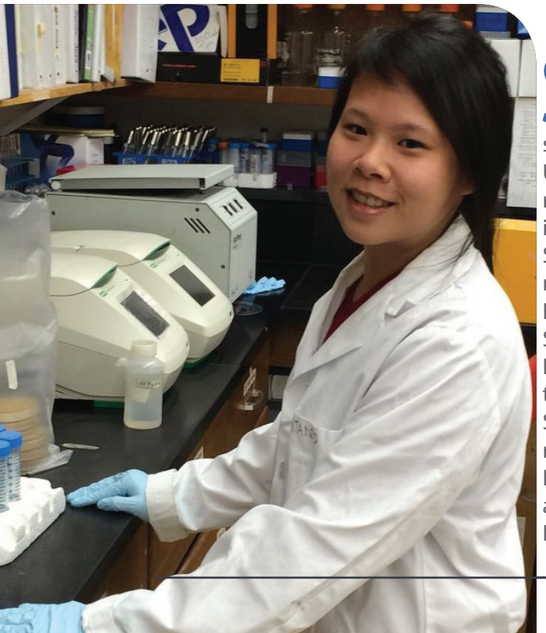
OUTSTANDING RESEARCH
EMILIO CARDENAS · CHEMISTRY



Over the past three years, Emilio Cardenas has conducted research under the supervision of Dr. Santanu Maitra at CSU Fresno. His research has focused on using wet organic chemistry techniques to design, synthesize, and characterize a library of small organic molecules for the modulation of apolipoprotein E (apoE). Screening of the small organic molecules has shown that specific structures are responsible for the modulation of apoE in human astrocytoma cells. This finding is of great importance due to the isomeric dependence of apoE being associated with an increased probability of developing Alzheimer's disease. Emilio's work on apoE has been published in the Chemical and Pharmaceutical Bulletin of the Pharmaceutical Society of Japan.

Emilio has also worked on the synthesis and characterization of isoprene hydroxyl nitrates (IHN). Mechanistic studies of IHN have allowed his group to better understand how the molecule reacts in different conditions. Specifically, Emilio helped generate multiple IHNs under acidic and non-acidic conditions. Mechanistic studies showed that the preceding reactions did not follow regioselective trends found in the literature. Instead it was found that the same product was formed regardless of the conditions.

Emilio has been an active participant in CSU-LSAMP, serving as a role model and facilitator in chemistry academic excellence workshops, and the academic year research program. Equipped with a strong foundation of research experience, Emilio commences a doctoral degree in chemistry at Purdue University in Fall 2014. He hopes to become a professor of chemistry so he can share his passion for discovery with the next generation of scientists.



OUTSTANDING RESEARCH
SAMANTHA HARTANTO · CHEMISTRY

Samantha Hartanto is a sophomore pursuing a B.S. in Chemistry at California State University, Fresno. Her research area is microbial biochemistry. She has been involved with research since her freshman year and has contributed to several projects. Under the mentorship of Dr. Mamta Rawat she is studying the roles of thiols, protective antioxidants with a sulfhydryl group, in microorganisms. Dr. Rawat has been extremely pleased with Samantha's work in the laboratory. Samantha's dedication to research has earned her several research awards, including the Fresno State faculty-sponsored Student Research Award, the Fresno State Undergraduate Research Award, and the Fresno State ASI Research Grant. Samantha has also been an active participant in the CSU-LSAMP Research Program on campus for the past year. Samantha's active research activities have led to her selection to represent Fresno State in the 2014 California State University Student Research Competition. Samantha also plans to present her research at additional conferences this year, including the Central California Research Symposium. She aspires to earn a Ph.D. in chemistry.

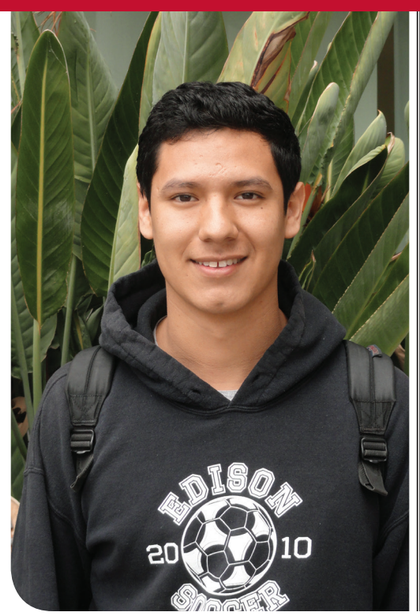


OUTSTANDING RESEARCH & SERVICE/LEADERSHIP
ANDRES NEVAREZ · BIOLOGY

Andres completed his B.S. in Biology at California State University, Fresno in May 2014. As an undergraduate student, Andres was actively involved in CSU-LSAMP program activities, including serving as a facilitator for Academic Excellence Workshops in chemistry, and as a peer mentor for lower division students. Andres showed outstanding leadership and professionalism through his hard work founding a SACNAS chapter at Fresno State, which is housed within, and works closely with, CSU-LSAMP. Andres helped mold the SACNAS campus chapter to best benefit not only Fresno State, but also the community. 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. In addition to his outstanding leadership and outreach efforts, Andres voraciously pursued undergraduate research since his freshman year. Andres worked in two laboratories at Fresno State, focusing on signal transduction and cancer biology. He also broadened his research horizons through summer research experiences at the Sanford-Burnham Medical Research Institution, focusing on cell death pathways and at the University of California, Berkeley, concentrating on computational comparative molecular genomics. Andres is starting his graduate career in Fall 2014 at the University of Texas Southwestern Medical Center, on the Ph.D. track. Andres's graduate research will focus on computational systems, and bioinformatics to understand cancer development and movement.

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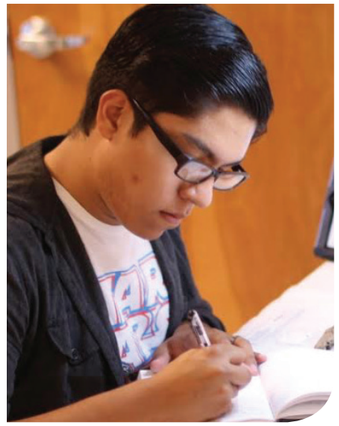
OUTSTANDING ACADEMIC
EDUARDO DE LA TORRE · CHEMISTRY

Eduardo is an undergraduate student completing his B.S. degree in Chemistry and California State University, Fresno. A first-generation college student, Eduardo has maintained an impressive major GPA of 4.0 and overall GPA of 3.96, all while conducting research and working on and off campus. Eduardo was selected to be in the Chemistry Honors Program based on his academic achievements. As a CSU-LSAMP Research Program participant, Eduardo developed his interest in research by working under the guidance of Dr. Qiao-Hong Chen. Eduardo's research involves the study of Genistein, a natural compound that has been shown to have positive effects on prostate cancer cells. Since Genistein has a poor bioavailability, his focus on this research is to synthesize new compounds with improved bioavailability. Eduardo has also served as a chemistry Academic Excellence Workshop facilitator. He has found a passion for helping others not only as an LSAMP facilitator but also as a tutor for the Chemistry Department and the campus tutoring center. As Eduardo begins his final undergraduate year in 2014-15, he plans to pursue a medical career with an interest in research.

CALIFORNIA STATE UNIVERSITY FULLERTON™

OUTSTANDING RESEARCH & SERVICE/LEADERSHIP

ISAAC MAGALLANES · GEOLOGY



Isaac Magallanes is majoring in Geological Sciences at CSU Fullerton. His first research project at CSUF focused on a fossil bone bed made up of 40 million year-old mammals and reptiles. Isaac's leadership on this project led to an opportunity to serve as a mentor for community college students participating in CSUF's Summer Research Experience. He helped train the students in lab safety and procedures, and oversaw day-to-day progress on their research. Isaac is currently a mentor for community college students from Santiago Canyon College. He leads workshops, gives presentations, and works one-on-one with students, helping them stay motivated, and experience a smooth transition from community college.

Isaac's current research focus is fossil marine mammals, especially seals, sea lions, and walruses. He recently coauthored a proposal for additional research visits to the San Diego Museum of Natural History. Isaac's aptitude and work ethic convinced the faculty curator of paleontology at the Cooper Center to give him a high profile project: a five million year-old complete fossil walrus specimen that is the logo of the center. Isaac has made tremendous progress on this project, describing the anatomy of the specimen and interpreting what it tells us about the evolution of walruses. It is expected that his work will result in a high-profile scientific publication.

Isaac has distinguished himself in service and leadership while excelling in research. He is 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.

OUTSTANDING RESEARCH

KATRINA AWALT · GEOLOGY



Katrina Awalt is a Geology major at California State University, Fullerton. Raised by a single mother, Katrina has supported herself through college. In addition to performing well academically, she has sought opportunities that will enhance her competitiveness for graduate school. Katrina became an LSAMP Research Scholar in 2013. She used her LSAMP funding to work with the faculty curator of the Cooper Archaeology and Paleontology Center. Katrina's project is on the evolution of endangered sea turtles, investigating how they have changed through time and how they respond to climate change. She hopes to shed light on why leatherbacks have experienced a sharp decline in diversity. In addition to studying fossils at the Cooper Center, Katrina has also visited the Natural History Museum of Los Angeles to study their fossils (such research visits are usually performed by graduate students). She also received a grant from the Doris O. and Samuel P. Welles Research Fund to visit the University of California Museum of Paleontology in Berkeley. While at UC Berkeley she initiated a collaboration with a paleontologist there, expanding the scope of her research. Katrina presented her research at the Society of Vertebrate Paleontology Meeting, one of a handful of undergraduates from any institution to do so at this major conference. She will soon be submitting her work for publication in a peer reviewed journal. Katrina's hard work and extraordinary research accomplishments will increase her chances of getting into graduate school to continue her paleontological training.

OUTSTANDING ACADEMIC, RESEARCH, & SERVICE/LEADERSHIP

JULIA HOFSTRA · CHEMISTRY



Julie Hofstra transferred to California State University, Fullerton as a first generation college student and graduated summa cum laude with University Honors and a B.S. in Chemistry in May 2014. While at CSUF, Julie was extremely successful, highly motivated, and extensively involved in multiple areas of academics, research, and community outreach. She was a University Honors Program student, LSAMP Research Scholar, and a recipient of numerous departmental awards and scholarships.

Julie conducted research at CSUF with Drs. Paula Hudson and Peter de Lijser. Her research focused on using atmospheric and organic photochemistry methods to improve climate modeling and small molecule synthesis. She presented her research at a number of national conferences, published her work in Dimensions, CSUF's Natural Science and Mathematics undergraduate research journal, and has three more publications in preparation for peer-reviewed journals.

Julie has also been active in on-campus and off-campus service. She served as the President and Treasurer of the Chemistry and Biochemistry club, helping spread scientific awareness in local classrooms through the use of chemistry demonstrations. Julie also volunteered at Imperial Elementary School, developing math and English skills in children with learning disabilities. In addition, Julie served as an Instructional Student Assistant and Supplemental Instruction leader for the Chemistry and Biochemistry department.

Most recently, Julie received the prestigious National Science Foundation Graduate Research Fellowship. She has been accepted into a number of Ph.D. programs at superior institutions including Northwestern, Caltech, and MIT. Julie will begin a Chemistry Ph.D. program this fall and plans to enter a career in academia.

OUTSTANDING RESEARCH

HECTOR ZAZUETA · MECHANICAL ENGINEERING

Hector Zazueta is a senior at CSU Fullerton, majoring in Mechanical Engineering. During his participation in the LSAMP program from 2013 to 2014, he conducted research with Dr. Haowei Wang. He studied the effects of alternative biofuels on engine performance and emissions to further understand the combustion process of alternative fuels, and also to promote the awareness and application of alternative fuels. Hector designed and set up the whole experiment from scratch, calibrated the equipment, conducted experiments and processed data. His dedication and commitment in STEM were reflected in his great accomplishments. His research first produced a poster at the 2013 STEM summer research symposium hosted by the College of Natural Sciences and Mathematics at CSU Fullerton where he made an impressive presentation to the audience. Hector then published a conference paper at the 2014 Western States Section of the Combustion Institute Conference hosted by California Institute of Technology in Pasadena, CA. It is one of the most important national meetings in the combustion field. Researchers attending this conference are from Stanford, USC, UC Irving and other top research institutions. Hector's paper was the only one from the CSU system. Furthermore, a poster that shows Hector's work and accomplishments during his participation in the LSAMP program has been accepted at the 2014 Council on Undergraduate Research National Conference hosted in Washington, DC. Hector's work will be presented as a showcase and help increase funding support from the federal government for undergraduate research.

