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INTRODUCTION

Welcome to the tenth edition of our CSU-LSAMP PROUD publication, the annual magazine of the California State University (CSU) Louis Stoke Alliance for Minority Participation (LSAMP) where we recognize the outstanding achievements of current and past student participants across our Alliance!

Each year, Coordinators from each of our 23 CSU campus partners nominate students from their LSAMP programs to be celebrated as Program Recognizing Outstanding Undergraduate Distinction (PROUD) Scholars. The 2024 PROUD Scholars, who have distinguished themselves academically, in research, and in service to their communities, are featured in this publication.

This year, we celebrate the start of a new phase of CSU-LSAMP. As a well-established Alliance, CSU-LSAMP is part of the National Sciences Foundation's STEM Pathways and Research Alliances (SPRA), serving students from the largest public university system in the United States as they prepare for their careers in the sciences, technology, engineering and mathematic fields.

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Lead Project Director, CSU-LSAMP SPRA
Co-Coordinator, CSU-LSAMP at Sacramento State
Lecturer, Biological Sciences

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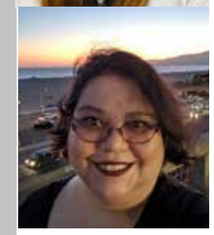

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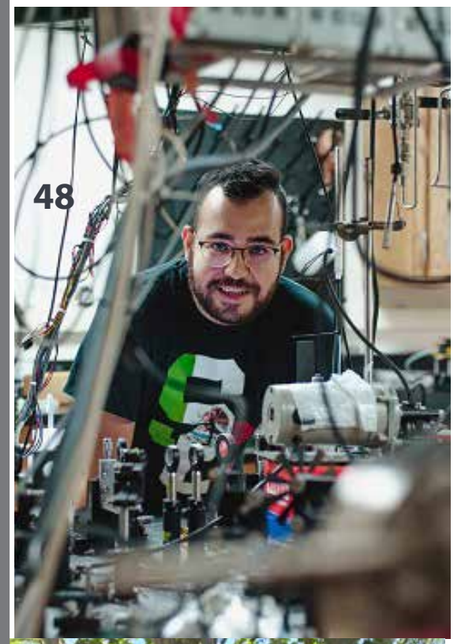

CSU-LSAMP: A STEM PATHWAYS AND RESEARCH ALLIANCE

News from the CSU-LSAMP Statewide Office

In 2024, CSU-LSAMP saw the end of the SPaRA I grant cycle , and the beginning of the new grant. A final report on the outcomes of the report was provided to the NSF, including the full Project Outcome Report, included here.

Project Description: Initiated in 1993-1994, the Louis Stokes STEM Pathways and Research Alliance (CSU-LSAMP) is a coordinated and comprehensive program dedicated to broadening participation in science, technology, engineering and mathematics (STEM) across all 23 campuses of the California State University (CSU) system. For this project period, CSU-LSAMP had two primary goals: (1) to increase the number of students from underrepresented (UR) groups graduating with undergraduate and graduate degrees in STEM, and (2) to contribute to the production of scholarly research in broadening participation in STEM.

Project Activities: To achieve the first goal, CSU-LSAMP capitalized on the strengths of the individual campus programs to meet collective system-wide goals, including (a) academic preparation and persistence by providing academic support in gatekeeper courses and facilitating transitions; and (b) professional preparation by engaging students in research and other professional development activities. To achieve the second goal, CSU-LSAMP focused on three areas: (i) the impact of institutional and regional context on the effectiveness of specific interventions; (ii) the causal link between undergraduate research experiences and undergraduate and graduate degree completion; and (iii) institutional transformation and differential impacts on UR students.

Project Outcomes: CSU-LSAMP has contributed substantially to broadening participation in STEM. Over its history, CSU-LSAMP has served over 30,000 students, most of whom belong to groups historically underrepresented in STEM. During this same period, the number of UR students enrolled in STEM disciplines at CSU campuses increased more than four-fold, from 10,580 in 1994 to 49,265 in 2023. Additionally, annual UR STEM baccalaureate degree production increased nine-fold, from 917 in 1994 to 8,293 in 2024. CSU-LSAMP participants have published their research in peer-reviewed journals and presented their research at numerous international, national, and regional professional conferences. CSU-LSAMP students also showed higher retention and graduation rates when compared to non-LSAMP students, with retention and graduation rates that are comparable with those for non-UR students. Lastly, 39% of a subset of CSU-LSAMP graduates entered graduate programs, with 2,661 participants who obtained a STEM Master's, 433 who obtained a STEM doctorate, and 3,013 participants who are currently enrolled.

By the end of this period, CSU-LSAMP also completed its research in broadening participation project, resulting in the publication of a manuscript in the Journal for STEM Education Research (doi.org/10.1007/s41979-023-00107-8). Findings show substantial evidence that Undergraduate Research Experiences (URE) heighten students' likelihood of attaining a baccalaureate degree and a postgraduate education. In this study, CSU-LSAMP analyzed three outcome variables (1) STEM baccalaureate degree attainment, (2) post-baccalaureate enrollment, and (3) post-baccalaureate degree attainment in STEM. Among LSAMP participants who entered the CSU as first-year students but did not participate in URE, the probability of attaining a baccalaureate degree was 0.54. Among the first-year students who did participate in URE as part of LSAMP, the probability jumped 32 percentage points to 0.86 after holding everything else constant ($p<.001$). A smaller but similar pattern holds among transfer students; URE corresponds to an 18-percentage point increase in STEM baccalaureate attainment (from .72 to .90; $p<.001$). Among students who entered a CSU in their first year, URE were associated with a 19 percentage-point boost in postgraduate enrollment, from .35 to .54. Among transfer students, URE were associated with a fifteen percentage-point increase in postgraduate enrollment, from .42 to .57; $p<.001$. Finally, and perhaps most pertinently, LSAMP students who participated in URE are about nine percentage-points more likely to graduate with a post-graduate degree in STEM. This is true among students who entered as first-years (.06 to .15; $p<.001$) as well as among transfer students (.09 to .17; $p<.001$). This research, which included CSU-LSAMP participants between 2004 and 2019 for whom we have post-graduation information, offered us a real measure of graduate enrollment and completion of graduate degrees. CSU-LSAMP has therefore made significant progress in closing the achievement gap for UR students in STEM and successfully increased the diversity of students moving into graduate programs in STEM.

Campuses reported that 138 recent CSU-LSAMP graduates entered into graduate programs during the 2023-24 academic year. CSU-LSAMP graduates were accepted into graduate programs across the country, most notably Cal Tech, NYU, Yale, University of Minnesota, and several UC campuses.

RESEARCH ALLIANCE ACTIVITIES

Conclusion of CSU-LSAMP Research in Broadening Participation: As a STEM Pathways and Research Alliance (SPRA), CSU-LSAMP's goal was to contribute to the production of scholarly research in broadening participation in STEM. We completed the primary research project in the first five-years of this project period, resulting in the publication of a manuscript in the Journal for STEM Education Research (Attachment 1). During the current (no-cost extension) reporting year, we presented the results of the research project at several venues, including at the Diversity Equity and Inclusion Seminar, Dept. of Microbiology and Immunology, University of Michigan (September 2023); the Becoming Showcase: Antiracism & Inclusive Campus Action Plan at Sacramento State (March 2024); and at the NSF Center for Nanotechnology Weekly Meeting series (July 2024).

LOOKING AHEAD

SPARA II: CSU-LSAMP

CSU-LSAMP has three overall program objectives, modeled after the three critical components of the LSAMP program theory: (1) academic integration, (2) professionalization, and (3) social integration [17]:

Objective 1: STEM Excellence – Support students at critical transition points in their STEM education (e.g., entering as first-year students, transferring from community college, declaring a major in a STEM discipline) and in STEM "gatekeeper" courses with the goal of improving student performance and persistence in STEM.

Objective 2: Pathways to STEM Careers – Support students in professionalization and disciplinary socialization by providing opportunities in research, internships, international activities, conferences, leadership roles, professional development, and graduate school preparation activities with the goal of increasing the number of students entering graduate programs and professional careers in STEM.

Objective 3: STEM Identity – Support student experiences that are important for socialization into STEM culture and careers with activities that build a sense of identity, belonging, and community within STEM disciplines.

Evidence-based Practices and Proposed Project Activities: The CSU-LSAMP program embraces interventions shown to broaden the participation of UR students in STEM career pathways. As shown below, these alliance-based activities include academic and social support, professional development, research experiences, and mentoring [18]. The proposed project continues to include the top five LSAMP hallmark activities, identified in the Urban Institute's national study of LSAMP – research, mentoring, internships, scholarships/stipends and tutoring, all of which have contributed substantially to CSU-LSAMP's past success in improving retention and graduation of UR STEM participants and their advancement to STEM graduate study. From all the activities proposed, CSU-LSAMP will emphasize three major activities shown to promote persistence in STEM career pathways.

Objective 1: *STEM Excellence*	Objective 2: *Pathways to STEM Careers*	Objective 3: *STEM Identity*
• Material Support & STEM Textbooks • Academic Support Activities (Supplemental Instruction, Academic Excellence Workshops, Peer Mentoring, Tutoring) • Transition Support Activities (Orientation for First-years and/or Transfers, STEM Bridge Programs)	• CSU-LSAMP Supported Research Opportunities • Other Research Opportunities • Internships • International Research Activities • Presentation/publication of Research • Graduate School Preparation Activities (Application Assistance, Workshops) • Professional Development (Workshops, Seminars) • Leadership (Facilitators, Mentors, Trainers, Officers)	• CSU-LSAMP Advising • Communications • Attendance at Conferences (Not Presenting) • Student Cohesion Activities (Clubs, Meetings)

SPRA: 2024 HIGHLIGHTS

Darlene Villalobos Cazares secured a first place win in Life Sciences, Animal Sciences/Zoology at the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) conference held October 26-28, 2023 in Portland, Oregon.

Citation: Villalobos Cazares, D., Schnellbacher, R., Bezjian, M., Flacke, G., & Myers, G., A Retrospective Study of Avian Mortalities in the Wings of Asia Habitat at Zoo Miami. The Society for Advancement of Chicanos and Native Americans in Science (October 26-28, 2023), Portland, OR

A joint Cal Poly Pomona – Cal State Fullerton – Cal State Long Beach social dinner was organized between the research scholars of the three sister campuses on March 16, 2024. The activity was to bring together research scholars from the three campuses and expand the professional network that students have. Earlier in the same day, the research scholars were taken to Aquarium of the Pacific in Long Beach, CA.

CSU-LSAMP NSF NATIONAL GRADUATE RESEARCH FELLOWSHIP AWARDEES 2024

Christian Camaño (SFSU)
Applied Mathematics
Caltech University

Sergio Gonzalez (SFSU)
Biology
Vanderbilt University

Justin Mai (SFSU)
Neuroscience
University of Idaho

Ingrid Martinson (CSUMB)
Marine Biology
University of California, Santa Cruz

Annabelle McCarthy (CSUMB)
Ecology
Michigan State University

Polina Popova (SDSU)
Environmental Engineering
Yale University

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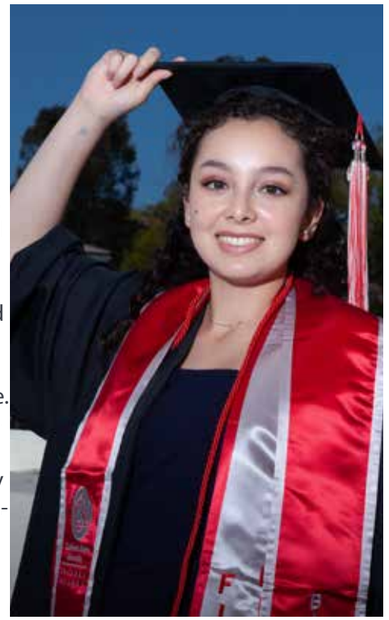
OUTSTANDING ACADEMIC & RESEARCH IN STEM

DONALD HUDSON · BIOLOGY

Donald Hudson graduated with a Bachelor of Science degree in Biology from California State University, Bakersfield in May 2024. He started his distinguished academic journey at Taft College, where in 2022 he joined the summer SUPERSTAR research program at CSU Bakersfield. This key experience sparked his interest in agricultural studies, particularly in identifying biocontrol agents against plant pathogens. Soon after, he transferred to CSUB where he continued research in the Plant-Microbe Interactions Lab of Dr. Francis. Supported by the CSU-LSAMP program, he presented his research findings at institutions such as Pepperdine University and UC Berkeley and is currently working on a scientific publication. Donald's dedication and passion for science not only made him excel in the lab, but his academic proficiency also earned him a place on the Dean's List. Donald was recently accepted into the Master of Science in Biology program at CSUB and is eager to expand his knowledge and develop more scientific skills. Upon completing his Master's degree at CSUB, he wishes to make a meaningful impact by addressing prominent issues within the local agricultural community and developing sustainable solutions for agricultural challenges. Donald Hudson's journey illustrates his staunch commitment to academic excellence and his dedication to advancing scientific knowledge for the benefit of Kern County.