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HUMBOLDT STATE UNIVERSITY



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OUTSTANDING RESEARCH
YVAN DELGADO DE LA FLOR · WILDLIFE BIOLOGY

Yvan Delgado De La Flor, a Wildlife Biology major, has excelled in research since his arrival at Humboldt State. In 2012, Yvan participated in the Harvard Forest REU ecology program, where he worked with Dr. Aaron Ellison, studying ant diversity in the Harvard Forest, where eastern hemlock trees are dying due to the infestation of the Japanese insect, hemlock woolly adelgid. He also studied the response of spiders to the loss of Eastern hemlock trees. His results suggested that 2 of the 3 most abundant spider genera were at least 2 times more abundant in Hemlock plots than in other plots. His results raise questions about spider response to climate change and invasive species. Yvan was also accepted into the NSF-funded Undergraduate Research Mentoring Program. With his mentor Dr. Matthew Johnson, he is working on a project in the coastal dunes of Humboldt County, using night-vision cameras to determine whether invasive European beach grass alters the foraging activity of mesocarnivores. His preliminary results show that mesocarnivore activity is significantly higher in habitats without invasive beach grass, suggesting that mesocarnivores may forage more in restored areas because the high cover in beach grass-dominated habitat may render prey less accessible. He expects to publish this study in a peer-reviewed journal. Yvan's goal is to have a positive impact on the environment for wildlife and future generations. He plans to become a professor to help transmit knowledge, assist in mentoring students, and encourage diverse voices in science.



OUTSTANDING ROLE MODEL
ANTHONY PARSON · ENVIRONMENTAL MANAGEMENT AND PROTECTION

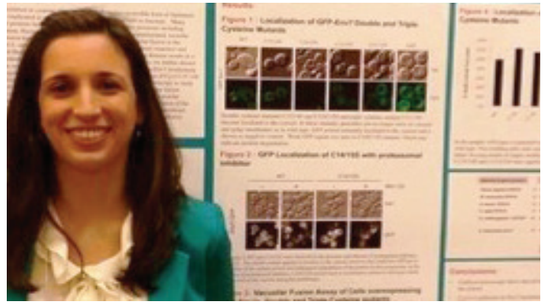
Anthony Parson is a member of the Piro-Manso-Tiwa Tribe of Las Cruces, New Mexico, and has the abilities and motivation to be a strong Native scientist and leader. He considers critically the challenges facing American Indian and aims to assist in developing strategies to effectively address current and future environmental and natural resources science challenges. In 2012, Anthony took part in the Manoomin Project through the University of Minnesota. He investigated core samples from a wild rice lake on the Fond du Lac reservation in northern Minnesota. This research experience was an opportunity for Anthony to participate in Tribally-orientated research as well as connect with a network of Tribal science professionals. The experience deepened his commitment to the broader impact of his research, and increased his confidence in obtaining a Ph.D. At Humboldt, Anthony has conducted research in traditional forest management, investigating the biological and cultural aspects of 15 food-producing plants found on traditional Yurok homelands. Through a Redwood National Park Internship, he has also worked on many projects, including forest and woodland restoration, invasive plant control in coastal dunes, and rare plant surveying and monitoring. Anthony is an outstanding role model. He has overcome great adversity in his life, facing tremendous hardships that would cause most to simply give up. Instead, Anthony set forth to conduct his own original research, broaden the impact of his research with local Tribal nations, and ensure he integrated traditional ecological knowledge into his work. His perspective and generous nature provide a basis for others to see the value in a college experience.



OUTSTANDING RESEARCH
KEITH PARKER · FISHERIES BIOLOGY

Keith Parker is a Yurok Tribal member, and lives on the Yurok Reservation in Requa, CA, overlooking the Klamath River which flows into the Pacific. His desire to become a fisheries biologist began when he was young, learning to row a boat in Klamath River estuary before he even drove a car. Witnessing the infamous Klamath River fish kill of 2002, truly cemented that desire. Stewardship of the river and land is passed down generationally in Yurok culture and Keith plans to use his education to assist in developing strategies to effectively address the biological, environmental, and natural resource sciences challenges associated with fisheries. Keith is an excellent student, possessing high-level skills in problem solving, leadership, and critical thinking. In 2012, Keith was awarded the NSF-funded 2-year HSU Undergraduate Research Mentorship. Under the guidance of Dr. Andrew Kinziger, he worked on the development of an environmental DNA presence/absence assay for Pacific Lamprey (Entosphenus Tridentatus), an endangered Tribal Trust species (eel). Keith was also awarded the University of Washington STAR internship in 2012, and spent 2.5 months of the summer in the Copper River Delta, Alaska wilderness, researching juvenile coho and sockeye salmon. He studied size frequency distribution relative to the thermal heterogeneity of surface- versus groundwater-influenced streams as part of a larger climate change study. Keith presented his research at the American Indian Science and Engineering Society national conference in Anchorage, where he was awarded 2nd place as a presenter and recognized for his dedication to the ideals of tribally oriented broader impacts.

CALIFORNIA STATE UNIVERSITY
LONG BEACH



OUTSTANDING RESEARCH
ERIKA CALLE
CELLULAR AND MOLECULAR BIOLOGY

Erika Calle's father was a Biology major at the Universidad de Antioquia in Colombia, South America, when it came under siege by communist rebels. Because of this he strived to give his children a better chance of finishing school and fulfilling their dreams. Erika discovered biology in high school when she took honors biology. As an undergraduate at CSU Long Beach, Erika was instantly drawn to the field molecular biology. She enjoyed the intricate processes of life that cannot be seen with the naked eye. Erika was first exposed to research in 2011 through the CSU-LSAMP summer research program. She joined Dr. Editte Gharakhanian's cell biology research lab, conducting research on characterization of the Env7p function in regulation of vacuole fusion by confocal microscopy. Following that first summer experience, Erika continued to work in Dr. Gharakhanian's lab and became an LSAMP fellow in 2012. After three years in the lab, she co-authored the paper "Distinct palmitoylation events at the amino-terminal conserved cysteines of Env7 direct its stability, localization, and vacuolar fusion regulation in S. cerevisiac," published in the Journal of the American Society for Biochemistry and Molecular Biology. After much hard work, Erika graduated from CSULB with a degree in Cell and Molecular Biology, and an authorship in a prestigious journal. The adversity encountered in her life and lives of her family members shaped her will as a researcher and gave her the ability to push through difficulties. Erika hopes to become the first in her family to obtain a graduate degree.

OUTSTANDING ALUMNI
TUYEN TRAN · BIOCHEMISTRY

Tuyen Ngoc Tran graduated from CSU Long Beach with a B.S. in Biochemistry in 2013 and as the outstanding graduate of the College of Natural Sciences and Mathematics. Tuyens grew up in a first-generation immigrant and working class family. Although thrilled about the opportunity, Tuyen was nervous about attending college because he was a first-generation student, who could not speak English proficiently. Having the opportunity to participate in the CSU-LSAMP program at Long Beach increased his engagement with academic studies and undergraduate research. Thanks to the financial and academic support of the LSAMP program, he was able to cut back his working hours, concentrate on his studies, and conduct research. He joined Dr. Vasanthy Narayanaswami's laboratory, where he studied apolipoprotein E, an antiatherogenic apoplipoprotein that plays a significant role in the metabolism of lipoproteins. This work has led to two first-authored articles in top-tier peer-reviewed journals as well as numerous poster and oral presentations at regional and national conferences. Tuyen thrived academically at CSU Long Beach, receiving multiple awards and scholarships, including the Howell-CSUPERB Scholar award in 2012 and the Keenth L. Marsi Scholarship, given to an outstanding student in Chemistry and Biochemistry, in 2010 and 2012. Tuyen also received the American Chemical Society Community Interaction grant in 2013. Tuyen will always be grateful to his faculty mentor and the LSAMP-CSULB program for guiding him in the development of his academic, research, and leadership skills and for providing a wonderful college experience.





OUTSTANDING ACADEMIC & RESEARCH
CARLOS GARCIA · PHYSICS

Carlos Garcia attends California State University, Long Beach, majoring in Physics. He has earned a GPA of 3.87 and has been on the President's list many times. He has been awarded multiple scholarships and was invited to join Phi Kappa Phi. Carlos conducted research at CSULB under the guidance of Physics professor, Dr. Thomas Gedig. He worked on the growth of phthalocyanine, an organic semiconductor, on thin films and measured its roughness and crystalline peaks after it was sublimated onto a gold surface. The project focused on the molecular orientation of the organic semiconductor. The growth of phthalocyanine is affected by the roughness of the metallic surface. It can grow vertically or horizontally. Carlos is currently in the process of publishing a paper on his findings.

While at CSULB, Carlos joined the Society of Physics Students (SPS) club and participated in outreach programs, such as Science Extravaganza. He believes in the importance of being actively involved in both the department and the community. Being an active member of SPS reinforced the significance of graduate school for Carlos. He was accepted into multiple Ph.D. programs and ultimately decided to go to Florida State University. Carlos wants to pursue a Ph.D. because he deeply enjoys applying the concepts of physics in research experiments. After finishing the Ph.D. program at Florida State University, Carlos hopes to pursue a career in research. He feels it would be an honor to work in a national laboratory and to lead his own research projects.

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OUTSTANDING ALUMNUS
CINDY PHAM · CHEMISTRY

Cindy Pham graduated from CSU Long Beach with a B.S. in Chemistry in Spring 2013. She is now in her first year of the Ph.D. program in Analytical Chemistry at UC Davis and recently received the Graduate Assistant in Areas of National Need Fellowship.

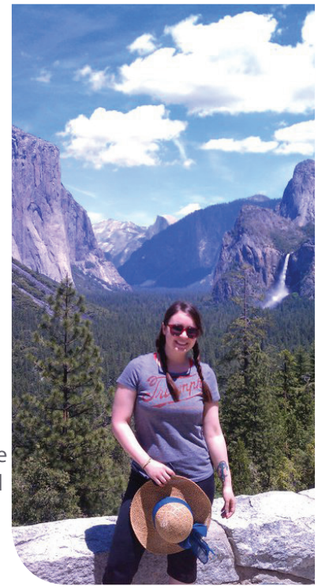
At CSULB, Cindy was actively engaged in research under the supervision of Dr. Michael P. Schramm. She worked on three unique projects. The first involved preparation of alpha helical peptidomimetics, which suggests structural design for dipyrrole compounds. As a result of this project's success, Cindy co-authored a paper published in Synthesis. The second dealt with the transportation of cavitands across a unilamellar membrane. The third project consisted of producing calix-[4]-arenes and calix-[5]-arenes. Through these research projects, Cindy developed an impressive set of laboratory skills and learned to be an independent thinker and problem solver. Cindy presented her research at numerous national conferences, supported by various competitive travel grants.

Cindy also actively participated in the Chemistry departmental community through SAACS (Student Affiliates of American Chemical Society) and The Beaker, a CSULB student chemistry newsletter. In 2011, she was awarded the Toni Horleck Service Award by the Department of Chemistry for her contributions to creating The Beaker. In 2013, as a board member of SAACS, she helped the club obtain several awards including the ACS Community Interaction Grant. Balancing research, attending conferences, her class work and department service, all while working taught Cindy many lessons that will prove useful as she pursues her Ph.D. in chemistry and an academic career.