Channel Islands
CALIFORNIA STATE UNIVERSITY

OUTSTANDING RESEARCH IN STEM
ALEJANDRA ARROYO · BIOLOGY



Alejandra Arroyo graduated from CSU-Channel Islands with a B.S in Biology cum laude. As a first-generation Hispanic student, she faced many challenges while pursuing her education. Alejandra found support through many programs at Channel Islands including LSAMP. She states, "Finding support from many different programs, organizations, and professors was an important factor in my academic journey. I saw how crucial and helpful this was for me, so I wanted to give back in hopes of helping other fellow students." During her time at CSU-Channel Islands, Alejandra served as a tutor for chemistry and biology courses. She strived to help students learn effective and lasting study methods that would help them even beyond their college courses. She also became a part of the CSU SACNAS cabinet where she coordinated alongside LSAMP to help prepare students for the annual NDiSTEM conference. Apart from contributing to these different programs, Alejandra also participated in research being done on campus with Dr. Hugo Tapia. She worked with yeast cells, focusing on three specific compatible solutes and the role that they play in the desiccation tolerance of yeast. She presented her work at many conferences including the NDiSTEM conference as well as an oral presentation at the National Genetics Conference held in March of 2024. She will be pursuing her PhD at UCSB in Biochemistry and Molecular Biology.

OUTSTANDING SERVICE & LEADERSHIP
LENIHA LAGARDE · BIOLOGY

Leniha LaGarde graduated with a B.S. in Biology and minored in Chemistry in Spring 2024. She is currently attending the University of Georgia to pursue a doctoral degree in Integrated Plant Sciences. Her passion for plant sciences stemmed from conducting a systematic review investigating the literature scope of root decomposition along with its contribution to climate change. As part of a team, she also determined the antimicrobial synergistic effects of Native Chumash plants. In addition to her multi-year research experience, she served as the president of the Black Student Union and through that role she has been able to create a community for Black students to lean on for support. She also served as a Senator for Student Government, a Committee Chair for the Youth Chapter of the National Association for the Advancement of Colored People, and the Treasurer for the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science. Leniha plans on continuing to be actively involved "I live to do work like this, I wouldn't have been able to make it throughout my undergraduate journey without it. Research and community building is my life. I hope to integrate the two through my future work. As a first-generation Black woman, I didn't know that a lot of this stuff existed, I didn't even know what a PhD was until a year ago. I plan to take advantage of all of it and show the next generations after me, who look like me, that we can take up space."

OUTSTANDING RESEARCH IN STEM
ALEKSYA DROBSHOFF · CHEMISTRY

Aleksya Drobshoff is the eldest of four siblings and a trailblazer in her family, as the first to pursue a STEM-related degree. Juggling her studies in biochemistry with a three-year internship, she embraced every challenge with determination and a grounded sense of self. Alongside Dr. Awad, she dove into research on nucleoside analogues for pancreatic cancer treatment, gaining invaluable insights into molecular complexities. During a transformative summer at Harvard University, Aleksya conducted research that further honed her skills and kindled her passion for scientific inquiry. Her work at Harvard focused on characterizing the cathodoluminescence of lanthanide-doped nanoparticles in resin. This experience not only expanded her academic horizons but also reinforced her commitment to scientific exploration and discovery. Her involvement in LSAMP solidified her commitment to breaking barriers in STEM. Now, on the cusp of a new chapter, Aleksya eagerly looks forward to joining Vanderbilt University's School of Medicine to pursue a Ph.D. in Quantitative Chemical Biology Program. With gratitude for the mentors she has had, opportunities she's been given, confidence in her abilities and a deep-seated drive to make a difference, she aims to contribute meaningfully to the scientific community.

OUTSTANDING ACADEMIC
DELYAR KHOSROABADI · BIOCHEMISTRY

Delyar Khosroabadi majored in biochemistry at CSUCI. She is originally from Iran and moved to the United States at the age of 13. Initially enrolled as a biology major, it wasn't until her first semester chemistry course that she discovered a passion for chemistry. Shortly after changing her major to chemistry, she became involved in research in the laboratory of Dr. Gareth Harris where she investigated the intracellular mechanism and novel targets of serotonin. Additionally, she participated in the SURF program under Dr. Ahmed Awad's mentorship in the chemistry program, subsequently joining his laboratory following the program in which she worked on designing and synthesizing novel nucleoside analogues. Delyar says, "Getting involved in research has been a truly transformative experience. It expanded my theoretical understanding and laboratory technical skills, showing me that pursuing a career in research would fulfill my desire to immerse myself in scientific exploration and discovery. This experience solidified my desire to pursue a PhD and dedicate my life to delving deeper into the intricacies of the chemical and physical principles of biological systems." She also had the opportunity to participate in the NSF Research Experiences for Undergraduates program in Chemical Biology at Vanderbilt University, in the laboratory of Dr. Lars Plate. At Vanderbilt, she worked on mapping coronavirus nonstructural protein 2 regions involved in SARS-CoV-1-specific interactions with the lysosomal chloride/proton exchange complex. Delyar will be starting the PhD program at Yale University in the Biochemistry, Quantitative Biology, Biophysics, and Structural Biology program this upcoming fall.

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CALIFORNIA STATE UNIVERSITY, CHICO

OUTSTANDING SERVICE & LEADERSHIP

OLIVER TISCARENO · ADVANCED MANUFACTURING & APPLIED ROBOTICS

Oliver Tiscareno completed their second year as an Advanced Manufacturing and Applied Robotics major, with a minor in Operations and Supply Chain Management at Chico State, where they actively participated in various organizations. LSAMP was the first program Oliver joined by participating in the 2022 Summer Calculus Boot Camp. LSAMP provided Oliver a space to connect with peers from similar cultural backgrounds and aspirations within STEM and fostered a sense of belonging that they previously hadn't experienced. These connections deepened their understanding of their own interests and careers goals and inspired them to get involved in other student organizations. Oliver held officer positions in three organizations focused on professional and academic development, as well as technical skills. In Latinos in Technical Careers (LTC), Oliver served as the Academic Chair, facilitating professional workshops, tracking member progress, and organizing tutoring sessions. As the event coordinator for the National Society of Black Engineers (NSBE), they coordinated the club's social events and organized the students to attend the 50th Annual NSBE Convention in Atlanta, Georgia. Additionally, within the Alternative Energy Club (AEC), Oliver served as the Boat Design Team lead, overseeing project management, design, and manufacturing of a solar-powered boat. Overall, they focused their leadership on stimulating and developing students of color interests in various engineering disciplines and promoted awareness of professional opportunities. Oliver will continue at Chico State and pursue research opportunities that exposes them to medical device manufacturing and sustainability.

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OUTSTANDING RESEARCH IN STEM

ANTHONY CHAVEZ · MECHANICAL & MECHATRONIC ENGINEERING

Anthony Chavez completed their fifth year as a double-major in Mechanical Engineering and Mechatronic Engineering. Originally from Bishop, California in the Owens Valley, Anthony began his academic career as first-generation college student by participating in the 2019 LSAMP Summer Calculus Boot Camp. Throughout his academic career he was involved in Formula SAE and American Institute of Mechatronic Engineers (AIME) and TRIO Student Support Services (TRIO SSS). Through TRIO SSS, Anthony served as a STEM peer mentor where he has supported four STEM students majoring in Construction Management. Mechatronic, Civil major and Computer Animation in navigating college life by providing tutoring in STEM courses and social and academic support. Anthony participated in the Future Leaders of Aerospace and Mechanical Engineering (FLAME) Summer Research to PhD Program at Cornell University. Anthony worked with Drs. Kirstin Hagelskjaer Petersen and Hadas Kress-Gazit to conduct robotic simulations of swarms. The research consisted of collecting data on the dynamics of swarms of "simple" robots and investigating how their behavior could be manipulated without direct instructions. Anthony contributed to the research project by creating simulations in Python followed by recreating the simulations with physical robots. The program provided Anthony gained valuable insight on how to pursue a PhD at Cornell and provided him with the opportunity to professionally and personally grow. Anthony's desired career would be a career in underwater robotic design.

OUTSTANDING ACADEMIC

CARLOS FLORES RIVERA · COMPUTER ENGINEERING

Carlos Flores Rivera completed his fourth year as a Computer Engineer at Chico State. Originally from Brawley CA, located in Imperial County, Carlos chose Chico State's engineering program due to its integration of software and hardware components within its courses. Throughout his undergraduate studies, Carlos has demonstrated academic excellence and continuously made the Dean's List every year. Carlos began his academic career by virtually participating and excelling in Chico State's LSAMP Summer Calculus Boot Camp during the summer of 2021. Carlos continued building a strong social and academic community by joining the MESA Engineering Program and the student organization, Latinos in Technical Careers. Through these organizations, Carlos engaged in opportunities like the 2021 Latinx Engineering Day, the 2022 MESA Leadership Conference and undergraduate research. Under the mentorship of Dr. Kathleen Meehan, Carlos's research project focused on wiring sensors that can measure temperature, pressure, and real-time location while deciding on a solar-powered rechargeable power supply for the system. Additionally, Carlos programmed a microcontroller to gather the data to create a PCB design to ensure that the device can operate in harsh environments by encapsulating it. Carlos presented his research at the 7th Annual CSC^2 Summer Undergraduate Research Presentations. Upon graduation, Carlos aspires to gain a position in a manufacturing company for IC chips and microcontrollers and eventually move into CPU architecture and performance.

California State University DOMINGUEZ HILLS

OUTSTANDING ACADEMIC
ANGEL PEREZ · MATHEMATICS

Angel is currently completing his BS in Mathematics, with research interests spanning biostatistics, recreational mathematics, and education. Throughout his academic career, Angel has been an active member of the mathematical community at his university. He served as a leader in the Math Club, advancing from secretary to president, and contributed as a math tutor through the LSAMP program and the Toro Learning and Testing Center.

Angel's exemplary work has earned him numerous accolades, including first-place awards in both the Undergraduate Poster and Oral Presentation categories at the 2023 and 2024 Student Research Conferences. His 2024 project, titled "Concepts Most Successfully Learned and Most Challenging to Students in Pre-Calculus," not only won the Office of Undergraduate Research award but also a $2,500 summer research grant to further his study in 2023. This work was later published in the International Journal on Studies in Education (IJonSE).

In the summer of 2023, Angel took part in a statistics REU at UCI. Additionally, Angel achieved both Level I and Level II CRLA certifications during his tenure as a tutor and was nominated for the Peer Leader of the Year at the 2024 Student Employment Showcase, hosted by the Career Center.

Looking ahead, Angel is set to bring his academic achievements and research expertise to the University of California, Los Angeles (UCLA), where he will pursue a Ph.D. in Biostatistics. UCLA has awarded Angel a graduate fellowship.

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OUTSTANDING ACADEMIC
PAOLA A. MARTINEZ · BIOCHEMISTRY

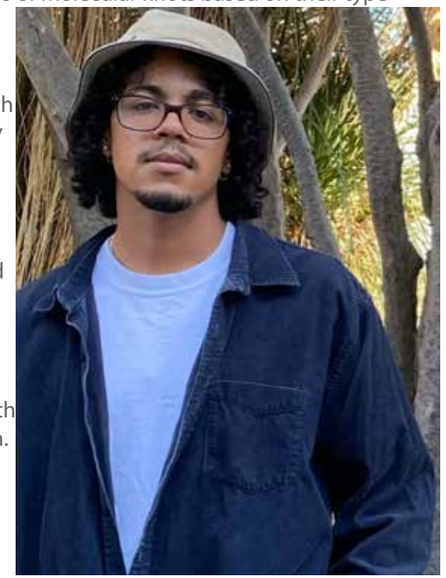
Scheduled to graduate CSU Dominguez Hills this spring, Paola majors in Biochemistry with a minor in Health Science. As an honor student throughout her undergraduate studies, she has maintained a GPA of 3.76. Paola is a recipient of the 2023 ACS Undergraduate Award in Physical Chemistry for outstanding achievement, as well as the Chemistry Angle Scholarship for the 2023-2024 academic year.

In a multifaceted role within the Department of Chemistry and Biochemistry, Paola serves as a Chemistry Laboratory Technician overseeing laboratories for Organic Chemistry, Survey of Organic Chemistry, and Quantitative Analysis. She also engages in undergraduate research under the guidance of Dr. Tieli Wang. Their research focuses on Triple Negative Breast Cancer Cells, specifically testing the ability of Temozolomide—a prodrug commonly used in brain cancer treatment—to inhibit methylation of the histone demethylase enzyme. This study explores Temozolomide's potential impact on histone protein post-translational modifications, hypothesizing that its therapeutic benefits may extend to protein levels, particularly affecting histones and their associated proteins. This alteration in histone structure could influence gene expression and genomic stability.

Looking forward, Paola aims to obtain a Ph.D. in Biosciences. However, she plans to gain industry experience first to prepare for this significant step in her academic career. As a first-generation student, Paola is also dedicated to breaking down barriers and addressing disparities in STEM fields, aiming to enhance accessibility and create opportunities in higher education for underrepresented future generations.

OUTSTANDING ACADEMIC
GAVIN ACOSTA · CELLULAR & MOLECULAR BIOLOGY

Gavin Acosta is a physics major and math minor scheduled to graduate in the fall of 2024. He has conducted research in topology and electrical engineering. In the summer of 2021, he began researching the topology of molecular knots, focusing on a metastudy that analyzed groups of molecular knots based on their type of cyclical symmetry. In spring 2022, he presented a poster on this metastudy at CSUDH's Student Research Conference.



In spring 2023, Gavin joined the CSUDH Biochar Supercapacitor Research Group, led by Professor Lamar Glover. This group aims to develop highly efficient biochar-based supercapacitors using household materials, making them accessible to a broad audience, including those without a STEM background. This initiative allows individuals to create safe, practical items while learning about the concepts behind everyday electrical components. Gavin contributed to a poster that won an award for "Undergraduate Poster in Physical and Mathematical Sciences" at the CSUDH 2024 Student Research Day Conference. Although Vanessa Zamora, a fellow group member, presented the poster and made significant contributions to it, Gavin also presented their research at the Vermont Square Community Garden. The group plans to collaborate with the garden to source biochar and conduct physics educational outreach.

In the summer of 2024, Gavin continued his current projects and begin working with Dr. John Price, a contributor to the CLAS collaboration at the Thomas Jefferson National Accelerator Facility.

CALIFORNIA STATE UNIVERSITY
EAST BAY

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP
KATIE HERMANSON · PHYSICS

Katie Hermanson, Physics, California State University, East Bay, was nominated for her outstanding contribution to research in STEM, and for her outstanding leadership in the campus community. Katie collaborated with Derek F. Jackson Kimball, Ph.D., and a team of undergraduate students on an experiment called the Search for Non-Interacting Particles Experimental Hunt (SNIPE Hunt), focusing on dark matter. Katie co-authored a comprehensive paper detailing the findings from the 2022 SNIPE Hunt expedition. This paper was noted by the editors for its significance.

In addition, Katie has presented their work at several American Physical Society Conferences, and earned 2nd place in the poster prize contest. Dr. Kimball describes Katie as, "a stellar student and brilliant researcher with spectacular potential who has already done great work! Katie's passion and enthusiasm for physics, can-do spirit and ingenuity, and overall brilliance have been truly impressive. Katie's journey to the physics major has also demonstrated tremendous determination, perseverance, and resilience, some of the most crucial traits for success as a physicist, as she joined us having already earned a bachelor's degree in psychology and a career as a social worker."

An example of Katie's exceptional leadership was when she organized a special meeting aimed to motivate fellow students in the research laboratory to increase their commitment beyond regular hours, and to arrive at the lab better prepared and organized. Dr. Kimball described her approach as highly effective and noted that the meeting improved the efficiency of work within the lab.

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OUTSTANDING ACADEMIC &RESEARCH IN STEM
JENNY BRAVO · BIOLOGICAL SCIENCES

Jenny Bravo, Biology, California State University, East Bay, was nominated for her outstanding contribution to research in STEM, and her outstanding academic achievement. Working with Marlin Halim, Ph.D., Jenny presented a poster at the 2024 CSU BIOTECH, and played a key role in preparing a manuscript for publication. In addition to being engaged in research and working part-time to pay tuition, Jenny also maintained a position on the Dean's list at Cal State, East Bay.

Jenny began her academic career at a community college in 2009. However, as a first-generation college student, she struggled to find the necessary guidance and resources for success. Also, difficulties like a lack of transportation, and struggles paying her bills, led her to drop all her classes in 2010.

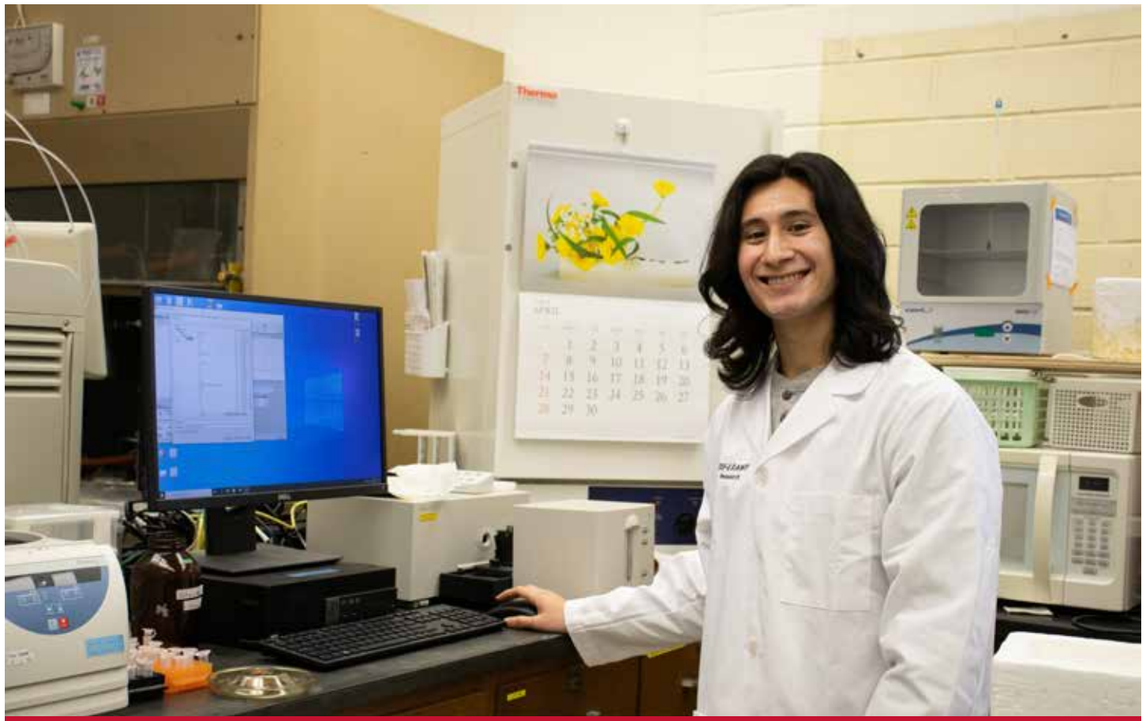
Determined to overcome these obstacles, Jenny returned to community college in Fall 2019, with focused dedication. She actively sought guidance from her professors, and was dedicated to diligently planning for her academic success. Jenny's passion for research, particularly exploring cellular mechanisms, drives her curiosity and commitment to learn more. She appreciates that research provides her with the opportunity to become an expert in her field, and apply her skills and knowledge in practical ways, fostering personal growth. Her long-term goal is to lead research in areas such as cancer, genetics or skincare, with a specific focus on DNA repair.

FRESNO STATE

Discovery. Diversity. Distinction.

OUTSTANDING RESEARCH IN STEM
JOHN GUTIERREZ · BIOCHEMISTRY

John Gutierrez earned a B.S. in Biochemistry from California State University, Fresno (Fresno State) in May 2024 with Summa Cum Laude honors. John's interest in forensic science was sparked by his experience in a high school science course. John then began his college journey at the community college level. After transferring to Fresno State, he began conducting research under the supervision of Dr. Masaki Uchida where he investigated the use of virus-like particles derived from bacteriophage P22 as a protein cage platform to encapsulate gold nanoparticles, in collaboration with University of California Merced. With the support of various STEM support programs, including CSU-LSAMP, John gained support, hands-on research experience, and learned professional development skills that allowed him to grow as an individual and create meaningful connections with others. John had the opportunity to present both oral and poster presentations at various conferences such as CSUBIOTECH, Central California Research Symposium, and the California State University Student Research Competition. John will continue his educational journey pursuing a Master of Science in Forensic Science at Cedar Crest College in Pennsylvania. John hopes to gain the skills necessary to work in a federal forensic laboratory providing justice to all individuals.



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OUTSTANDING ACADEMIC
STEPHANIE RUIZ · ENVIRONMENTAL SCIENCES

Stephanie Ruiz completed her B.S. in Environmental Sciences and minor in Chemistry from Fresno State in May 2024 with Summa Cum Laude honors. Stephanie's undergraduate research journey began in May 2021 when she became an intern working on a meadow restoration project with the United States Forest Service Pacific Southwest Research Station. The following year, she participated in an NSF REU program hosted by Northern Illinois University where she conducted water quality research of cenotes (sinkholes) in the Yucatán Peninsula, Mexico. Her experience in this REU program inspired her to further pursue her interest in research. Actively participating in the CSU-LSAMP Research Program, under the mentorship of Dr. Aric Mine and Dr. Krish Krishnan, her project focused on using metabolomics to assess the role microbial communities play in groundwater contamination. She presented her research at various conferences including American Geophysical Union (AGU) and Central California Research Symposium. Stephanie intends to pursue a graduate degree where she hopes to be in a position that would enable her to support, inspire, and guide underrepresented groups in STEM and higher education.

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP
ANDY CABRERA · BIOLOGY

Andy Cabrera completed his B.S. in Biology from California State University, Fresno (Fresno State) in May 2024. Andy was initially introduced to research through the CSU-LSAMP program under the mentorship of Dr. Rory Telemeco. Andy knew he found his passion for research when he was able to successfully capture his first long-nosed leopard lizard. As a first-generation college student, the program helped facilitate and instill in Andy the confidence that he could be a successful student and a scientist. Andy strengthened his leadership and peer mentorship skills in the CSU-LSAMP program serving as a program chemistry Supplemental Instruction facilitator. He was able to apply these skills as the Tri-Beta campus chapter President. He secured funding to launch the Tri-Beta chapter Research Lab Series program providing a boot camp for students to gain exposure to research on campus. Andy also served as a student research panelist on numerous occasions sharing his college and campus research experience with incoming freshmen and transfer students. Andy will continue his academic journey pursuing a Master of Science in Biology at Fresno State with aspirations to continue to the doctorate, while continuing to serve as a leader and mentor for incoming students.