California State University, Los Angeles

OUTSTANDING ACADEMIC, RESEARCH, SERVICE/LEADERSHIP & ALUMNA
ALISON SCOTT · BIOLOGY



Alison Dawn Scott entered CSU Los Angeles as an electrical engineering major, but transitioned to biology. She joined the plant ecology and evolutionary biology group with Dr. Stacey Lee Thompson and Dr. Kirsten Fisher, where she conducted research on clonal reproduction in natural populations of western red cedar. In 2008, Alison received a summer research fellowship through the LSAMP International REU program and did research at the Universidad de São Paulo, Brazil with Dr. Hugo A. Armelin, studying FGF2-triggered stress responses in malignant cells. Her current Ph.D. research examines the evolutionary history of coast redwood trees using the fossil record and molecular sequence data. She has presented at numerous research conferences, receiving travel awards to present at these meetings. Academically, Alison has received numerous awards and recognitions. She graduated with Honors in Biology and cum laude from CSU, Los Angeles, representing the top 5% of students in her college. Upon entering the Ph.D. program in Botany at the University of Wisconsin, she received an NSF Graduate Research Fellowship, and two fellowships from the University of Wisconsin. Despite Alison's busy schedule, she has returned to CSU Los Angeles several times to conduct workshops for LSAMP students interested in applying to Ph.D. programs. At Wisconsin, Alison has served as a graduate student representative on many committees. She has also developed and coordinated outreach for elementary, junior high and high school students. CSU Los Angeles takes great pride in recognizing Alison as our outstanding alumna for a CSU-LSAMP PROUD Scholar for excellence in academics, STEM research and Service/Leadership.



OUTSTANDING RESEARCH
EILEEN GONZALEZ · BIOLOGY

When Eileen Gonzalez discovered microbiology and research, she quickly blossomed into a promising young scientist. For the last three years, Eileen has worked with Dr. Katrina Yamazaki, investigating the role of mitochondrial dynamics in the setting of type 2 diabetes. Eileen has received travel awards to disseminate her research at local, state and national conferences, and has coauthored a published paper on her research. Eileen participated in two summer research programs. In 2012, she interned in the lab of Dr. Kieran Clarke at Oxford University, where she metabolically characterized a new type 2 diabetic rat model and developed a permeabilized muscle fiber protocol to measure mitochondrial respiration in mouse cardiomyoctes. Her efforts led to another publication. In 2013, Eileen interned with Dr. Asa Gustafsson at UC San Diego School of Medicine, investigating the functional importance of Parkin in pathological hypertrophy and heart failure development. She presented the results of this project at a National American Heart Association meeting. Because of her success presenting at national conferences, Eileen was invited to run a workshop for other LSAMP undergraduate students. Eileen has also served as a facilitator for LSAMP biology and chemistry BREEZE workshops. Eileen's research has led to two journal publications, 12 poster presentations, 6 oral presentations, 3 first place presentation awards, and multiple travel awards, all of which display Eileen's dedication and passion for science. CSU Los Angeles takes great pride in recognizing Eileen as a CSU-LSAMP PROUD Scholar for excellence in research.



OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
ERNESTO COVARRUBIAS · MECHANICAL ENGINEERING

Ernesto Emilio Covarrubias is enthusiastically involved with the LSAMP program at CSU Los Angeles. As a fourth-year mechanical engineering student, Ernesto has actively recruited new students into LSAMP so they can benefit from the same opportunities he had. Ernesto plans to pursue a graduate degree, which he believes will allow him to help others and to give back to this community. Ernesto is actively engaged in leadership and service on campus and within the local community. He is currently president of the Pi Tau Sigma Mechanical Engineering Honor Society, Vice President for the Society of Hispanic Professional Engineers (SHPE), and a member of many other organizations. Ernesto also is actively engaged in service to his college and the University. As the college representative for the Associated Students, Incorporated Board of Directors, Ernesto serves as a bridge for the students in his college to share their ideas and concerns with the university. Ernesto also volunteers in the local community. Through SHPE, he promotes STEM to middle school and high school students. He also volunteered with the Crystal Cuevas Foundation to help families with Down syndrome, and with Habitat for Humanity. Ernesto is an extremely bright student who, despite all these activities, still manages to maintain academic excellence, receiving multiple scholarships. He credits his parents as his greatest inspiration. They have taught him the importance of working hard at every task he undertakes. CSU Los Angeles takes great pride in recognizing Ernesto as a CSU-LSAMP PROUD Scholar for excellence in academics and service/learning.

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OUTSTANDING ACADEMIC & RESEARCH
CARLOS SANCHEZ · PHYSICS & CHEMISTRY

Carlos Adrian Sanchez started his undergraduate career as a community college student, majoring in chemistry and completing introductory physics requirements. In September, 2011 he transferred to CSU, Los Angeles as a dual chemistry and physics major. He quickly joined the condensed matter physics lab of Dr. Oscar Bernal. Carlos's research focused on investigating heavy fermions, specifically the magnetic properties of UCu3.95 Ni1.05. Each year, Carlos has received invitations and travel awards to give oral presentations at the California-Nevada chapter and at the National meetings of the American Physical Society (APS). The National APS meeting is recognized as the most prestigious meeting of physicists worldwide. He has also given presentations at the Southern California Conferences for Undergraduate Research and the CSU Los Angeles Research Symposium. As a dual chemistry and physics major taking 5 courses each quarter, Carlos has maintained an overall GPA of 3.618, and has been on our Dean's List nearly every quarter. Despite his busy schedule, Carlos has served as a facilitator for physics, chemistry, and mathematics LSAMP Academic Year Workshops and BREEZE Workshops, intensive two to three-week workshops offered during the quarter breaks or prior to the start of fall quarter. Carlos has been an excellent facilitator and has received outstanding evaluations from other LSAMP undergraduates. After graduation, he plans to further develop his research skills in condensed matter physics by first obtaining an M.S. in Physics and then a PhD in Physics. CSU Los Angeles takes great pride in recognizing Carlos as a CSU-LSAMP PROUD Scholar for excellence in academics and STEM research.

California State University
MONTEREY BAY
Extraordinary Opportunity



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OUTSTANDING RESEARCH
LILYANA GROSS · MATHEMATICS

Lilyana Gross is a Pure Mathematics major and Statistics minor, and intends to pursue a Ph.D. degree in applied mathematics and statistics with applications to biology and public health. Her research interests include stochastic modeling, epidemiology, and clinical trial biostatistics. Lilyana was recruited to play volleyball for CSUMB's Women's Volleyball team where she served two seasons as the Team Captain. Her priorities changed when she applied to become a Scholar with CSUMB's Undergraduate Research Opportunities Center (UROC) and a participant in the CSU-LSAMP program, and she committed herself to undergraduate research and to furthering her academic scholarship. In summer 2013 Lilyana conducted research in applied mathematics under the mentorship of Dr. Alun Lloyd at North Carolina State University (NCSU). She developed mathematical models to study the spread of methamphetamine use as a disease moving through a population. At the 2014 Joint Mathematics Meetings, Lilyana was honored with the Outstanding Research Poster Presentation Award for this research. She also presented her research at the Mathematics Association of America 2014 Golden Section Conference. During a Research Ethics Training Seminar at NCSU, Lilyana examined the ethics involved in clinical trials and how the statistical design of a study could affect its validity. Lilyana decided to pursue biostatistics research and spent the summer of 2014 at the Harvard School of Public Health. Under the mentorship of Dr. Brent Coull, Lilyana created stochastic multivariate models to investigate maternal prenatal stress levels on health outcomes. Her research experiences confirmed her dedication to a career in public health research that incorporates biostatistics and the impacts of social trends. Lilyana was recently selected as a CSU Sally Casanova Pre-Doctoral Scholar that provides her funding to visit doctoral-granting institutions, attend national conferences in her field, conduct research, and apply to Ph.D. degree programs.



OUTSTANDING RESEARCH
ANDREA VALDEZ · BIOLOGY

Andrea Valdez is a Biology major and Mathematics minor at CSU Monterey Bay. In the summer of 2013, Andrea conducted research at the University of Missouri, under the mentorship of Dr. Paula McSteen, identifying mutated genes in maize. She presented her research at conferences including the Council for Undergraduate Research conference, the California State University Program for Education and Research in Biotechnology Symposium (CSUPERB), and the Emerging Researchers National Conference (ERN). At ERN Andrea received second place in the Genetics Poster Presentation category. Eager to continue her involvement in research during the academic year, Andrea secured a research project at Moss Landing Marine Laboratories under the mentorship of graduate student Gabriela Navas where she compared genetic, age, and morphometric differences between Washington State, California State, and Mexico populations of pacific geoduck clam, Panopea generosa. This research confirmed her interest in working with marine organisms and allowed her to focus her research goals. During the summer of 2014, Andrea conducted independent research at UC Santa Barbara under the mentorship of Dr. Gretchen Hofmann on the genetic impacts of ocean acidification on the survival of the purple sea urchin. Beyond her academics and research, Andrea demonstrates impressive leadership. She serves as the Webmaster and Public Relations officer for CSUMB's Beta Beta Beta National Biological honor society chapter. She also mentors lower division undergraduates through the Peer-to-Peer Mentor program and works as a Teacher's Assistant for both the Eukaryotic Molecular Biology and Organic Chemistry courses. Most recently she co-directed the 2014 Undergraduate Research Week at CSUMB. Andrea's research, leadership, and academic achievements have prepared her to be a strong applicant for top doctoral programs in marine genetics.



OUTSTANDING RESEARCH
JENNY BROWN · BIOLOGY

Biology major Jenny Brown is a motivated self-starter committed to obtaining a doctorate in the biomedical sciences. To meet this goal Jenny built a robust suite of undergraduate research experiences. In the summer of 2013, under the mentorship of Dr. Sonia Najjar at the University of Toledo's Center for Diabetes and Endocrine Research, Jenny investigated the biochemical processes involved in the development of atherosclerosis. She presented her research at the CSU Biotechnology Symposium. In the summer of 2014, Jenny conducted research at the New York State Department of Health's Wadsworth Center where, under the mentorship of Dr. Bruce Herron and Dr. Denise Kay, she optimized an assay for testing the impact of thyroid hormone on skin angiogenesis. She is currently completing her honors capstone project with CSU Monterey Bay's Dr. Arlene Haffa investigating the nutritional impacts of the herbicide breakdown product glyoxylate on kidney disease. Jenny is also applying her research experience in service to the community. She is working with the Community Hospital of Monterey County to develop curriculum for a Kids Eat Right obesity prevention program to be implemented in 4th grade classrooms in Monterey County. Jenny was recently selected as a CSU Sally Casanova Pre-Doctoral Scholar that provides her funding to visit doctoral-granting institutions, attend national conferences in her field, conduct research, and apply to Ph.D. degree programs.

California State University
Northridge



Campus Coordinator

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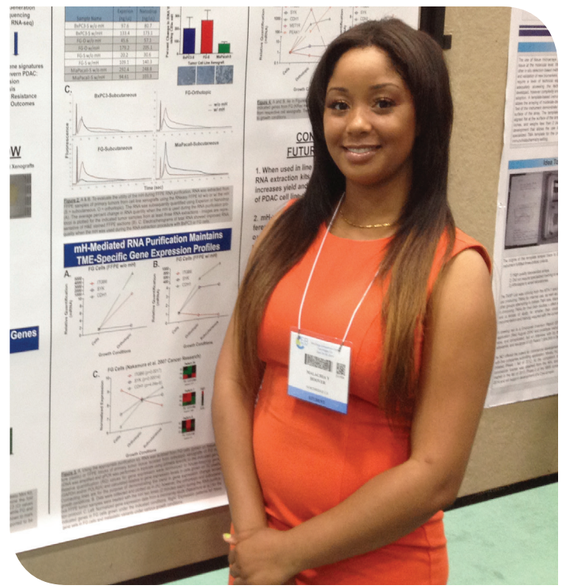


OUTSTANDING RESEARCH
EDUARDO BERNAL
BIOLOGY

Eduardo Bernal is a senior at CSU Northridge, pursuing a B.S. in Molecular and Cell Biology with a minor in Chemistry. He plans to attend graduate school to earn a Ph.D., with the goal of learning more about agronomy and studying the crop stress factors, such as soil salinity, that negatively affect crops every year. His ultimate goal is to find a novel gene that regulates these factors and to genetically modify crops to our benefit. This would enormously help crop production around the world, especially in developing countries. From an early age, Eduardo believed in taking advantage of the opportunities bestowed upon him. He completed 34 college accredited units at El Paso Community College while attending high school. After transferring to CSUN, he was invited by graduate student James Go to do research in the Hong lab. His hard work in the lab enabled him to present his research at the 19th International C. elegans meeting at UCLA. He was selected to present his research at the Emerging Researchers National Conference in Washington DC, and was the recipient of a travel award to cover his expenses. Eduardo applied to six summer internship programs across the nation and was accepted into two of them. Thanks to this opportunity, Eduardo spent the summer of 2014 at the Ohio Agricultural Research and Development Center. While continuing to pursue his ultimate goal, Eduardo has maintained a 3.49 GPA and spends many hours a week doing research, studying, and preparing for the GRE.