CALIFORNIA STATE UNIVERSITY
FULLERTON™

OUTSTANDING SERVICE & LEADERSHIP
AUBREE KRAGER · MATHEMATICS

Aubree Krager is a Mathematics major at California State University, Fullerton. She is heavily involved in two research projects and is an active member of the CSUF mathematics community. Aubree uses statistical modeling and machine learning techniques to create predictive models that can contribute to better understanding of the primary factors associated with Alzheimer's disease and its diagnosis. Furthermore, she also works to help determine if there is a relationship between parental stress, infant soothing media usage, and infant social-emotional issues. She has presented both works numerous times at conferences nationwide and has submitted multiple publications to be reviewed. As far as being a part of the mathematics community, Aubree is the President of the CSUF Society for Industrial and Applied Mathematics Chapter. She helps coordinate and plan events to bring the CSUF mathematics community together to learn more about each other and careers in mathematics. Furthermore, Aubree was a Mathematics Supplemental Instruction leader and a grader for the mathematics department.

OUTSTANDING ACADEMIC
UGOCHINYERE UMEKWE-ODUDU
BIOCHEMISTRY

Ugo Umekwe-Odudu is a senior majoring in Biochemistry at California State University of Fullerton. This is his second year in the LSAMP program but his first year as a Research Scholar after transferring from Cerritos College. Ugo is working with Dr. Julia Chans' research group regarding chemistry education. Last year he helped to complete the manuscript titled "Development and Implementation of Chemistry Mindset Modules in Two General Chemistry Courses at a Hispanic Serving Institution: An Exploratory Study", which was recently published. Now, Ugo aims to determine whether participating in Growth Mindset Intervention workshops actively leads to higher scores on exams. He aims to see the short and long-term effects of growth mindsets for students taking chemistry courses. Ultimately, Ugo is looking to attend graduate school to obtain his PhD in epidemiology, so he can help facilitate research in lesser developed countries and save lives.

OUTSTANDING ACADEMIC
NOURHAN MAHMOUD · BIOLOGICAL SCIENCES

Nora is a junior undergraduate Biological Science major at California State University, Fullerton, with minors in Aging Science and Criminal Justice. She studies evolution and genomics under Dr. Shahrestani in the EAGR lab. As a part of the developmental selection team, Nora's research focuses on the development of Drosophila melanogaster and how host microbes affect traits influenced by the microbiota (TIM) and the host genetic control of the microbiota (GCM). This is accomplished through the manipulation of development time and supplementation with acetic acid bacteria and will allow us to better understand the evolutionary mechanisms acting on development. Nora's career goals include obtaining a graduate degree, utilizing her knowledge in biology and aging to research disease and genetics in geriatric populations.

OUTSTANDING RESEARCH IN STEM
DU TRAN · MATHEMATICS

Du Anh Tran, a senior Mathematics major, has been taking on numerous activities during his time at California State University, Fullerton, to "test the waters" and not only learn a heap of mathematics, but also to learn a lot about himself. He researched multiple branches of Mathematics, from Differential Geometry to Metric space analysis and Biomathematics. In the Summer of 2023, he participated in the summer research program at the University of California Irvine, focusing on studying the Ultra sensitivity of signaling transmission in the human body. At the same time, he also worked on a research project with his advisor at California University, Fullerton, on the distortion of the Apollonian metric under power functions, which was presented at the CSUF undergraduate research symposium. In the following school years, he continued to work on a research project in Differential geometry, resulted in a published paper in the Electronic Journal of Geometry in April 2024. His works have been presented at multiple conferences, both local and national. He was also a guest speaker at the Fullerton Problem Solving Seminar as well as the Vector and Tensor Analysis class. He will continue his education at the University of California Santa Cruz Math PhD program this Fall.

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Cal Poly Humboldt.

OUTSTANDING RESEARCH IN STEM

ALEXIS HERNANDEZ · MARINE BIOLOGY

Alexis Hernandez is a Marine Biology major at Cal Poly Humboldt. She is a first-generation college student and a member of the Indian Natural Resources, Science, and Engineering Program (INRSEP). Alexis has contributed to multiple research projects focused on marine biology during her time at Cal Poly Humboldt and is particularly passionate about sharks. In 2019 Alexis was selected for a summer internship with NOAA. In 2020-2021, Ms. Hernandez worked with Dr. James Graham on developing a database for the Trinity River fish hatchery. This work is essential to the restoration efforts of the Yurok and other tribal nations who make their homes along the Trinity River. In 2022 she completed an in-person REU at Woods Hole Oceanographic Institute under the direction of Dr. Joel Llopiz. This work focused on the analysis of Spiny Dogfish gut contents to project Ctenophore populations on the Northeast continental shelf. In 2023 Alexis worked with Dr. Paul Bordeau on Analyzing the influence of aquaculture-related habitat modification on elasmobranch abundance and predation intensity, a study comparing the results of an AI program vs the human eye in analyzing a baited remote underwater video system measuring predation intensity. During this time Alexis also served as a deck-hand aboard the Coral Sea, Cal Poly Humboldt's oceanographic research vessel. Alexis is finishing up her senior year as a research assistant looking at the potential interactions between salmonids and floating offshore wind farms for the Schatz Energy Lab under the direction of Dr. Arne Jacobsen.

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP

DANIEL CHAIDEZ · BOTANY

Daniel Chaidez is a Botany major at Cal Poly Humboldt. He is a first-generation college student and a member of the Indian Natural Resources, Science, and Engineering Program (INRSEP). Daniel has contributed to multiple research projects focused on sustainable agriculture during his time at Cal Poly Humboldt. In Spring of 2022, Daniel was mentored by Ecological Forecasting Initiative LSAMP partners from the University of Notre Dame, learning the basics of environmental forecasting. During the Summer of 2022, he conducted research modeling the efficacy of different UV-protective treatments in apple orchards at Washington State University. Marginal Costs of Sunburn Prevention Methods in Apple Orchards was presented at Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) in 2022. In Fall of 2022, Mr. Chaidez worked as part of a team writing computer code to generate up-to-date distribution maps for species in the California Floristic Province using herbarium records in the California Consortium of Herbaria 2 (CCH2) database under the direction of Dr. Oscar Vargas. Daniel also worked and volunteered as a student leader for INRSEP+, Compost Coordinator for the Cal Poly Humboldt Waste Reduction and Resource Awareness Program, the Campus Center for Appropriate Technology, Potawat Community Food Garden at United Indian Health Services, the Jefferson Community Center in Eureka, CA, and as a community organizer the non-profit Centro del Pueblo. Mr. Chaidez worked for USDA funded workforce development Natural Resources Career Development Program (NRCDP) and chosen as one of ten Cal Poly Humboldt NRCDP interns during summer 2023.

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP

JAIME LARA · WILDLIFE

Jaime Lara is a Wildlife major at Cal Poly Humboldt with an interest in sustainable agriculture. He is a first-generation college student and a member of the Indian Natural Resources, Science, and Engineering Program (INRSEP). Jaime has indigenous ancestry of the Cherokee, Apache, and Yaqui peoples, and is interested in indigenous ways of knowing and being, particularly as they apply to wildlife management and conservation practices and sustainable agriculture. In 2021 Jaime used Audiomoths to gather data on respeciation of amphibians, birds, and bats in reconstructed wetlands under the direction of Dr. Sharon Kahara. Amphibian, bird, and bat diversity at restored wetlands in the California Central Valley was presented at the Society for the Advancement of Chicanos & Native Americans in Science (SACNAS) conference in 2021. In Summer of 2022, Mr. Lara participated in LSAMP-sponsored Costa Rica research under Dr. John Banks. In addition, he worked as a wáter protector for wildlife advocacy group Save California Salmon. In Summer 2023 Jaime participated in the Doris Duke Conservation Science Fellowship out of UC Santa Cruz, and secured an internship tracking wildlife on an organic farm in summer of 2024. Jaime is a leader, and served as co-director for the Campus Center for Appropriate Technology (CCAT) on campus, president of the American Indian Science & Engineering Society (AISES) chapter, and student leader at INRSEP. As AISES chapter president Jaime organized a fund-raising campaign to support the community of an INRSEP member which had been burned in a devastating California wildfire.

OUTSTANDING RESEARCH IN STEM

NICK SALGADO-STANLEY

WILDLIFE ECOLOGY CONSERVATION MANAGEMENT

Nick Salgado-Stanley is a Wildlife Ecology Conservation Management and Economics double major with minors in Geospatial Analysis and Scientific Diving at Cal Poly Humboldt. He is a member of the Indian Natural Resources, Science, and Engineering Program (INRSEP). Nick is passionate about Traditional Ecological Knowledge in agriculture, climate adaptation, and human-wildlife interactions. In the Summer of 2022, Mr. Salgado-Stanley was selected to participate in the Research Experience for Undergraduates on Sustainable Land and Water Resources. There he worked directly with the Fond du Lac Reservation of Lake Superior Chippewa to study the effects of sulfate pollution on manoomin, wild rice, an important first food for the Ojibwe people. His work, titled 'Quantified effect of taconite and precious metal mining on wild rice watersheds of eastern Minnesota' was awarded best undergraduate research at the 45th American Indian Science & Engineering Society (AISES) conference. In the summer of 2024, Mr. Salgado-Stanley participated in an International Research Experience for Students (IRES) studying raptor biology through Boise State University at Fundación Migres Centro Internacional de Migración de Aves (CIMA) in Tarifa, Spain. Since August 2023, Nick has been an AmeriCorps volunteer for the Wiyot Tribe's Shawir Darrudaluduk (Natural Resources) department. He has been given opportunities to learn about traditional ecological knowledge, Indigenous fire management, ethnobotany, and the effects of Sea Level Rise on California's coast. He is grateful to tribal administrators for giving him this opportunity and to the Humboldt College Corps staff for continued support and growth.