OUTSTANDING RESEARCH
MALACHIA HOOVER · BIOLOGY

A graduating senior at CSU Northridge, Malachia Yvonne Hoover plans to become a biomedical researcher. Her Cell and Molecular Biology degree has laid the foundation, but the key to her success has been the hands-on application of molecular technology she has gained in the laboratory. For over two years, Malachia worked with Dr. Jonathan Kelber in his Development Oncogene Lab at CSUN. The primary focus of the lab is to examine specific markers relevant to the most abundant form of pancreatic cancer, in hope of developing new gene therapies. With the help of two colleagues, Malachia utilized bioinformatics to discover three genes not yet known in pancreatic cancer. She also worked on examining the morphological change that cancer cells undergo to metastasize. Malachia is currently working in partnership with Claremont BioSolutions, on methods to increase the quality and quantity of RNA extraction from human tumors. Her results have shown a 2-3 fold increase in RNA quality and also increase in quantity. These findings have the potential to greatly change the field of cancer studies. Malachia has had the opportunity to present her work at several conferences and will continue her work in the field of cancer studies as a Master's student under her principal investigator Dr. Kelber. She plans to earn a Ph.D. in either cancer or stem cell sciences, and her ultimate goal is to increase the longevity of human life by defeating the occurrence of disease.



CAL POLY POMONA

OUTSTANDING ACADEMIC
DAVID SCIANNI · COMPUTER SCIENCE



David Scianni graduated from California Polytechnic University, Pomona in June, 2014 with a Bachelor's degree in Computer Science. He maintained an overall GPA of 3.9, and garnered many honors while at Cal Poly Pomona, including the Boeing Computer Science Scholarship, the Bruce B. Hillam Scholarship for Computer Science, and the Dr. Paul C. Hiemenz SEES Scholarship. Impressively, David was the only undergraduate recipient awarded the 2013 President's Council Scholar for the College of Science Award. David has been accepted to the M.S. in Computer Science program at the University of Southern California. During his time at Cal Poly Pomona, David performed research under Dr. Amar Raheja, creating a word game app that ran on android devices. This project incorporated several steps, including the design phase, graphics, game play and rules, coding, and testing. He was also involved in research involving the creation of a computer program that can deduce the length of germinating seeds, based on photos of the seeds. During his time at Cal Poly Pomona, David was an active member in the Science Educational Enhancement Services (SEES) program, serving as a mentor in the SEES Faculty-Alumni-Student Mentoring Program, and as a facilitator for the Academic Excellence Workshops in calculus, working with calculus professors to create worksheets & lessons for the students. David also helped organize a SEES field trip for computer science majors to Blizzard Entertainment Inc., the producers of World of Warcraft. The tour and programmer interviews aided the students with career planning, and helped them understand the application of their skills.

OUTSTANDING ACADEMIC
AUBRIE DE LA CRUZ · BIOLOGY



Aubrie De La Cruz is a Biology major at California State Polytechnic University, Pomona and graduated in June 2014. She continues on to a graduate program in Plant Science. Aubrie's passion for learning and the excitement that comes from discovery led her to research. She participated in the summer REU Program at UC Riverside in 2012, where she worked alongside graduate students and postdoctoral fellows investigating the functions of RNA-binding proteins in Arabidopsis thaliana. She presented her findings at two conferences. Through the RISE Program at Cal Poly Pomona, Aubrie worked with Dr. Craig LaMunyon, studying gene functions in the spermatogenesis pathway of Caenorhabditis elegans. Following these research experiences, Aubrie wanted to explore ecological research so she participated in the summer REU program at the University of Michigan Biological Station in 2013, where she worked with the Forest Ecosystems Study group studying Red Oak and Red Maple sapling growth in an experimentally disturbed mixed deciduous forest. In winter 2014, she was awarded a SEES Research Apprenticeship, funded by the Hearst Foundation, to continue her research in the LaMunyon lab. Aubrie has excelled academically and was named to the Dean's List for 11 consecutive quarters, and to the President's List every year. Aubrie has been a part of the Beta Beta Beta Biological Honor Society since 2012, and in 2013, she was awarded an NSF S-STEM Scholarship for her academic success and achievements. Aubrie was also honored at the 2014 Hilda L. Solis Scholarship Dinner & Reception.

OUTSTANDING RESEARCH
SAMAYYAH WILLIAMS · CIVIL ENGINEERING



Samayyah Williams graduated from California State University, Pomona with a degree in Civil Engineering in June 2014, and plans to attend the University of Michigan where she seeks to earn a Ph.D. in Environmental Engineering. Samayyah hopes to work for the EPA, researching treatment solutions for problematic inorganic contaminants in groundwater. Samayyah conducted research under the direction of Dr. Ali Sharbat in the Civil Engineering Department, funded by the CSU-LSAMP program. Her research goal was to develop a more sustainable method for removal of nitrate-rich brine in drinking water through the use of reverse osmosis. This project addressed a real-world environmental. Samayyah's previous research, funded by the Ronald E. McNair Scholars Program, focused on contamination in the Spadra groundwater Basin, Cal Poly Pomona's drinking water source. She worked to determine the efficiency of denitrifying microbial populations in woodchip-sawdust bioreactors. Samayyah had the opportunity to present her work at numerous conferences that focused on water related research, and at local conferences that showcase student research. Most recently, Samayyah was awarded first place for outstanding research presentation at the 2nd Annual Cal Poly Pomona Student Research Conference (Engineering and Computer Science session). Samayyah was also an active member of campus and national chapters of the American Society of Civil Engineers, California Water Environment Association, American Water Works Association, Water Environment Federation, the American Society for Engineering Education. She also acted as a peer research mentor to help students expand their interest in research and was activities chair for the student chapter of the California Water Environment Association (CWEA).

OUTSTANDING SERVICE/LEADERSHIP
ASHLEY SANTIAGO · CHEMISTRY



Ashley Santiago graduated in June 2014 with a B.S. in Chemistry from California State Polytechnic University, Pomona. A first generation college student, Ashley's transition into college was not easy as she found it difficult to find role models. Although heavily involved in research at Pomona, Ashley's heart was set on outreach and teaching. She aspires to bring together motivated individuals in science and help them become role models for future generations of under-represented minority students. Ashley participated in CSU-LSAMP math and chemistry Academic Excellence Workshops as a freshman, and decided to give back and become a facilitator herself. In this role, she guided dozens of students in chemistry workshops. Additionally, Ashley mentored in the SEES Faculty-Alumni-Student Mentoring Program, providing support and guidance to incoming freshmen and transfer students in their first year. Ashley was selected as a student assistant for the SEES program, heavily involved in leading summer orientation, academic advising, scouting for potential scholarship applicants, and coordinating program activities. Ashley was honored at the 2014 Hilda L. Solis Scholarship Dinner & Reception for her college commitment to the educational development of Latinos. Ashley has also been an active research scholar. As a participant in the MBRS-RISE Invitation program, she studied water-based and organic-based extraction of chemicals from campus plants to identify antimicrobial compounds. In 2011, she was funded to study waste vegetable oil as a renewable source in the synthesis of polyurethane derivatives. Ashley took every opportunity to gain experience in the scientific community, including presenting her research at conferences.

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SACRAMENTO STATE



ACTIVITY SPOTLIGHT
Summer Bridge (STEM)

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2014 marks the 20th year of Sacramento State's Summer MathAMP program. The primary goal of the math summer bridge program is to improve retention and graduation in STEM disciplines by (1) facilitating the transition from high school math to college level math, (2) improving academic achievement in pre-calculus and calculus courses, and (3) improving problem solving and critical thinking skills. Since its beginning, 92% of the students who join the LSAMP program have enrolled for the next (second) year at CSUS, with 79% enrolling for their third year, and 75% enrolling for their fourth year. In comparison, the retention rates for all Sacramento State students for the second, third and fourth years are: 78%, 65% and 60%, respectively. Participants in the LSAMP Math Summer Bridge program also have higher eventual graduation rates than Sacramento State students. These studies found that the 8-year graduation rate of these LSAMP students is 52% as compared to 48% for all Sacramento State students.



OUTSTANDING RESEARCH & SERVICE/LEADERSHIP
JASMINE HAMILTON
BIOLOGICAL SCIENCES

Jasmine Hamilton is a Sacramento State senior majoring in Biological Sciences whose research interest lie in the ecology and molecular biology of organisms inhabiting aquatic environments. As a Sacramento State LSAMP student, Jasmine has been preparing for graduate school by participating in extensive research experiences for the last three years. Jasmine got her start as an avid LSAMP researcher under the mentorship of Dr. Ronald Colman in the Evolutionary Ecology of Fishes Laboratory on the Sacramento State Campus. This experience parlayed into several others, including the McNair Scholars Program, the CSU-LSAMP Costa Rica Summer Research Program, the CSU Sacramento LSAMP Academic Year Research Program, and an NSF REU at the Rocky Mountain Biological Laboratory in Colorado. With each research experience, Jasmine has disseminated her research at several research symposia on campus, regional and national conferences, and the McNair Scholar's Program Journal. Most impressive of Jasmine's presentations was a poster presented at the 2013 Annual Biomedical Research Conference for Minority Students, where she won an Outstanding Poster Presentation award. Jasmine is also a student leader. She has worked with the Science Educational Equity Program and Project PASS as a peer instructor for general chemistry on the Sacramento State campus. This experience has further driven her passion to teach and help others succeed. Jasmine's career goal is to complete her Bachelor's degree and gain acceptance into a Ph.D. program. She plans to combine her love of teaching and ecology by serving as a graduate teaching assistant while researching aquatic biology.

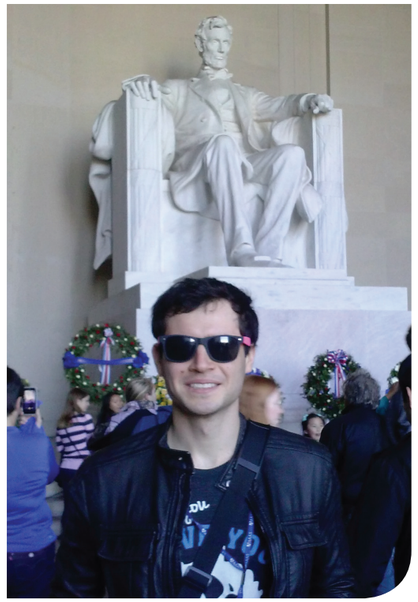
OUTSTANDING ACADEMIC, RESEARCH & LEADERSHIP
KEVIN HERNANDEZ · CHEMISTRY

Kevin Hernandez, a Chemistry major at Sacramento State, has been an active participant in CSU-LSAMP for 5 years. He is particularly proud of participating in LSAMP because the program helped him grow as a student, as a scientist, and as an individual. In summer 2009, Kevin participated in a three-week LSAMP Math Bridge, where he mastered mathematical methods that helped him better understand concepts in his future Calculus and Physical Chemistry classes. In summer 2010, he participated in a three-week "Introduction to Science Research" program. Kevin was part of a team that studied the health of the American River using spectroscopic analysis for metals from mining run-off, phosphates and nitrates from farm run-off, dissolved oxygen, and more. At the end of the program, Kevin's team delivered a stunning presentation about their research. During the 2010-2011 academic year, Kevin was an LSAMP Scholar. The following summer, he participated in a research program at the Carnegie Institute, and was invited to return in the summer of 2014. In 2013, he participated in the CSU-LSAMP summer Thailand Research Program, which he says changed his life as a person and scientist, not only by giving him the opportunity to do research at the University of Chiang Mai, but also by introducing him to the beautiful Thai culture. Kevin is currently conducting research in physical chemistry and plans to graduate in December 2014, then pursue a Ph.D. in Physical Chemistry. Kevin thanks LSAMP for helping him establish his career goal of becoming a research scientist.



CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

OUTSTANDING RESEARCH
ALBERTO ACEVEDO · PHYSICS AND MATHEMATICS



Alberto Acevedo is a very talented Physics and Mathematics major at CSU San Bernardino, who enjoys undergraduate research. He has participated in three summer REU programs in 2012, 2013, and 2014. In 2012 Alberto participated in the summer Mathematical Association of America (MAA) REU program at CSU San Bernardino, where he did research on graph theory. In 2013, Alberto participated in the Physics REU program at Brigham Young University and worked on quantum mechanics. In 2014, Alberto participated in the Mathematics REU program at CSU San Bernardino where he conducted research on differential geometry. Alberto has presented his research at several local and national conferences, among them several MAA meetings, the 2013 Annual Meeting of the MAA, and the 2014 Emerging Researchers National Conference. Alberto transferred to CSU San Bernardino in Fall 2011 from San Bernardino Valley College, and joined the CSU San Bernardino LSAMP program, where he participated in graduate school preparation activities. He progressed very rapidly, both in his courses, and in the CSU-LSAMP program, and got ready to apply to summer research programs. He was also selected to receive a 2012-13 CSU-LSAMP Community College Transfer Student Merit Award. Since winter 2013, Alberto has been a facilitator for the Calculus Academic Year Workshop. He plans to graduate in 2015 and apply to graduate school in pursuit of a Ph.D. in Applied Physics.

OUTSTANDING ACADEMIC
DANIELLE GUTIERREZ · MATHEMATICS



Danielle Gutierrez is a very talented mathematics student at CSU San Bernardino. Her academic performance at CSU San Bernardino has been outstanding, as she has been in the Dean's list for every quarter since her arrival on campus in March 2011. Usually the top student in every mathematics course she took, Danielle maintained a 3.879 GPA and graduated with a B.S. in Mathematics in June 2014. Danielle is very smart and understands concepts very quickly, a sure sign that she would succeed in every academic challenge she took on. Danielle began her undergraduate studies at the University of California, Los Angeles in Fall 2010, and transferred to CSU Santa Barbara in Spring 2011. She joined the CSU-LSAMP program to participate in the graduate school preparation activities. She also participated in the CSUSB LSAMP Math Summer Program in summer 2012, and one year later was selected to be a facilitator for the 2013 edition of that same program. She was selected to be a CSU-LSAMP Student Scholar for 2013-14. Danielle has been admitted into the Ph.D. program in Biomathematics at the University of California, Los Angeles, and will commence her graduate studies this fall.

OUTSTANDING PERSEVERANCE
VERONICA CHAVEZ · MATHEMATICS



Veronica Chavez is a very talented mathematics student with an extraordinary drive to succeed in her mathematical studies. She graduated from CSU San Bernardino in December 2013. Veronica joined the CSU San Bernardino LSAMP program in 2010. She attended the 2010 CSU San Bernardino Math Summer Program, and during 2010-11 participated in the graduate school preparation activities. She participated in the Mathematical Association of America 2011 summer REU program at CSU San Bernardino, where she did research on graph theory. Veronica was selected as a CSU-LSAMP Student Scholar for 2012-13. Although Veronica was scheduled to graduate in June 2013, she got very ill at the end of 2012, with a severe illness that took some time to diagnose. The illness made her very weak and she had to cut down her school work in order to follow her medical treatment. Veronica not only triumphed over the disease, she was able to persevere in her academic objectives. With great determination, she continued her studies, completed her Mathematics and Mass Communications Bachelor's degrees and applied to graduate schools. After being accepted by several mathematics Ph.D. programs, Veronica chose to accept UC Irvine's offer and will be starting her graduate studies in Fall 2014.

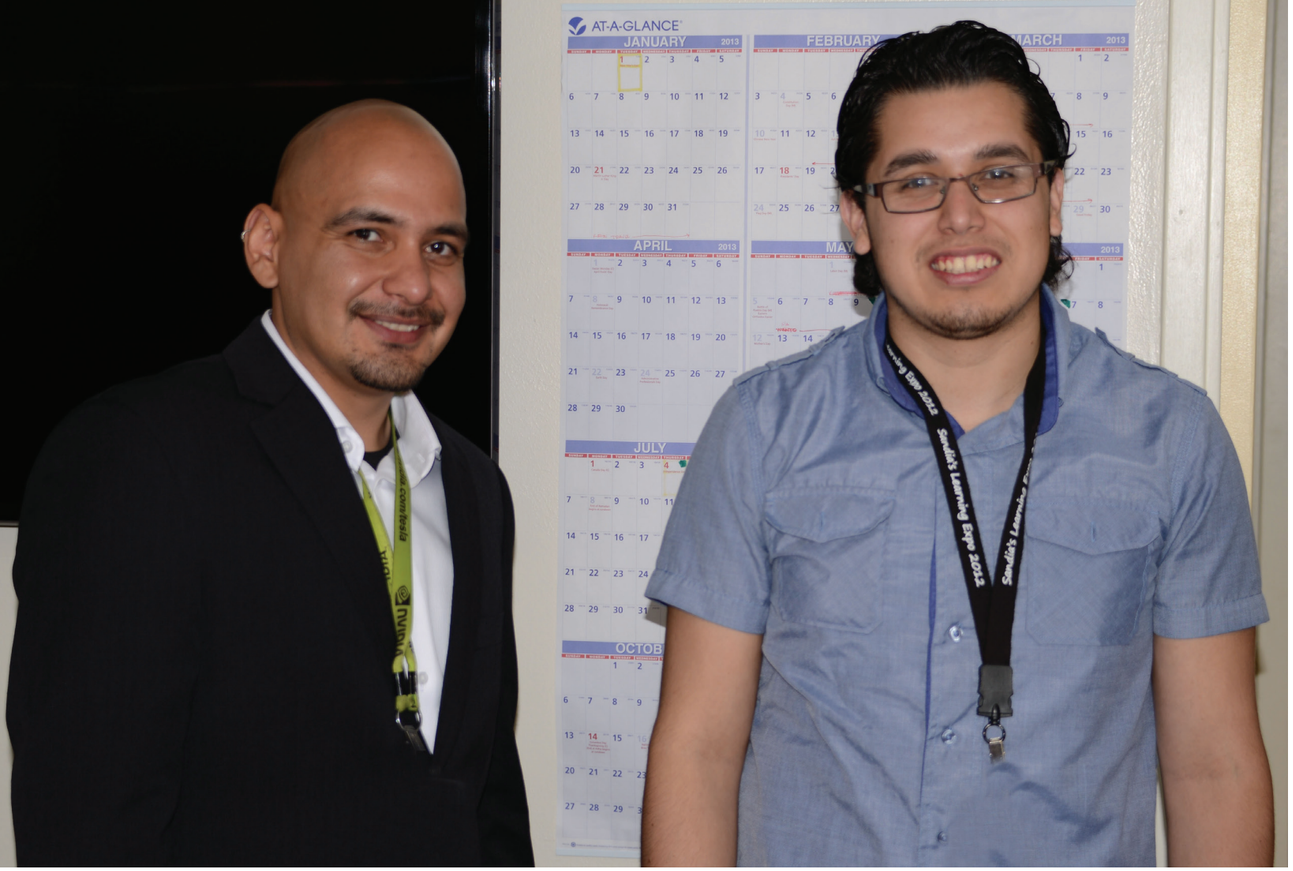
OUTSTANDING PERSONAL ACHIEVEMENT
ALEJANDRO NEGRETE · CHEMISTRY

Alejandro Negrete is a very talented chemistry student at CSU San Bernardino. He has done very well in school, even though he has three children, and has to work to support his family. His dream was to obtain a graduate degree in a chemistry related field, but his family commitments led him to believe that his dream was very hard to attain. He joined the LSAMP program in 2012 and attended the Math Summer Program, where he got a better understanding of graduate school, especially from talking to some of the LSAMP alumni that came to share their experiences with the summer program students. With great enthusiasm and optimism, Alejandro applied to summer REU programs for summer 2013, and was accepted into three programs, a record among CSU San Bernardino LSAMP students. He chose to go to the Chemistry REU program at the University of Oregon. After returning from that REU program, he applied to graduate school in December 2013. He was accepted into two Ph.D. programs at UC Riverside: Chemical Engineering and Chemistry. He has chosen to enter the Chemistry Ph.D. program and will commence his graduate studies in Fall 2014.



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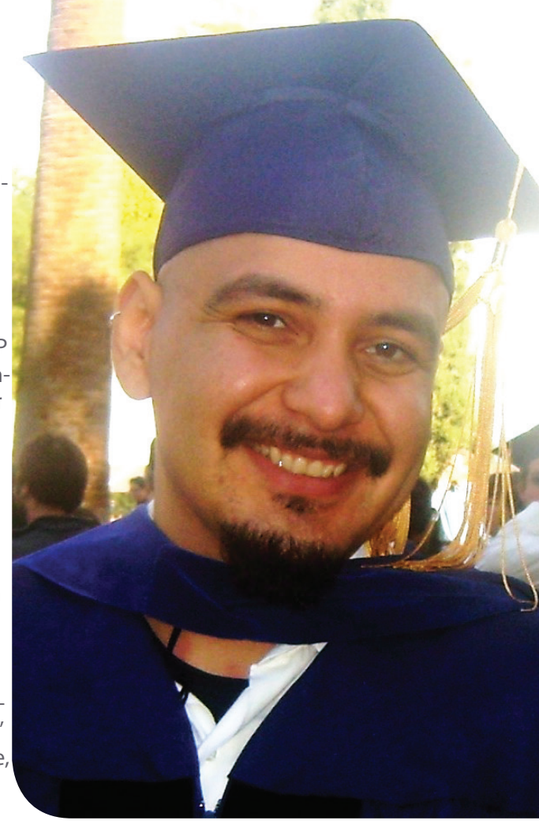
San Diego State University

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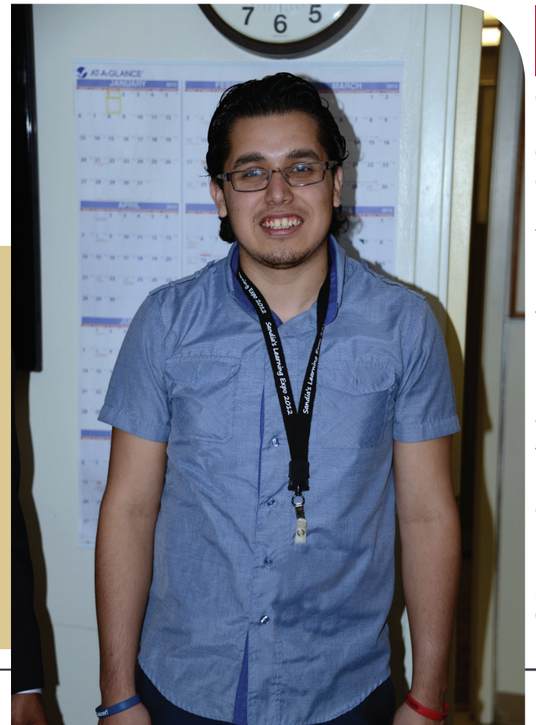
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OUTSTANDING ALUMNUS
EDWARD STEVEN JIMENEZ
APPLIED MATHEMATICS



Dr. Edward Steven Jimenez was a San Diego State University CSU-LSAMP student from Summer 2000 until his graduation with a degree in Mathematics in May 2004. Edward graduated with a cumulative GPA of 3.84 as the Outstanding Graduate of the College of Sciences. He served as a mentor, tutor and workshop leader in enrichment courses for STEM students taking calculus very clearly demonstrated his love for mathematics. He was the TA for the summer LSAMP summer program every year following the summer he was a new freshmen participant himself. He went on to become a SDSU MARC scholar and in April 2003, he was selected as one of only 10 students campus-wide, for the SDSU "Quest for the Best" 2003 Vice Presidential Student Service Award. This award is for students who have an excellent academic record; are student leaders; are involved in student service and activities; and participate in community service outside the SDSU campus. Edward also conducted research for which he won national awards and earned a publication. After graduating from SDSU, Steven went on to obtain a Ph.D. in Applied Mathematics from Arizona State University and is currently a Staff Scientist at Sandia National Laboratory. Steven has continued to give back to SDSU, returning often to campus to participate in Ph.D. panels and mentoring SDSU undergraduates in research projects at Sandia National Laboratory. The word "no" doesn't seem to be in Steven's vocabulary. He was, and continues to be, an excellent mentor and role model to students in the STEM fields.