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CALIFORNIA STATE UNIVERSITY **LONG BEACH**

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
DAT TRANG · BIOCHEMISTRY

Dat Trang graduated from California State University, Long Beach (CSULB) in May 2024 with a Bachelor's degree in Biochemistry. He excelled in academia and has been recognized for his academic achievements by several awards such as the President's List in Fall 2022 and the Dean's List in Spring 2023. Dat has been an active LSAMP member since his acceptance in August 2022. Dat has embraced his time at CSULB, not only with LSAMP activities, but as a leader in the College of Natural Sciences and Mathematics. Dat is a first-generation student, who has enhanced the experience of fellow students by serving as a peer mentor and tutor. While a peer mentor for the Beach XP (Experience) Program, Dat supported first-time first year students in their own transitions to the college by serving as a resource and helping to build connections. Dat also utilized his great interpersonal skills and ability to explain complex issues and processes concisely and simply as tutor for major courses in chemistry, organic chemistry, biochemistry, and pre-calculus. Dat's tutoring experience has inspired him to pursue a graduate degree and become a future professor, where he can further support students. He was recently accepted to the Biochemistry master's program at CSULB and the Bridges to the Doctorate program. Without a doubt, his perseverance, commitment to excellence, and optimism will propel him to succeed in his future endeavors.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
LINDSAY PARK · MOLECULAR CELL BIOLOGY AND PHYSIOLOGY

Lindsay Park is a senior majoring in Molecular Cell Biology and Physiology at California State University, Long Beach. She excelled in academia and has been named in the President's Honors List 2021-2023 and the Dean's List 2020-2024. She was accepted to the CSU-LSAMP Fellows program for the 2023-2024 academic year. LSAMP had made a significant impact on supporting her research journey via funding and resources offered to her as a CSU-LSAMP research fellow. Lindsay started undergraduate research during her freshman year in Dr. Jesse Dillon's microbial ecology group studying the impact of sediment amendment and plant restoration on microbial soil communities in Southern Californian salt marshes. She studied DNA extraction and PCR protocols from extracted soil samples, learned to conduct a bioinformatics software (QIIME2) and a statistical analysis software (PRIMER v7), and is currently in the process of publishing a paper for her research. Lindsay also joined Dr. Peter Ramirez's clinical virology laboratory in August 2024 where she researched the prevalence and impact of the SARS-CoV-2 spike protein and human lymphocyte CD4 receptor interaction. She was granted the opportunity to present her research at ABRCMS 2023, CSU Summer Symposia at UCLA 2023, and NCUR 2024. Lindsay was awarded travel grants from CSULB ASI and CSU COAST as reimbursements for conference travel. Lindsay's undergraduate research experience is supporting her academic research career to apply for graduate school upon her graduation in Fall 2024

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CAL STATE LA

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

OUTSTANDING ACADEMIC, RESEARCH IN STEM, & SERVICE/LEADERSHIP

HENRI SEARLES. · BIOLOGY

Henri Searles entered Cal State LA as a Biology major with aspirations of becoming a forensic scientist. However, in their sophomore year they discovered a fascination with plants, which was encouraged by volunteering and later doing research in the Cal State LA Herbarium under the guidance of Dr. Kirsten Fisher. Henri describes himself as "stumbling into" research with no prior knowledge of it as an option for his undergraduate career. He subsequently conducted research with Dr. Scoffoni and learned about LSAMP when he participated in the 2023 LSAMP Summer Research Scholar program under the continued tutelage of Dr. Scoffoni. During his senior year, Henri performed research with Dr. Alexandra Wright. Having been inspired by the work that LSAMP does, Henri was eager to give back to the program when hired as a student assistant. They contributed to planning of LSAMP workshops and events throughout the year, developing outreach strategies, and building relationships between students. Since joining LSAMP, he has won a Cal State LA award for his research with Dr. Wright on microclimate effects on nighttime water usage in plants and been selected to present orally at the Ecological Society of America meeting in August 2024 in Long Beach, CA, on his research on leaf heat tolerance with Dr. Scoffoni. Henri is eager to graduate with a 3.9 GPA knowing that they have made a difference in their community, and they will go on to do research with Dr. Wright at Cedar Creek Reserve in Minnesota before entering graduate school.

OUTSTANDING RESEARCH IN STEM

LEILANI CORLETO. · BIOLOGY

Leilani Corleto earned her BS in Biology at Cal State LA. She participated in the LSAMP Summer Research Program in 2023 under the tutelage of Dr. Andres Aguilar and continued her research on the stripetail rockfish project with Dr. Aguilar beyond her graduation in Fall 2023. After her graduation Leilani began working for the Special Collections and Archives at the Cal State LA Library. Since the LSAMP program in Summer 2023 she has co-presented her work at the CSU Council on Ocean Affairs, Science & Technology (COAST) Annual Meeting in October 2023 in Long Beach, CA, and she has presented her research at the Western Society of Naturalists' Annual Meeting in November 2023 in Monterey, CA, and at the 2024 Cal State LA Student Symposium for Research, Scholarship, and Creative Activities. At the latter competition she was recognized with an Outstanding Poster Presentation Award. Her scientific curiosity, creativeness, and thoughtfulness are also reflected in her unique talent to create crocheted sea creatures. Leilani was accepted to the Louisiana Graduate Network in Applied Evolution (LAGNiAppE) postbac program at Louisiana State University and plans to earn a PhD in this field thereafter.

OUTSTANDING ALUMNUS

SALVADOR ROJAS · MECHANICAL ENGINEERING

Salvador Rojas is an Assistant Professor at California State University, Los Angeles in the Department of Mechanical Engineering. He is the founder and director of the research group Nature-inspired and AUTonomous robotiCs Lab (NAUTCL) within the College of Engineering, Computer Science, and Technology (ECST). The focus of his research group is on autonomous engineering systems driven by naval exploration. He received his Ph.D. from Purdue University as a George Washington Carver Fellow in 2023. His research mainly focused on exploring the interplay between nature and origami for designing novel structures with programmable properties. He characterized the mechanical behavior of bioinspired hybrid robotics with reconfigurable and shape-adaptive properties that can react to its working environment. He received the Indiana Space Grant Consortium Fellowship in three consecutive years, Ward A. Lambert Teaching Fellowship, and was selected as a Trailblazer in Engineering Fellow for broadening the participation of underrepresented minorities in engineering at Purdue. He received his B.S., and M.S., from California State University, Los Angeles in the Department of Mechanical Engineering in 2016, and 2018, respectively. Dr. Rojas was an undergraduate LSAMP student and pursued his M.S. as an LSAMP-BD Cohort 13 student from 2016 to 2018 prior to earning his Ph.D. at Purdue. His research work during his M.S. was primarily focused on the dynamics and control of multibody mobile manipulator systems. His goal was set to return to his roots and join the College of ECST as faculty. He is PROUD of his achievement and eager to support LSAMP.

OUTSTANDING RESEARCH IN STEM

FERGUS PLACE · ELECTRICAL ENGINEERING

Fergus Place is an electrical engineering major at Cal State LA with an interest in computational science and biomedical applications of electrical engineering. As an undergraduate, Fergus participated in three research labs: the Biophotonics Lab at the Cal Tech under Dr. Changhuei Yang, and, at Cal State LA, the Computational Molecular Biology lab (COMB) under Dr. Negin Forouzesh and the Bio-inspiring Computing lab under Dr. Curtis Wang. During that time he was also a participant in the 2023 LSAMP Summer Research Program at Cal State LA. While at the Biophotonics lab, Fergus investigated a novel method, histogram analysis, for inferring cerebral blood flow from interferometric speckle visibility spectroscopy (iSVS) data. Fergus's research in the COMB lab focused on molecular dynamics for computer-aided drug design, with an emphasis on Alanine scanning. At the Bio-Inspired Computing lab, Fergus developed multiple conduction-based neuron action potential models in hopes of replicating in vitro experimental data. Fergus will present the work done in the COMB lab at the SuRE Biennial '24 conference in Bethesda, MD, in July 2024. He will also be presenting his research done for the Bio-inspiring Computing lab at Congress International Motor Neuron Society 2024 in Bordeaux, France, in June 2024, and at the Society for Neuroscience conference (SfN) in Chicago, IL, in October 2024. Fergus will continue his research at Cal State LA for his master's degree as an LSAMP-BD fellow.

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CAL MARITIME

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
SARAI ALONSO · MARINE ENGINEERING TECHNOLOGY

Sarai Alonso graduated from Cal Maritime with a bachelor's degree in Marine Engineering Technology and with a 3rd engineer-unlimited license from the U.S. Coast Guard in May 2024. As many college students do today, Sarai has juggled sports practices, three jobs, and a full-time class load of about 20 units per semester. Aside from honing her time management skills, Sarai has fully capitalized on her Cal Maritime education, allowing her to explore beyond her career options while learning so much about what she enjoys doing. Sarai has given back in countless ways by mentoring and inspiring others. She believes that opportunity programs like LSAMP allow students like herself to both benefit and help to pass it on to others she encounters. Sarai's leadership skills are exhibited not only in her campus job as a welding Teaching Assistant, but it is as a math tutor that Sarai served as a sincere and exemplary role model. Through her authenticity and personal experience, Sarai greatly helped math education at Cal Maritime by her excellent tutoring and ability to contextualize and overcome anxiety about mathematics. Sarai's leadership talents are evident in her roles as the Training Ship Golden Bear (TSGB) Corps Commander on her Senior Cruise, and before that as the Corps Executive Officer and as 4E Divisional Commander. She's joining the M.E.B.A (Marine Engineer's Beneficial Association) Union after her degree and studying to become a substitute teacher to continue academically shaping the minds of many more, further demonstrating her commitment to help others.

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OUTSTANDING ACADEMIC & RESEARCH IN STEM
ROXANNE MINA · OCEANOGRAPHY

Roxanne Mina graduated with a B.S. in Oceanography and minor in Mathematics in May 2024, graduating as a student with highest honors. In addition to numerous semesters on the President's and Dean's list, Roxanne has been a trailblazer as part of the first cohort of 4-year Oceanography major students as the major began at Cal Maritime. She has served in several academic and student leadership roles such as tutor and Supplemental Instructor (SI), in student government as a senator, and as Ocean Club vice president. Roxanne was awarded and named a NOAA Ernest F. Hollings Scholar in 2022. This gave her the opportunity to intern under the guidance of mentors at NOAA-NESDIS National Centers for Environmental Information's Ocean Climate Lab, where she examined U.S. coastal hypoxia variability using oxygen data from the World Ocean Database. As an upper-division student, she participated in undergraduate research in characterizing viscous bio-locomotion of a simulation and physical model. CSU-LSAMP and CSU-COAST have supported her work to present at the 2024 National Conference on Undergraduate Research. As a leader in the Oceanography major, Roxanne helped co-create the Oceanography Watch Lab and served as coordinator. After graduation, Roxanne will be joining the GO-SHIP ARC01 research cruise as a Conductivity, Temperature, and Depth (CTD) watchstander; in this position, she will be assisting marine scientists in ocean measurement collection across the Arctic Ocean. Roxanne's passion for her studies will carry her to continue her scholarly formation towards pursuing a PhD in Chemical Oceanography.

OUTSTANDING SERVICE & LEADERSHIP
GARRETT DASIGAN · MECHANICAL ENGINEERING

Garrett Dasigan (They/He/She) graduated with a B.S. in Mechanical Engineering and with a 3rd Assistant Engineer License in summer 2024. On campus, Garrett worked several different jobs at CSU Maritime and had numerous student representative roles. Most recently, Garrett served as the intern for Students for Quality Education (SQE) and worked closely with the California Faculty Association to make for a safer and better campus. They were also the campus Makerspace Student Assistant and helped other students learn new skills for class projects and recreational crafts. He volunteered in many aspects of campus, from screen-printing shirts for Community Day and LSAMP to gathering student voices and making sure that marginalized students were heard and their issues were brought forward. They were very active in campus affairs, serving as an advocate for other queer students and as an activist pursuing significant cultural improvements for the campus community. Garrett was involved in developing campus gender neutral grooming standards for the Corps of Cadets and ensuring trans and non-binary students were able to express their gender without outing themselves. For her senior project in Mechanical Engineering, Garrett was the project manager for the Prosthetic Arm Team that produced a functioning prosthetic with a rotating wrist and an opposable thumb. After graduating, Garrett seeks to join the Marine Engineers' Beneficial Association (MEBA) to sail as a 3rd Assistant Engineer and work on their creative portfolio on the side.

California State University MONTEREY BAY
Extraordinary Opportunity

OUTSTANDING RESEARCH IN STEM
JASPER TAO · AGRICULTURAL PLANT & SOIL SCIENCE

Jasper Tao is a senior majoring in agricultural plant and soil sciences at CSU Monterey Bay who will be graduating Cum Laude. At CSUMB, she joined the Undergraduate Research Opportunities Center (UROC) Researchers program where she conducted applied plant pathology research in Dr. JP Dundore-Arias research lab. Under Dr. Dundore-Arias' guidance, she worked on several projects focusing on non-chemical methods of soilborne pathogen control, optimization methods of inoculation for infection of Pythium species, and evaluation of seed treatments for efficacy in preventing Pythium wilt of lettuce. She also had the privilege of receiving academic and professional guidance through UROC, CSU-LSAMP, The Society of Advancement of Chicanos/Native Americans in Science (SACNAS), the Agricultural Research Institute-Hispanic Serving Institution (ARI-HSI) Research Fellowship, and the International Fresh Produce Association Pathways program. As the President of CSUMB's Plant Cultivation Club, she worked to implement a Guest Speaker series to engage students to learn about different agricultural stakeholders and perspectives, as well as lead community garden activities. After graduation, Jasper will attend the University of Minnesota to pursue a Master of Science in Plant Pathology. As a child of Vietnamese refugees, Jasper strives to work toward increasing the accessibility of agricultural research to stakeholders of all backgrounds and needs.

OUTSTANDING SERVICE & LEADERSHIP
EMILY DONAHUE · ENVIRONMENTAL SCIENCE, TECHNOLOGY, AND POLICY

Emily Donahue is a senior majoring in environmental science, technology, & policy with a minor in statistics at CSU Monterey Bay. In 2022, she was accepted into the Undergraduate Research Opportunities Center (UROC) Scholars Program and CSU-LSAMP, where she began her research career learning the basics of research in the chaparral and grasslands of Fort Ord National Monument. Over the summers, she participated in Scripps Institution of Oceanography and the CSU Council on Ocean Affairs, Science & Technology summer research experiences where she expanded her research interests in marine science. As a Hispanic and white woman in STEM, she saw firsthand how critical it was to effectively reach broader audiences and appreciate different perspectives, and found a passion for outreach and mentorship. With a focus on mentorship, Emily created the campus group, Processing Opportunities in Writing, Education, and Research (POWER), to allow undergraduate researchers to come together to process the stress and emotions affiliated with research, applications, or other high-stakes opportunities. She led workshops such as Rejection Reimagined where students who experienced rejection from REUs, grad schools or other applications can transform rejection into pieces of art. In her role as UROC writing fellow, she facilitated weekly group meetings with current UROC students to develop their writing fluency and prepare for research opportunities. Emily is excited to continue gaining unique experiences and begin her pursuit of a Ph.D. in Ecology, eventually becoming a mentor to the next generation of scientists.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
INGRID MARTINSON · MARINE SCIENCE

Ingrid Martinson is a senior majoring in marine science with a minor in environmental health policy at CSU Monterey Bay. At CSUMB, she has demonstrated her passion for marine conservation through her research which has led to receiving prestigious fellowships and a cumulative GPA of 3.9. In the fall of 2021, Ingrid was accepted in Undergraduate Research Opportunities Center's (UROC) Researchers program followed by acceptances in the UROC Scholars program, CSU-LSAMP program, and awarded NOAA's Educational Partnership Program for Minority Serving Institutions (EPP/MSI) Scholarship program. She conducted research with the Inland Ocean Coalition advocating for pro-ocean legislation and created social media campaigns to raise awareness around threats facing the ocean on their national platform. As a NOAA EPP/MSI participant, she worked at Hollings Marine Laboratory in Charleston, SC investigating the long-term impacts of oil spills on fauna in the salt marsh and worked with NOAA's nonprofit partner, Puget Sound Restoration Fund (PSRF) on their bull kelp restoration project where she assessed the success of outplanting bull kelp as a restoration technique. These research opportunities led Ingrid to earn the Barry Goldwater Scholarship, conference travel awards and CSU Coast Awards. Ingrid is pursuing a Ph.D. in Ecology and Evolutionary Biology at UC Santa Cruz, funded by the National Science Foundation Graduate Research Fellowship Program (NSF-GRFP) award. She plans to pursue a career in the nonprofit sector, at the forefront of innovative marine conservation and at the intersection of community, science, and policy.

OUTSTANDING ACADEMIC & SERVICE/LEADERSHIP
JESSICA NARANJO · MATHEMATICS

Jessica Naranjo is a senior mathematics major with a minor in data science at CSU Monterey Bay. At CSUMB, Jessica has held various positions on campus to help support undergraduates. She worked as a student assistant on Transition to College Level Mathematics, an Undergraduate Research Opportunities Center Writing Fellow, and a Mathematics/Statistics Peer Liaison connecting students in lower-division Math/Stat courses to resources. As a first-generation, Mexican-American student, this work motivated Jessica to find other ways to help the community. She volunteered as a Statistical Consultant for the non-profit organization Sol Treasures receiving the Mathematics Service Learning Award by the CSUMB Service Learning Institute. During her third-year of her studies, Jessica was selected to participate in the National Institutes of Health Genome Research Experiences to Attract Talented Undergraduates (GREAT) Scholars Program. As part of the program, she conducted genomic research in the Corbett-Detig Lab at UC Santa Cruz and disseminated findings at local and national research symposiums. At CSUMB, Jessica maintained a 3.88 GPA and was awarded the Outstanding Lower Division, Upper Division and Graduating Senior Awards from the Mathematics and Statistics department. Jessica was recently awarded the GEM Fellowship and will be conducting research at Oak Ridge National Laboratory in the summer of 2024 before pursuing her Master's in Statistics at Oregon State University in the fall.

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California State University
Northridge

OUTSTANDING RESEARCH IN STEM
ICESS NISCE • COMPUTER SCIENCE

Icess Nisce is a undergraduate student majoring in Computer Science at California State University, Northridge (CSUN). She has been a research fellow of ARCS (Autonomy Research Center for STEAHM) at CSUN since 2021 and participated in two projects: (1) Autonomy in Law and (2) 3D Vehicle Classification for Real-time Traffic Flow Monitoring. She led a group of 7 undergraduate students working on the second project and led the team to win the first place in Project Display for all projects from the Department of Computer Science at CSUN's CECS 2023 Senior Design Project Showcase. A co-authored research paper from the project was published in IEEE GESSC 2023 conference. In 2021, she was selected as 1 out of 187 students across the nation to participate in the NASA Community College Aerospace Scholars program (NCAS) in an interactive competition to design a mission to the moon. She had served as a web developer intern at the NASA Goddard Space Flight Center in Summer 2022, where she identified areas of functional and visual improvement for various web applications of the NASA Goddard Library. Icess was also selected to be the 2022-2023 recipient of the Crankstart Transfer Scholarship, where her achievements and aspirations as a transfer student were recognized by the Crankstart Transfer Scholar program.

OUTSTANDING RESEARCH IN STEM
DOMINIC GUERRERO • ELECTRICAL ENGINEERING

Dominic Guerrero, graduating senior in Electrical Engineering at California State University Northridge is nominated for the Outstanding Research in STEM award because of his work on two projects, one in which he worked as an LSAMP student researcher in the summer of 2023. Dominic contributed to the progress of the wireless power for intravascular blood pumps project by creating reusable experimental jigs and circuit prototypes for conducting radiofrequency measurements on wireless power coils with the vector network analyzer. He also produced detailed experimental protocols describing experiments and meticulously organized the results. More broadly, Dominic has also organized the CSUN Biomedical Devices Laboratory for more efficient design and prototyping of various medical device concepts. Dominic has continued his work on this project by creating a 3D-printed platform to test various orientations and distances between wireless powering coils. He has also served as a project coordinator for a Fontan assist blood pump designed for single ventricle patients. In the process, Dominic has had to learn multiple software programs like Allegro, for printed circuit board design, SolidWorks, for designing mechanical parts, and MATLAB for data analysis. In the process, he has worked collaboratively with both undergraduate and graduate students working on the same project or on subprojects related to his work. Overall, Dominic has been a great asset to the laboratory, and is the most enthusiastic, meticulous, and hardworking student in the history of the laboratory. He worked to submit two manuscripts this past summer (2024) to peer-reviewed journals.

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CAL POLY POMONA

OUTSTANDING ACADEMIC & RESEARCH IN STEM
ASTRID ARDON-LOPEZ · CHEMISTRY

Astrid Ardon-Lopez graduated Summa Cum Laude with a B.S. in Chemistry and an emphasis in Biochemistry from Cal Poly Pomona in spring 2024. Astrid was born and raised in Honduras and moved to the United States in 2018 to pursue her dream of becoming a Physician-Scientist. At Cypress College, where she attended before transferring to Cal Poly Pomona, she tutored a variety of Biology and Chemistry courses in the Learning Resource Center. Astrid also served as a family group leader for the (STEM)2 Program at Cypress College and a mentor for Science Educational Enhancement Services (SEES) at Cal Poly Pomona. She is committed to supporting underrepresented students to achieve their goals and increasing their representation in STEM. As a CSU-LSAMP participant and an NSF-funded scholar, she conducted research with Dr. Kathryn McCulloch where she studied the use of MiraLAX as a precipitating agent to crystallize proteins for x-ray crystallography. In collaboration with Dr. Ali Sharbat, Dr. Janko Nikolich-Žugich, and Dr. Matthew Griffin, Astrid has assisted Civil Engineering, Immunology, and Chemical Biology research projects at Cal Poly Pomona, the University of Arizona, and the University of California, Irvine for the past three summers. She has presented at two national scientific conferences. Additionally, she was awarded the Boeing Company STEM scholarship and the Crankstart Scholarship. Astrid aspires to merge her passion for biomedical research and medicine to explore innovative approaches for early detection of life-threatening diseases to ensure timely and effective treatment interventions

OUTSTANDING ACADEMIC & RESEARCH IN STEM
DIEGO OCHOA · CHEMICAL ENGINEERING

Diego Ochoa graduated valedictorian in the College of Engineering with his B.S. in Chemical Engineering and a minor in Materials Engineering from Cal Poly Pomona in spring 2024. He will be attending the University of Southern California (USC) to pursue a Ph.D. in Materials Science in fall 2024. He has spent his undergraduate research career working under the tutelage of Dr. Vilupanur Ravi on a variety of materials science-related projects. Two projects he worked on included investigating the corrosion resistance of novel nickel-based superalloys in molten salt environments for nuclear energy applications. His second main project was investigating how salt deposits influence the high-temperature corrosion of turbine blades. He had the opportunity to present his research in a number of settings, including at the AMPP Annual Conference + Expo 2024 where he was awarded the first-place undergraduate poster award. He has previously been a tutor for the Maximizing Engineering Potential (MEP) program, served on the board of the American Institute of Chemical Engineers (AIChE) club at CPP, and was the president of the CPP AMPP (Association for Materials Protection and Performance) Student Chapter. As the first of his immediate family to graduate from college, Diego was proud to be graduating from Cal Poly Pomona where he was surrounded by so many talented first-generation students. He hopes he has made his family proud by continuing his education at the graduate level and that it will have encouraged his younger sister as she pursues her undergraduate career.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
BRYAN ORELLANA DE LA CRUZ
COMPUTER SCIENCE

Bryan Orellana de la Cruz is currently a computer science major and a first-generation college student at Cal Poly Pomona. He continues to succeed academically in a difficult major with a GPA of 3.88. During his second year, Bryan joined the SEES mentor program where he helped and advised first-year students on adjusting to the college environment. He also joined the CSU-LSAMP program and was funded by the NSF SPIRES program, where he began his undergraduate research with Dr. Abdelfattah Amamra in the Computer Science Department. For his project, he was using machine learning classifying algorithms to detect network intrusion, after which he presented his work at the 2023 College of Science Symposium. During his third year, Bryan joined the Hapii Lab to conduct research under Dr. Ben Steichen in human-computer interaction and visualization. Bryan's research at the Hapii lab involved gathering article data used by the lab's groups in setting up their studies, developing online surveys with various interfaces to obtain user responses to multilingual article recommendations from multiple countries, and analyzing how the results reflect a growing monolingual population and what options different demographics prefer when reading online articles. He continues his research in human-computer interaction at the Hapii lab and presented his research at the 2024 College of Science Symposium. After graduating, Bryan plans to pursue a Master's degree and a career in software engineering