OUTSTANDING SERVICE/LEADERSHIP
ISMAEL PEREZ · MATHEMATICS



Ismael Perez was a Mathematics major, with an emphasis in Computational Science, at San Diego State University. Over the four years that Ismael spent at SDSU, he made it a point to give back, not only to the SDSU community, but also to the surrounding communities. Ismael was the president of the SDSU Chapter of SACNAS. Through this organization, he hosted campus and laboratory tours for visiting middle and high school students. For multiple semesters, Ismael was a workshop leader for CSU-LSAMP calculus workshops. He has also been a mentor, tutor and math club instructor for students at the Barrio Logan College Institute. As an undergraduate student, Ismael was actively involved in research and volunteered to speak to students about his research and to have students shadow him in the lab, to see what research is like. In addition to his strong record of leadership and community service, Ismael is an excellent student. He is a member of the Phi Eta Sigma, Mortar Board, Golden Key, and Phi Kappa Phi Honor Societies and was awarded the Sally Cassanova California Pre-Doctoral Scholarship for 2013-14. Ismael was selected by his department to be a student representative in faculty hiring committees. Most recently, Ismael has a patent in review from his summer 2013 research experience at Sandia National Laboratory. Ismael graduated from SDSU in May 2014 with a 3.66 overall GPA and is a current CSU-LSAMP Bridge to the Doctorate student at Cal State LA enrolled in the Master's program in Electrical & Computer Engineering.

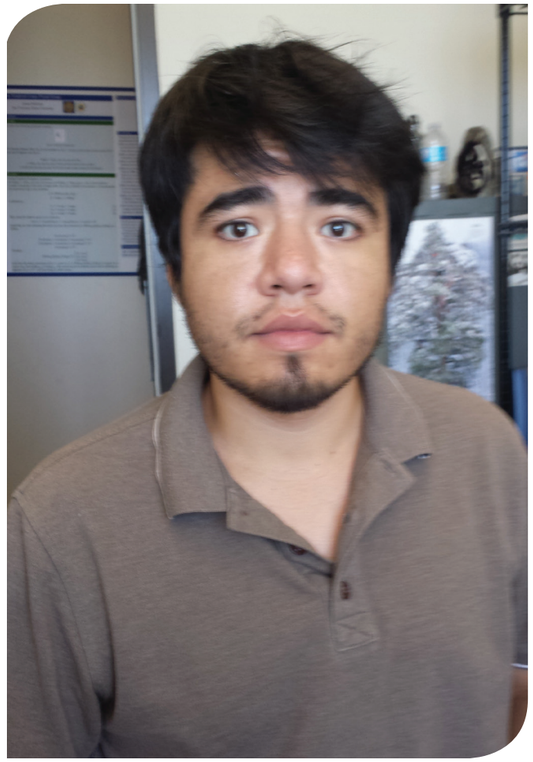
San Francisco State University



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OUTSTANDING PERSEVERANCE
EDER ALVAREZ
MATHEMATICS

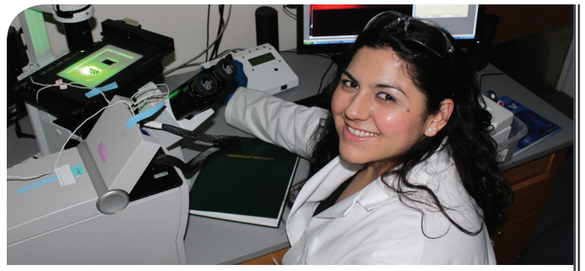
Eder D. Alvarez was born in Monterrey, N.L., Mexico in 1987. He immigrated to the US along with his single mother when he was 14 years old. Eder always had an interest in science and problem solving. He decided to major in Applied Mathematics because he wanted to learn more about how the world around him works and apply that knowledge to improve his community and his adopted country. Eder has been a participant in the CSU-LSAMP program at SFSU for over a year and has shown himself to be hard working and highly motivated. Having been raised by a single mother, he has shown great perseverance in overcoming social and educational barriers to careers in STEM. He is presently a student in Partial Differental Equations where is maintaining a 3.0 GPA.

OUTSTANDING RESEARCH
RILEY SMITH · ECOLOGY

As an undergraduate student seeking both a B.S. in Ecology & a B.A. in American Indian Studies at San Francisco State University, Riley Smith is conducting research in Dr. Cohen's evolutionary ecology lab. Her research project focuses on the relationship between marine organisms and anthropogenic influences, specifically how oceanic and anthropogenic factors shape the genetic structure of a locally dispersed sea star, Leptasterias spp., that is native to the California coastline. She recently presented her research findings of low genetic diversity associated with SF Bay outflow at the AISES conference in Anchorage, AK and the Evolution conference in Snowbird, UT. After finishing her undergraduate studies, Riley hopes to go to graduate school for both ecology and American Indian studies. She hopes to continue her education by developing an understanding of the ways natural resources and organisms are changing due to anthropogenic pressures, understand the cultural ties between Indigenous groups and their resources and hopefully be able to create protocols to help sustain both.



SJSU SAN JOSÉ STATE UNIVERSITY



OUTSTANDING ALUMNA
MONICA KAPIL · MECHANICAL ENGINEERING

Monica Kapil graduated from San Jose State University in 2009 with a B.S. in Mechanical Engineering. As an undergraduate, Monica conducted research under the supervision of Dr. John Lee. Her research focused on microfluidics using the polymer polymethylhydrosiloxane for biological and chemical separation processes. Monica also had the opportunity to conduct research at the IBM Almaden Research Center. Her project was to automate the macromolecular self-assembly STAR polymer thin films. Monica's involvement with CSU-LSAMP at SJSU included participation in the LSAMP Math Summer Intensive program, and service as facilitator for math and physics workshops. She was also very active in the Society for Latino Engineering and Science Students and the Mexican American Engineers and Scientists Association. Monica's commitment to her education and to diversity in STEM resulted in her selection for the CSU Chancellor's Doctoral Incentive Program. After completing a Master's in Mechanical Engineering at UC Berkeley, Monica entered into the Ph.D. program in Bioengineering at UC Berkeley, and is currently an NSF Graduate Research Fellow. Working with Dr. Amy Herr, Monica's research includes the development of a rapid, quantitative, microfluidic quality assessment-binding assay for selection of improved immunoreagents. In addition she screens antibody–antigen pairs for clinical and research applications such as novel therapeutics for cancer treatments. Monica is also active in the Latino/a Association of Graduate Students in Engineering and Sciences at UC Berkeley. She hopes to be able to return to the CSU as a faculty member once she completes her education.

OUTSTANDING ACADEMIC
ALEXIA PERRYMAN · CHEMISTRY

Alexia Perryman is a sophomore majoring in Chemistry with a concentration in Biochemistry at San Jose State University. She expects to graduate in Spring 2016 and to continue on to a Ph.D. in either Toxicology or Biochemistry. For the 2013-2014 year, she received a San Jose State College of Science Research and Teaching scholarship funded by the National Science Foundation S-STEM Program. The scholarship is awarded to students who are interested in pursuing a graduate degree, teaching, or career in research, and have excelled in their course work at SJSU. Alexia was also recognized Dean's Scholar in Spring 2014 for maintaining above a 3.65 GPA for at least two contiguous semesters from the three previous semesters. In efforts of remaining a competitive candidate for graduate schools, Alexia continues to attend workshops provided through LSAMP to succeed in her coursework. Besides school work, she is the Vice-President of the Biodiversity Club, a student organization focused on community involvement and providing education about ecology for elementary school students. She is also an active member of the Forensic Science Students Club. Alexia recently joined Chemistry Professor Alberto Rascon's research group, where she will be doing research in the area of bacterial protein expression and mosquito midgut proteases.





OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
EDWIN JOYA
MECHANICAL ENGINEERING

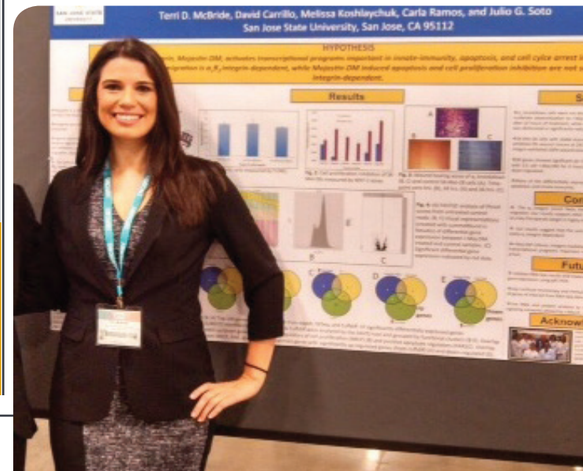
Edwin Joya is a Mechanical Engineering major with a concentration in Design at San Jose State University and expects to graduate in Fall 2014. At SJSU, Edwin has excelled academically and been a leader in his community. He has maintained a 3.62 GPA and is a member of various student organizations such as the Society of Latino Engineers and Scientists, Mexican American Engineers and Scientists, and the Golden Key International Honour Society. Edwin has been rewarded for his academic excellence, receiving numerous scholarships. Through the Golden Key International Honour Society, he was one of seventy engineering students from the United States selected to participate in the International Scholar Laureate Program. He visited China to learn about their technological advancements and their greatest engineering accomplishments. Edwin's participation with CSU-LSAMP gave him the opportunity to conduct research for Dr. Giles Muller. He performed excitation scans on luminescent lanthanide complexes with chiral ligands to characterize their structural, dynamic, spectroscopic, and chiroptical properties. Edwin has given back to his community in many ways. Since his freshman year, he has volunteered to participate in the SJSU Science Extravaganza, a one-day event where over 500 middle school students from underprivileged areas of San Jose participate in educational workshops. He developed his own engineering workshop and trained eight college students to facilitate it during the event. Edwin aspires to obtain an M.S. in Mechanical Engineering and to continue to encouraging minority students to attain a higher education in STEM.

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OUTSTANDING ACADEMIC & RESEARCH
TERRI MCBRIDE · BIOLOGICAL SCIENCES

Terri McBride is a senior majoring in Biological Sciences at San Jose State University. A first-generation college student from San Antonio, Texas, Terri's educational journey has not been easy. Initially, she attended San Antonio Community College but due to mounting financial pressures she joined the U.S. Coast Guard. She completed nearly ten years of honorable service in the enlisted corps but never gave up on her dream to attend college. In the fall of 2009 she matriculated at SJSU as a dietetics major but her interests soon shifted to cancer research. She joined Dr. Julio Soto's lab, where she studied the anticancer effects of Mojastin- a disintegrin peptide found in Mojave rattlesnake venom. Two summer internships further piqued her curiosity. In her first internship in Dr. Chi's lab at Memorial Sloan-Kettering, she studied the molecular signatures of chemoresistant gastrointestinal stromal tumor cells to discover key molecular targets for more effective targeted therapies. Her second internship in Dr. Sweet-Cordero's lab at Stanford was to identify genes that are responsible for chemoresistance in non-small cell lung cancer tumor-initiating cells. Terri has excelled academically and professionally as demonstrated by her 3.9 GPA and an impressive list of awards including Outstanding Graduating Senior Award 2014, President's Scholar, and selection to the National Cancer Institute's ICRC. Her educational goal is to obtain an M.D./Ph.D., specializing in medical oncology. She aspires to make significant contributions to cancer research, specifically to innovate targeted therapies for currently untreatable cancers, and to utilize bioinformatics and epidemiological studies to address health disparities in cancer.