OUTSTANDING ACADEMIC & RESEARCH IN STEM
WILLIAM SALAZAR · PHYSICS & APPLIED MATHEMATICS

William Salazar was a fourth-year double majoring in physics and applied mathematics at Cal Poly Pomona during 2023-2024. Despite hardships created by the pandemic and being a first-generation student, William maintained a very high GPA and was named to the Dean's and President's Honor list every semester. In addition, he performed research as a CSU-LSAMP participant and NSF-funded scholar from 2022-2024. Through his research with Dr. Matthew Povich, William has been able to study young stellar objects through computer-based modeling software. He presented his work at multiple conferences and symposiums. During the spring of 2023, William was awarded the Edison STEM-NET Student Research Fellowship for his research. In the summer of 2023, William participated in an REU at the University of Wyoming overseen by Dr. Kobulnicky and Dr. Dale. During that summer, William, along with a team of collaborators, collected stellar spectra at the Wyoming Infrared Observatory and analyzed it through computer-based software. In the following academic year, William continued to advise on the project leading up to the American Astronomical Society conference in 2024. In addition to research, William was a mentor within the SEES community at Cal Poly Pomona and a member of the Society of Physics Students chapter on campus. Through mentorship opportunities, William intends to help other students find their footing in the academic landscape and guide them to opportunities in the field in order to build a stronger, larger STEM community

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SACRAMENTO STATE

OUTSTANDING RESEARCH IN STEM & ALUMNA
EILEEN GARCIA-FUENTES · BIOLOGICAL SCIENCE

Eileen Garcia-Fuentes, a first-generation graduate, obtained a degree in Biological Sciences with a concentration in Microbiology and a minor in Chemistry in Fall 2023 from Sacramento State. After being at Sacramento State for one semester, she joined Dr. Jamie Kneitel's research group as a volunteer. During her junior year, she began studying herbicidal impact on vernal pool communities as a CSU-LSAMP scholar. She presented her work at Sacramento State's 2023 Student Research and Creative Activity Symposium, earning a second-place award. Eileen then joined Sacramento State RISE where she studied the factors that influence spoilage in apple cider fermentations in Dr. Christopher Lopez's lab. She presented her research at multiple conferences including the 2023 SACNAS National Diversity in STEM (NDiSTEM) Conference and the 2023 Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS). In her final semester, Eileen Garcia-Fuentes achieved the distinction of being the first author of a publication titled "Draft genome sequence of Metabacillus indicus strain EGFCL74 isolated from spontaneously fermented apple cider". Her achievements as both a researcher and a student has paved the way for a new adventure as she prepares to join the Microbiology Graduate Group at UC Davis for PhD studies.

OUTSTANDING RESEARCH IN STEM
JULIA MARTIN · BIOLOGICAL SCIENCE

Julia Martin is a Sacramento State graduating senior majoring in Biology with a concentration in Ecology, Evolution, and Conservation. Since transferring here from San Joaquin Delta College, Julia has worked on her own research studying the effects of plants in rock pools found within the Diablo Range, participated in entomology research in Costa Rica, and has conducted a range limit study across Texas. Julia has been driven by her passion for exploring nature and pursuit of knowledge to participate in various facets of ecological research. Each exploration has honed her research skills while also providing her with valuable hands-on experience, remarkable memories, and lifelong friendships. Costa Rica, being her first research experience, allowed her to participate in research involving the collection and identification of predatory insects across varying habitats to determine diversity and abundance within the different communities. Rice University, where Julia was able to participate in a summer internship, gave her the opportunity to head her own study investigating the symbiotic relationship between plants and endophytes and how this interaction may play a role in climate induced range shifts. Currently she is working on a project focusing on the impacts terrestrial and aquatic plants may pose to threatened invertebrate species found within the rock pools of the Diablo Range. Julia will begin her graduate program at Rice University in the Fall where she will continue on her path to a promising and prosperous career.

OUTSTANDING RESEARCH IN STEM
TRINITY-PARIS FOSTER · BIOCHEMISTRY

Trinity-Paris Foster, a dedicated Biochemistry major from California State University, Sacramento, is a rising researcher with a deep interest in the complexities of metabolic disorders. With four years of research experience under her belt, she's participated in intensive scholar programs such as NIH-RISE, CSU-LSAMP, and Yale BioMed Amgen Scholars. Her investigation into the effect of a P450 Protein on the aggressiveness of male Drosophila melanogaster fruit flies in Dr. Johannes Bauer's lab at Sacramento State earned her second place in the Sacramento State 2024 Student Research and Creative Activities Spring Symposium.

Trinity-Paris will be attending the University of Chicago's PhD program in Molecular Metabolism in Fall 2024-2025, which focuses on the molecular underpinnings of biological processes related to metabolic homeostasis and human disease. Pursuing a PhD equips Trinity-Paris with the expertise and scientific rigor needed to do innovative research that targets metabolic disorders—a venture she's dedicated to, aiming to bring therapies to marginalized communities disproportionately affected by illnesses.

With all her accomplishments, she received the CSU-LSAMP PROUD Award, which recognizes her academic excellence and research commitment. She aims to be a Biomedical scientist and professor who fosters diversity, equity, and inclusion. Representation is important for future generations, and even experiencing underrepresentation in STEM, Trinity-Paris strives to uphold representation for African American women in her field. Embraced by the support of family, friends, and mentors, Trinity-Paris anticipates making a difference through her research and making a positive impact in her community.

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CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

OUTSTANDING RESEARCH IN STEM & SERVICE/ LEADERSHIP
CHLOE SALDAÑA · BIOLOGY

Chloe Saldaña is an outstanding and highly motivated student at CSU San Bernardino. She has been conducting research in Dr. Joseph Heras' lab since August of 2022. Chloe is strongly passionate about understanding how anthropogenic activity impacts marine environments. Chloe's research project entails identifying microplastics from the gut of marine intertidal prickleback (family Stichaeidae) fishes to better understand the accumulation of microplastics in marine life. Chloe has analyzed three species of marine fishes which have different diet specializations (carnivory, omnivory, and herbivory). This study provides a broader understanding of how microplastics impact our coastal marine life. In addition, because of Chloe's interests in marine plastic pollution, the Heras Lab has collaborated with the Moore Institute located in Long Beach, California on this project.

Chloe has already presented her research at five different conferences which includes poster and oral presentations. Aside from Chloe's academics and research efforts, Chloe has held multiple jobs during her undergraduate career. She has worked as a resident advisor (RA) in the dormitory, she has served as an academic tutor during the LSAMP summer program 2023, and has worked as a fitness floor staff member at the Recreation and Wellness Center at CSUSB. Chloe's commendable work ethic is worth noting because she has completed her research goals on top of her academic studies and employment. Next year, Chloe will be starting a post-bachelor's program called UNLAB at the Natural History Museum in Los Angeles.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
HALEY MIGUEL · COMPUTER ENGINEERING

Haley Miguel graduated from California State University San Bernardino in Spring 2024 with a Bachelor of Science in Computer Engineering. As an undergraduate at CSUSB, Haley received the Dean's Letter of Recognition for her outstanding academic performance in multiple semesters, and maintained her position in CSUSB's honors program throughout her academic career. Haley has also been active in research, having participated in a 2023 REU offered through the USC Institute for Creative Technologies. As an LSAMP scholar, Haley gave an outreach presentation to our student members about her summer research as well as worked as a peer facilitator in our Academic Excellence Workshops in 2024. Haley received offers from several Master's programs and is presently planning to attend USC for a Master's in Computer Science starting in Fall 2024.

OUTSTANDING RESEARCH IN STEM
HUGO BACA · COMPUTER ENGINEERING

Hugo Baca graduated from California State University San Bernardino in Fall 2023 with a Bachelor of Science in Computer Engineering. As an undergraduate at CSUSB, Hugo participated in several research activities including transportation work with San Bernardino County, an internship in healthcare data in Philadelphia, as well as presentations of his research at conferences, including at SCCUR in Fall 2023. In the summer of '23, Hugo was a research data science intern with United Health Group at Carnegie Mellon as part the "Bridges to Healthcare Technology Program" in Pittsburgh, Pennsylvanian. During this summer Hugo and his peer's wrote a paper, "Analyzing the impact of sleep and distress on preventable hospitalizations across racial and ethnic Groups". In the Fall of '23 Hugo was selected as a Machine Learning Research Fellow through Google's Explore Computer Science Research at UC Riverside and worked with Dr. Jia Chen and Dr. Vagelis Papalexakis on the application of Tensors and Graphs in railroad safety. In the late Fall of '23, Hugo presented his research findings at UC Riverside's IEEE Computer Society event. Additionally, Hugo was a software engineer intern with the State of California, Department of Transportation for 2 years, during which time Hugo developed innovative transportation software and was implemented into the operations of Caltrans District 8, encompassing San Bernardino and Riverside Counties. Hugo is currently a Positive Train Controls Engineer I with Metrolink. Hugo awaits admissions decisions from master's and PhD programs as he wishes to further his studies in Computer Science or Applied Math.

OUTSTANDING SERVICE/LEADERSHIP
JADE ROMERO · MATHEMATICS

Jade Romero graduated from California State University San Bernardino in Fall 2023 with a Bachelor of Science in Mathematics with an Applied Concentration and a Minor in Statistics. As an undergraduate at CSUSB, Jade participated in research funded by the Office of Student Research in Summer 2022, joined the EPIC Lab at Georgia Tech as a SURE Researcher in a Summer 2023 REU, and worked as an Undergraduate Data Analyst remotely for the Data Mine at Purdue University for more than a year. As an LSAMP scholar, Jade served as a peer facilitator of LSAMP Academic Enrichment Workshops for Summer 2022 and several semesters afterwards. Starting in Fall 2022, Jade worked as a Student Assistant to the LSAMP program, modernizing our communications strategies and developing novel ways to grow the LSAMP program. For this work, Jade was nominated for 2023 Outstanding Student Employee. As a result of their research excellence, as well as their extraordinary service and leadership, Jade was nominated as the 2024 Department of Mathematics Outstanding Undergraduate. Jade is currently working as a Healthcare Data Analyst where they are continuing their passion for research. Jade plans to apply for their Doctorate Degree in Data Science or Statistics in the coming years.

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SDSU | San Diego State University

OUTSTANDING SERVICE & LEADERSHIP
MIRIAM GARCIA · BIOLOGY

Miriam Garcia, a dynamic and dedicated student pursuing a major in Biology at San Diego State University, served as the President of the SDSU Chapter of SACNAS. Miriam began in CSU-LSAMP during the summer 2020, a difficult year due to the pandemic, but that didn't keep Miriam from giving it her all. Miriam is an advocate for diversity and inclusion in STEM fields, fostering a supportive community for underrepresented students. Outside of academics, she volunteers with MANA de San Diego, empowering Latinas and advancing their educational and professional pursuits, as well as other programs such as SD2 and Barrio Logan College Institute (BLCI). Her journey into healthcare commenced with her completion of a 140-hour Medical Assistant course from International Health Group. Equipped with administrative and clinical skills and an internship in Dr. Camacho's Cardiology Clinic expanded her capabilities and emphasized her commitment to community health. In additions to her strong community service record, through research, Miriam explored nervous system development at Dr. Bob Zeller's Laboratory Research at SDSU and investigated the experiences of first-generation low-income Latina college students in the HCOP Research summer program. Currently, Miriam mentors peers in the Progresando En Salud program at SDSU.