Cal Poly

SAN LUIS OBISPO

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP

KIMBERLY HARRY · ENGINEERING



Kimberly dreamed of becoming a successful woman in engineering, not by achieving personal academic and professional success, but by educating and empowering others through her efforts. She moved to the US from Trinidad in pursuit of higher education; after enrolling at El Camino College, Kimberly worked diligently to maintain good grades while tutoring and being involved in great programs, such as MESA and WIT (Women in Technology). Kimberly received an NSF Award and the Kinder Morgan Scholarship while at El Camino.

Kimberly transferred to Cal Poly, San Luis Obispo in Fall 2011. At Cal Poly, she maintained an overall 3.5 GPA and received scholarships from Raytheon and Chevron. She was involved in student organizations where she demonstrated true leadership. Kimberly was an active member in the Society of Black Engineers and Scientists (SBES) for three years. For two summers, Kimberly worked in multiple states across the U.S. as a mentor in NSBE's Summer Engineering Experience for Kids (SEEK) program. As a SEEK mentor, she increased elementary school students' aptitude in math and science and their interest in pursuing STEM careers by engaging them in interactive, team-based engineering projects. In her second year at Cal Poly, she took a leadership position with Intervarsity Christian Fellowship, San Luis Obispo (IVSLO), a nationwide interdenominational campus ministry. Kimberly was also involved with Driven Toward Sisterhood (DTS), a cultural group on campus whose purpose is to create a positive environment and support system for African American women and women of African descent. Kimberly graduated with a B.S. in Industrial Engineering in Summer 2014.



OUTSTANDING ACADEMIC & RESEARCH

GEORGE BRUSCH · BIOLOGY

As a first-generation college student, a love of nature was not enough to keep George in school after starting Cal Poly as Forestry major in the summer of 2003. Despite leaving Cal Poly with a 1.7 GPA, George was readmitted in the Fall of 2011 and hit the ground running. Switching his major to Biology, he maintained over a 3.9 GPA, was on the Dean's List seven of eight quarters, and raised his cumulative GPA to above a 3.2. An active member in Cal Poly's LSAMP program and the Biological Sciences Department, he conducted reptile and amphibian surveys at local reserves, created independent research projects on campus, traveled internationally to conferences, and assisted in numerous projects in one of Cal Poly's Physiology labs. In addition to co-authoring three scientific papers, George participated in the Organization for Tropical Studies Research Experience for Undergrads (REU) program, where he travelled to Costa Rica, conducted his own research project, and wrote a manuscript that will soon be published in a scientific journal.

After receiving his undergraduate degree from Cal Poly, George was offered Ph.D. fellowships at two top universities, and began at Arizona State University in the fall of 2014, studying physiology with Dr. Dale DeNardo. Most recently, George was awarded a highly competitive Graduate Research Fellowship from the National Science Foundation, which will help support up to three years of his Ph.D. program, allowing him to focus on cutting-edge research.



OUTSTANDING SERVICE/LEADERSHIP & TRANSFER STUDENT

ADAM SMITH · INDUSTRIAL ENGINEERING

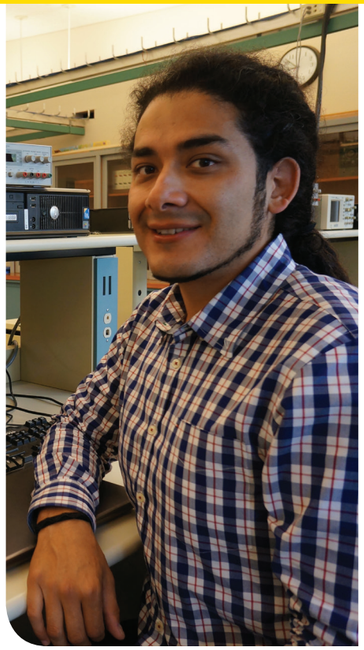
Adam is an Industrial Engineering major and second-year transfer student from San Joaquin Delta College in Stockton, CA. He was involved in the school's MESA program, where he joined a vibrant community of supportive students. He became the co-president of the SJDC chapter of the Society of Hispanic Professional Engineers (SHPE), and led the expansion of members from seven to forty-two.

During the summer of 2013, he interned for Bayer HealthCare's biomanufacturing facility in Berkeley to learn and contribute to operational excellence activities on-site; an experience that cemented his decision to pursue a career in the field of industrial engineering.

Adam was ecstatic to be accepted to Cal Poly, his dream school. In his first year, Adam became the Transfer Student Representative for the school's SHPE chapter. In this capacity, he lead fundraising activities in partnership with GRID Alternatives to install solar panels on the homes of low-income residents of the Central Coast. Adam also took a one-week trip to Shanghai as part of an International Supply Chain Class where he met with industry experts, and explored the city's cultural and tourist locations. During summer 2014, Adam interned at Raytheon Space and Airborne Systems in Santa Barbara in a supply chain management role for electronic sub-components. This academic year, Adam is the vice president for Cal Poly's SHPE chapter, and is working to send a record number of students to the SHPE National conference.

Adam is thankful for how much his mom has sacrificed to make things possible for him.

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OUTSTANDING ACADEMIC & RESEARCH

JAVIER SUAREZ · ELECTRICAL ENGINEERING

Javier Ibarra Suárez transferred from Riverside Community College to Cal Poly, San Luis Obispo where he received his B.S. in Electrical Engineering. During his undergraduate studies, Javier took advantage of a number of internship opportunities both domestic and abroad. During summer 2012, the German academic exchange service (DAAD) awarded Javier a 2 month internship to work in Germany for the University of Freiburg. In Freiburg, the research dealt with the design of an ASIC that was capable of being self-sustaining with the use of fuel cells that could also transmit data wirelessly. The following summer he was awarded an internship from Intel. At Intel, Javier worked in a lab where he programmed in a variety of languages, made measurements, automated several time-saving processes to make manual measurements, and developed debug tools. As a result of his contributions, Intel selected Javier as one of their doctoral fellows in the National GEM Consortium Fellowship program.

In Fall 2013, he was invited to be a part of the MERGE cohort, a multicultural recruiting event sponsored by the University of Illinois at Urbana-Champaign (UIUC). More recently, Javier has been admitted as a Ph.D. student to the prestigious department of Electrical and Computer Engineering at UIUC. He is a 2014 recipient of a SURGE fellowship sponsored by UIUC and in the Fall of 2014 he began his work with Bliss Professor of Engineering, Dr. Stephen Boppart, in the field of Optogenetics.

California State University
SAN MARCOS

OUTSTANDING ACADEMIC
GARY SIMMONS · PHYSICS



Gary Simmons, an African-Filipino American at California State University San Marcos, earned his bachelor's degree in Applied Physics in Spring 2014 with a cumulative GPA of 3.97. Because of his numerous accomplishments in academics, research, and service, he earned the CSUSM College of Science Dean's Award for 2014 and the CSUSM Presidential Award for the same year.

In 2010, Gary became a CSU-LSAMP Scholar. The same year, he was selected as a scholar for the Minority Access to Research Career (MARC) program. Gary also worked as a learning assistant for a Mechanical Physics and Sound Course (Phys 201) at CSUSM. Participating in the Committee of Institutional Cooperation-Summer Research Opportunity Program (CIC-SROP) in 2012 at Purdue University, he conducted research on the electronics of photomultiplier tube bases for high-rate nuclear radiation detectors under the direction of Dr. David Koltick. Since then, Gary has investigated the physics behind commercial plasma globes with Dr. Michael Burin at CSUSM. Gary presented this work at various conferences, including the Annual Meeting of the American Physics Society- Division of Plasma Physics.

Gary was the vice president for the Society of Physics Students (SPS) and the Outreach Officer for the Society for the Advancement of Native Americans and Chicanos in the Sciences (SACNAS) at CSUSM. In his senior year, he was elected as the secretary for both SPS and SACNAS. Gary volunteers in multiple outreach and educational opportunities geared towards teaching physics to the public.

OUTSTANDING SERVICE/LEADERSHIP
ALANNAH MIRANDA · BIOCHEMISTRY



Alannah Miranda earned her bachelor's degree in Biochemistry with minors in Physics and French in Spring 2014. In Spring 2012, she became a Louis Stokes Alliances for Minority Participation Scholar. The same year, Alannah was selected as a scholar for the Minority Access to Research Careers program. Alannah began research under the mentorship of Dr. Denise Garcia and Dr. Suzanne Hizer, identifying viral integration sites in the genome of Pacific Blue Shrimp. During Summer 2013, she participated in the Interdisciplinary Research Experience for Undergraduates at the University of Michigan, Ann Arbor. Under the mentorship of Dr. Leslie Satin, Alannah investigated the changes in calcium concentration in isolated mouse pancreatic islets in response to varying glucose levels. Alannah presented this research at the Annual Biomedical Research Conference for Minority Students in 2013 and received a presentation award. At CSUSM, Alannah conducted research with Dr. Matthew Escobar investigating the physiological role of the enzyme polyphenol oxidase in walnut leaves.

Alannah exhibits exemplary leadership skills as a supplemental instruction leader for biostatistics, as a tutor in biology and chemistry, and as the secretary of the CSUSM American Chemical Society.

In Fall 2014, Alannah began a PhD program in Biomedical Sciences at the University of California, San Diego.

OUTSTANDING RESEARCH
CARLOS GONZALEZ · BIOLOGICAL SCIENCES



Carlos Gonzalez transferred to CSUSM from Imperial Valley College in 2011 and became a Louis Stokes Alliance for Minority Participation Program Scholar the same semester. He graduated in Spring 2014 with a bachelor's degree in Biological Sciences and a Cellular and Molecular concentration. Carlos conducted research in Dr. Keith Trujillo's neuropsychopharmacology lab, elucidating ketamine- and methamphetamine-induced behavioral differences between adults and adolescents.

In 2012, Carlos was selected as a Research Initiative for Scientific Enhancement (RISE) Scholar and a Minority Access to Research Careers (MARC) Scholar. Carlos presented his research at several conferences such as the Society for Neuroscience and the CSU Statewide student research competition, where he was awarded first place in 2012 and 2013. In addition, Carlos was the founding President for the CSUSM chapter of the Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS), where he developed science workshops for underprivileged elementary and high school students. During Summer 2013, Carlos participated in the Amgen-sponsored Stanford Summer Research Program, where he studied the role of the protein extended synaptotagmin on degranulation in basophils in the laboratory of Dr. Tobias Meyer.

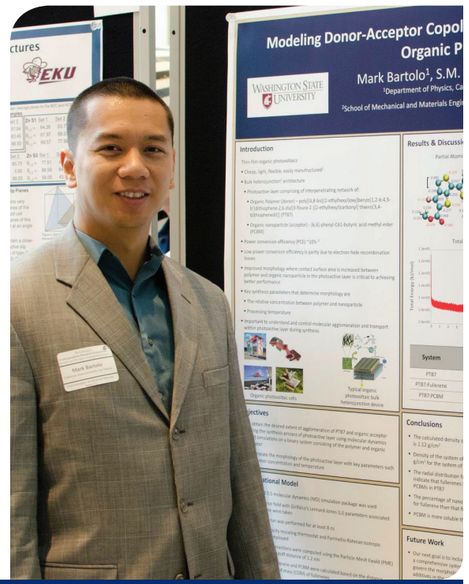
In Fall 2014, Carlos began a PhD program at Stanford School of Medicine in the Biosciences Department with an emphasis in Chemical and Systems Biology.

OUTSTANDING RESEARCH
MARK BARTOLO · PHYSICS

Mark Bartolo will earn his B.S in Applied Physics with a Concentration in Applied Electronics and a minor in Computer Science in Spring 2015. Mark transferred to California State University, San Marcos from Palomar College in Fall 2012. During Spring 2013, Mark became a CSU-LSAMP scholar, and later a scholar of the Minority Access to Research Careers (MARC) program.

During the summer of 2013, he participated in the Research Experience for Undergraduates program for advanced materials characterization at Washington State University, Pullman. His project focused on simulating the synthesis process of the photoactive layer in organic photovoltaics. Mark presented his work at the UCSD Summer Research Conference. At CSUSM, he is working with Dr. Stephen Tsui, Physics, and Dr. Eric Reinheimer, Center for Molecular Structure at CSUSM, to synthesize and electrically characterize organic crystals for semiconducting properties. In his junior year, Mark earned co-authorship on a paper accepted to the Journal of Chemical Crystallography. Mark presented his findings at the CSUSM Symposium on Student Research, Creative Activities & Innovation.

Upon completing his B.S., he plans to pursue a Ph.D. in Materials Science & Engineering.



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SONOMA
STATE UNIVERSITY

OUTSTANDING ACADEMIC & RESEARCH
STEPHANIE HENRIQUEZ · BIOLOGY



Stephanie Henriquez is a McNair Scholar in her fourth year at Sonoma State University. She is studying Biology with a concentration in Molecular Biology and a minor in Chemistry. Her planned graduation date is Spring 2015 and will apply to Ph.D. programs in the fall. She has been a teacher's assistant in the anatomy lab her sophomore and junior years and, during the past year, a supplemental instructor through the tutoring department for the lower division biology classes.

Since February 2012, she has been involved in a research project with Drs. Lin and Fukuto involving both immunology and biochemistry. In the summer of 2013, she received one of two Sonoma State summer STEM assistantships to continue her research. She presented posters on her project at the annual Sonoma State McNair Symposium last May and the 26th Annual CSU Biotechnology Symposium earlier in January. Stephanie also contributed to the fourth volume of the Sonoma State McNair Scholars Journal. She plans on presenting in both PowerPoint and poster format at the Sonoma State McNair Symposium this year and contributing to the fifth volume of the journal with her updated progress. Her community involvement is focused on influencing elementary and middle school students to take more STEM classes and eventually enter into STEM fields. Volunteering commitments include participating as a science fair judge for two years at the Synopsys-Sonoma County Fair and sitting on the SSU Student Panel for the 2014 Sonoma County Expanding Your Horizons workshop.



OUTSTANDING ACADEMIC & RESEARCH
JACOB BARRETT · CHEMISTRY

Jacob Barrett was born and raised in Los Angeles, California, and spent a great part of his life playing soccer. As a child, he always loved biology, particularly zoology, and is still as fascinated by animal life. Originally, Jacob entered Sonoma State University as a Biology major but would subsequently change to Chemistry after taking Organic Chemistry. He particularly enjoyed all of the lab-based chemistry courses and is grateful for LSAMP, which allowed him to do research, instead of working a part-time job. For the past two years, he worked with Dr. Carmen Works, a Chemistry Professor at Sonoma State, on a project titled "Synthesis and Characterization of Diiron Azadithiolate Model Compounds." Jacob and Dr. Works synthesized and characterized, using spectroscopy, two diiron azadithiolate model compounds in an attempt to create a water soluble model as a potential carbon monoxide releasing molecule.

His eyes were opened to the idea of a truly green future for mankind when he participated in the LSAMP Project NUTria in Costa Rica. He recently accepted an admission offer to the UCSB Chemistry and Biochemistry Department to earn his doctorate. In the near future, Jacob plans to increase his knowledge in solar energy conversion, efficient catalysis, Carbon Dioxide reduction, and the effective use of biological feedstocks for renewable energy. After earning his doctorate, he would like to found a company based on CO2 reduction of industrial emissions.



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OUTSTANDING ACADEMIC & RESEARCH
RACHEL DELEON · BIOLOGY

Rachel Deleon was born and raised in San Francisco where she graduated with honors from Sacred Heart Cathedral Preparatory. After receiving an associate's degree in math and science from Napa Valley College, Rachel transferred to Sonoma State University in Fall 2011. As a first-generation college student, it was a challenge for her to work through the admission processes, apply for financial aid, and navigate bureaucratic operations. These experiences, however, only strengthened her resolve to move forward and persevere through any struggles she might encounter on her way to pursue a degree in science.

Rachel engaged in research at Sonoma State University with Biology professor, Dr. Joseph Lin. Examining the sensitivity of various protein tyrosine phosphatases (PTPs) important in proximal T cell signaling to oxidation, her research project is titled "Analysis of Reduction Potentials of Protein Tyrosine Phosphatases." She graduated with a bachelor's degree in cell and molecular biology in Spring 2014 and is currently a master's student at Sonoma State University. She feels the graduate program will provide her with the solid academic background, analytical skills, and unique toolset that she needs to succeed as a researcher. After completing her master's program at Sonoma State, Rachel plans to pursue a Ph.D. in molecular biology with the ultimate goal of running her own lab.



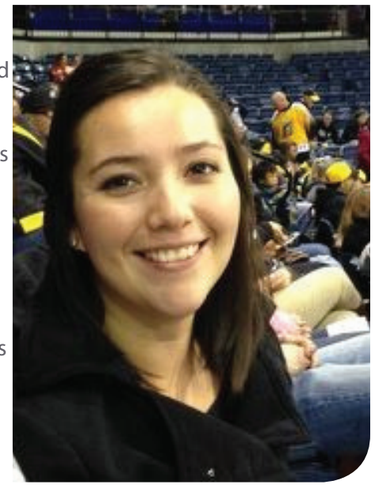
OUTSTANDING ACADEMIC & RESEARCH
JOSHUA GUTIERREZ · BIOCHEMISTRY

Joshua Gutierrez was born in Long Beach, California. His parents separated shortly after his birth and so his mother took full responsibility of raising Joshua. After his parents' separation, Joshua and his mother moved to the city of Lynwood, California. Although raised by a single parent, his mother taught him the values of life that he holds to this day. She taught him through her actions what it meant to be a person of character and to treat everyone equally.

He attended St. John Bosco High School on a scholarship in Southern California, which is a highly renowned school known for its academics and sport programs. It was during his third year as a junior in high school, however, that he took his first chemistry course, which he fell in love with. Yet, at the same time he was equally passionate for biology. Hence, at the beginning of his senior year in high school he began looking for a college major that would link these two respective science fields together. To his dismay, there were not many schools which offered such an interdisciplinary approach of study. However, he found that Sonoma State University did (i.e. Biochemistry) and that the major matched most of the qualities he was looking for in a university (i.e. a high teacher to student ratio and opportunities for undergraduate research).

California State University | Stanislaus

OUTSTANDING SERVICE
MONICA TREJO · CHEMISTRY



Monica Trejo is completing a chemistry degree at CSU Stanislaus. Monica grew up in Escalon, CA, a very small agricultural city, and is a first generation student whose primary language was Spanish. She exceeded in her classes at a young age, and because of her interest in the sciences, she decided to enter college to pursue a degree in Chemistry. Monica has served as vice-president and president of the American Chemical Society Student Affiliates of CSU Stanislaus and, under her leadership, some of the activities that she helped organize included community events that brought families and children to the campus for science education. Activities include 'Science Day,''Science Saturday,''Dinner with a Scientist', and the 'Science Olympiad.'

Monica organized the celebration for National Chemistry week, and put together a logo contest for ACS Club shirts. By setting up networking activities with chemistry student chapters from other universities, CSU Stanislaus students visited graduate schools and national labs to encourage them to continue graduate studies and/or research work.

Monica's active research in the Department of Chemistry led to summer internships at University of Kansas and at Arizona State University, where she learned new experimental chemistry approaches. She presented her research work at two ACS National Conferences and in the CSU Stanislaus Research Poster Celebration. Her successful undergraduate research experiences led to participation in an International Research Experience for Undergraduate Internship in Grenoble, France. Monica has worked very hard to be a role model for future scientists and leaders on her campus.

OUTSTANDING RESEARCH & SERVICE
SIMRANJEET "MONNY" SINGH · CHEMISTRY



Simranjeet Singh was born in India and came to the United States when he was seven years old. In high school, he participated in Track and Field as a pole vaulter. He was planning a military career after high school but his mother convinced him to go to Chabot College in Hayward. He continued pole vaulting while he studied business, sociology, philosophy, and other disciplines and tried to figure out what to do with his life.

He was recruited to CSU Stanislaus to pole vault. Still unsure of what he wanted to study, he took General Biology and General Chemistry his first semester. While he enjoyed Biology, he found that he enjoyed Chemistry more and more: the problems spoke more directly to his curiosity. He became a Chemistry major and has enjoyed every step of the way.

Organic Chemistry is one of his favorite subjects, as is Analytical Chemistry. Soon after he arrived at CSU Stanislaus, he started doing research. He got involved in research working on an interdisciplinary project aimed at characterizing components in Willow leaves that are used as feed-stock for captive Rhinoceroses. This research led to presentations at the American Chemical Society and CSUPERB. He also enjoys giving back as a LSAMP Academic Excellence Workshop Facilitator for Organic Chemistry and, more recently, a Supplemental Instruction Workshop Leader for Organic Chemistry.

Now in his last semester, he is excited to be heading to graduate school to continue to follow his passion for Chemistry.

OUTSTANDING RESEARCH
STEPHANIE BECERRA · CHEMISTRY



Stephanie went to Central Valley High School in Ceres, CA where she first became interested in science by being involved in Science Bowl and Science Olympiad. In high school, she took AP Chemistry, which influenced her decision to pursue a career in Chemistry. Stephanie graduated from high school as salutatorian, and was awarded a scholarship for college from Mujeres Latinas. She entered CSU Stanislaus as a Chemistry major.

She is currently doing research in the Department of Chemistry with Dr. Elvin A. Alemán. In her research, Stephanie studies the solvent effect in the photophysical properties of free-base corrole, a potential molecule that have become a focus in research including the diagnosis and treatment of cancer. To extend the study of its photophysical properties, Stephanie synthesized and purified free-base triphenylcyanocorrole (CN-Corrole), a good model to study solvent effect in the structure and photophysical properties of free-base corrole. Stephanie has found that when CN-Corrole is dissolved in solvents like acetonitrile, acetone, and pyridine, both corrole structures co-exist in solution. She also found new photophysical properties of corrole that correspond to the combination of solvent properties and corrole concentration. The long-term goal of this work is to determine how solvent molecules can influence the ability of freebase corrole to capture and emit light and identify potential applications of the different structural forms in cancer diagnosis and treatment.

Recently, Stephanie presented her research work in the 28th Research Competition at CSU Stanislaus and she was awarded with a 2nd place. She will be competing in the CSU research competition.

OUTSTANDING ACADEMIC
RESHAM SANDHU · GEOSCIENCES



Resham Sandhu is an undergraduate student at CSU, Stanislaus pursuing a degree in the Geosciences with an emphasis in Applied Geology. In 2012, Resham earned associate degrees in both Geology and Mathematics at Merced College; honored as 'outstanding graduate' for both departments. Resham seeks to improve the educational environment by tutoring notoriously difficult classes in STEM including calculus, chemistry and physics, and also worked for the supplemental instruction program in chemistry classes.

At CSU Stanislaus, Resham blossomed into an avid researcher working on projects in paleontology, hydrogeology, geophysics, geochemistry and petrology. Resham's published abstracts include, "Something's Fishy: Was One of the Most Abundant Latest Cretaceous Theropods a Fish Eater?" and "Do Supra-Subduction-zone dikes cutting Gabbro in the Eastern Elk Outlier of the Western Klamath Terrane, Southwestern Oregon, Correlate with the Josephine Ophiolite?" He's presented work at the CSU undergraduate research competition titled, "Ground Water Studies Using Geophysical Techniques to Image Fractures in Bedrock near Coulterville, CA."

Resham works as a research assistant in Geology and will present his research findings at the 2014 GSA Western Cordilleran Section meeting at Bozeman, MT. Resham is graduating with a B.S. degree in the fall of 2014 with an exemplary academic record. His sights are set on obtaining both a masters degree and Ph.D. in the geosciences.

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