OUTSTANDING RESEARCH IN STEM & SERVICE/LEADERSHIP
ALPHER ASPIRAS · CELLULAR & MOLECULAR BIOLOGY

Alpher Aspiras is a dedicated Cellular and Molecular Biology major at San Diego State University and will graduate in May 2025. Engaged in groundbreaking research in Dr. Nicholas Shikuma's Marine Microbiology lab, Alpher's project focuses on "A Gene Regulator (MacR) Controlling the Production of Molecular Syringes and their Application for Biotechnology." This research explores the regulatory role of the MacR gene in enhancing the production of extracellular Contraction Injection Systems (eCIS) in Pseudoalteromonas luteoviolacea, with promising implications for targeted protein drug delivery. Since his freshman year in June 2020, Alpher has been an active CSU-LSAMP@SDSU scholar, advocating for broadening participation in STEM disciplines and encouraging students to pursue graduate degrees in these fields. His outstanding achievements include two scientific publications and an award-winning poster presentation at ABRCMS. Alpher has taken on several leadership roles at SDSU, showcasing his commitment to community service and STEM outreach. As a College of Sciences Student Council representative for the Black Student Science Organization (BSSO), he actively engaged and represented the organization. In his role as the social media coordinator for the Undergraduate Research Committee (URC), Alpher provided insights and advocated for undergraduate research opportunities at SDSU. Since August 2023, Alpher has been a NIH MARC (Maximizing Access to Research Careers) scholar, advocating for a diverse pool of undergraduates who transition into Ph.D. programs in STEM fields. Beyond his academic and leadership roles, Alpher is passionate about community service and STEM outreach, consistently working to inspire and support the next generation of scientists.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
POLINA POPOVA · ENVIRONMENTAL ENGINEERING

Polina (Poly) Popova graduated summa cum laude (GPA 3.92/4.0) from San Diego State University (SDSU) with a B.S. in Environmental Engineering and an Honors Minor in Interdisciplinary Studies. As a rising environmental engineer, Polina discovered her passion for research at SDSU's Water Innovation and Reuse Lab (WIRL), a pursuit enabled largely by the support of the CSU LSAMP program. In Fall 2024, Polina will begin her Ph.D. studies at Yale University, where, supported by the NSF Graduate Research Fellowship, she will explore sub-nano scale technologies for wastewater treatment. At the WIRL, Polina led a project on anammox bacteria, a lower-cost alternative to conventional methods to remove nitrogen from wastewater. Using fluorescence spectroscopy, she identified a unique anammox fluorescence pattern and confirmed that this technique can be used to shorten anammox enrichment time, a limitation in its wide-scale adoption. This effort culminated in winning an award for her poster presentation at the 2023 SACNAS National Diversity in STEM Conference and multiple prestigious scholarships, including one provided by the American Water Works Association. Beyond academia, Polina is driven by a desire to empower future scientists and engineers. She aims to become a professor and principal investigator, focusing on mentoring and increasing diversity within her field. Her participation in various outreach and mentoring programs, such as the Society of Women Engineers and Reality Changers, reflects her dedication to shaping an inclusive and supportive academic community for those following in her footsteps.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
SAMA MIKHAIL · MICROBIOLOGY

Sama Mikhail graduated Summa Cum Laude with a Bachelor of Science in microbiology and a minor in chemistry from SDSU. Sama has been a CSU-LSAMP Scholar since the summer of 2020, where she participated in the 5-week pre-calculus course and discovered undergraduate research opportunities at SDSU. From freshman year to graduation, she has contributed to and conducted independent research projects in Dr. Nicholas Shikuma's Marine Microbiology Laboratory and Dr. Mark Sussman's Cardiopulmonary Biology Laboratory. During the summer of 2023, she participated in the University of Michigan UM-SMART program designed for undergraduate students interested in pursuing a combined MD/PhD degree and conducting research in Dr. Santhi Ganesh's Cardiovascular Laboratory. In addition to maintaining a high GPA and conducting extensive undergraduate research involvement, she sought out activities to explore the potential of combining research with clinical practice. She has volunteered 265 hours at Alvarado Hospital from 2019-2022 and has completed 200 hours through the pathmaker internship at Palomar Medical Center since September 2022 and continues to volunteer there. Her campus involvement consisted of being a member of SDSU's Flying Samaritans and having a leadership role as the social coordinator for the National Arab American Medical Association (NAAMA) NextGen, where she organized numerous informative meetings that integrate art and medicine. Additionally, as a MARC Scholar, she participated in panels and conferences and mentored students with similar research interests. After graduation, she plans to continue her career in science by working as a physician-scientist performing research relevant to human health and disease.

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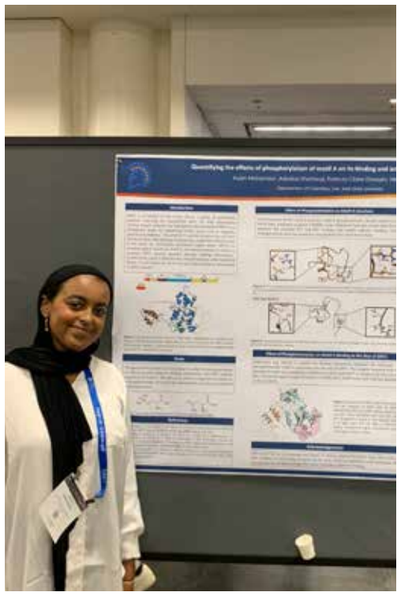
SJSU SAN JOSÉ STATE UNIVERSITY

OUTSTANDING ACADEMIC & RESEARCH IN STEM
ALEJANDRO MUNICIO
AEROSPACE ENGINEERING

Alejandro Municio is a junior, majoring in Aerospace Engineering with a minor in Physics. Over the past two years, he has worked as a research assistant, conducting kinetics research for Dr.Van Wyngarden's atmospheric chemistry lab. His research focused on examining the changes in oligomer speciation for methylglyoxal and glyoxal during cloud formation. During the experimental phase of their research, he chemically simulated organic aerosol conditions during cloud formation and recorded the system's kinetic trends by using Q-TOF mass spectrometry. Once the data was gathered, he used MassHunter and wrote data analysis programs in Python to interpret and understand the oligomers' kinetic trends. Their research seeks to understand how oligomer speciation evolves within the atmosphere, such that their findings can improve climate model predictions, regarding the impact from organic aerosols. In addition to his research, Alejandro has also been a member of Spartan Space Systems—a club focused on drafting a scientific proposal for a space probe to survey Io, one of Jupiter's moons. Within the club, he served as the club's Thermal Protection System team lead and worked to develop the probe's heat dissipation system. He was also selected to work as an intern at NASA Ames during the 2024 summer to help characterize the Earth's upper atmosphere using infrared data, measured during the SOFIA project. During his academic journey, Alejandro has maintained a 3.7 GPA, and is expected to graduate in the spring of 2025. Afterward, he hopes to pursue graduate school to study experimental Astrophysics.

OUTSTANDING ACADEMIC & RESEARCH IN STEM
AYAN MOHAMED · BIOLOGICAL SCIENCE



Ayan Mohamed is a junior who is pursuing a BS degree in Biological Sciences with a concentration in Systems Physiology and minoring in Chemistry. She expects to graduate in May of 2025. She started working in Dr. Ningkun Wang's biochemistry research lab as a freshman student. She has found joy in studying a protein called SIRT-1, which is involved in various diseases such as cancer, Alzheimer's and diabetes. Currently, she is investigating whether phosphorylation at S27 and S47 amino sites alters the conformational structure and enzymatic activity of the N-terminus of SIRT1 (motif A). She joined LSAMP as a freshman to receive financial support in her course work and in research. She presented her research at the American Chemical Society National meeting in San Francisco in August 2023. She aspires to continue her contributions to science by pursuing a career in medicine. Ayan is dedicated to supporting her Somali community and has initiated a tutoring program for underserved elementary and middle school students. She hopes to continue to give back in the future by volunteering as a doctor in her homeland. Academically, she has maintained a 3.8 average gpa in the past 4 semesters and hopes to graduate in 2025 as a first-generation college student.

OUTSTANDING RESEARCH IN STEM
MELANIE SEGURA GUERRERO
CHEMICAL ENGINEERING

Melanie Segura Guerrero will graduate with a Bachelor of Science in Chemical Engineering from San José State University in Spring 2025. Her research journey started in Fall of 2021 under the mentorship of Dr. Nicholas Esker with a focus on nuclear targetry. Nuclear targetry entails the production and characterization of thin films that are crucial for nuclear reaction studies at particle accelerators. After her initial literature review, Melanie started working in the bismuth evaporator team, which focused on the production and characterization of carbon backed bismuth targets via physical vapor deposition (PVD). The method uses a thermal evaporator, under vacuum, to heat the target material through resistive heating. The vaporized metal coats the substrate and the thickness of the coatings is measured using a quartz crystal sensor. This work was presented by Melanie at the national meetings of the American Chemical Society (ACS) and the American Physical Society (APS). Thanks to this research, Melanie was able to get into the GREAT-NS at Lawrence Berkeley Labs and Horizon-broadening Isotope Production Pipeline Opportunities (HIPPO) programs, which supported her work at DOE national labs over two summers. These programs have enabled her to continue her research in nuclear targetry and learn about other techniques and methods used to produce and characterize targets. Currently, Melanie has moved on to the production and characterization of thin free-standing gold targets. She hopes to continue research in graduate school with a focus in nuclear engineering.

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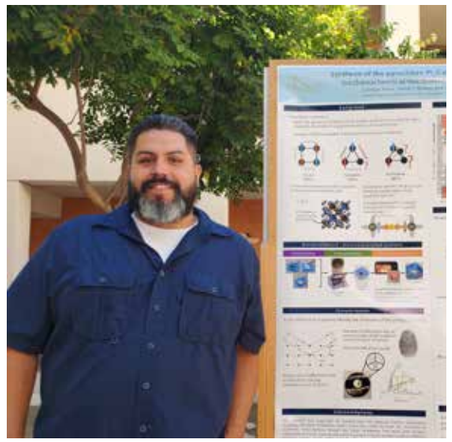
CAL POLY

OUTSTANDING ACADEMIC, RESEARCH IN STEM, & SERVICE/LEADERSHIP

ESTEBAN PEREZ · ELECTRICAL ENGINEERING



Esteban Perez is an Electrical Engineering major with a 3.97 cumulative GPA at Cal Poly San Luis Obispo. He is an NSF ENGAGE S-STEM Scholar (1834128, 183415). As a non-traditional student, Esteban embarked on his educational journey at the age of 32, starting with earning his GED and enrolling in courses at Allan Hancock College. There, he graduated with high honors, achieving a perfect 4.0 GPA and earning the privilege to lead his graduating class on stage. Along the way, Esteban obtained associate degrees in both mathematics and physics. Outside of academia, Esteban is a devoted father of five who cherishes spending quality time with his family, often engaging in camping trips and other adventures together. During his academic pursuits, Esteban seized opportunities to engage in impactful research experiences. At the Stephen Wilson group within the UCSB NSF Quantum Foundry, he contributed to groundbreaking research on novel synthetic routes for polycrystalline materials, focusing on their unique magnetic interactions conducive to exotic quantum states. This research holds promise for applications in cutting-edge quantum technologies. Additionally, Esteban participated in the 2024 College of Engineering Summer Undergraduate Research Program (SURP), collaborating with Professor Payam Nayeri on the development of a remote-operated amateur radio system. This system, capable of transmitting and receiving synchronization and calibration waveforms for distributed digital arrays, represents a significant advancement in digital array applications. Its potential impact spans various fields, including search and rescue missions, first responder operations, and defense applications, by enabling synchronization and calibration in otherwise inaccessible environments.

EXCELLENCE IN RESEARCH FOR ACCESS

YAN NGUYEN · ELECTRICAL ENGINEERING

Yen Nguyen is recognized for his excellence in research in the field of antenna design and propagation. Specifically, his research focuses on the implementation of impedance matching the relative permittivity of a dielectric resonator with that of free space to generate a broadband characteristic for a communication system. The research was published in the Institute of Electrical and Electronics Engineers conference proceedings for antenna and propagation in 2023. His research interests include the design of phased array antenna system and digital beamforming, to electronically steer an antenna. Yen is currently a student in the blended B.S./M.S. program at California Polytechnic State University in San Luis Obispo (Cal Poly) and is planning to purse a PhD degree once he completes the program. His goal as both a researcher and an engineer is to increase accessibility to digital resources for low-income demographics. As a first-generation college student, he and his family did not have much access to resources and opportunities. This changed when his teachers and mentors gave him the chance to study engineering and make a difference in the world. He would like to provide the same opportunity through his research.

EXCELLENCE IN RESEARCH FOR EQUITY

HEATHER BURNS · MECHANICAL ENGINEERING

Heather Burns epitomizes resilience, determination, and academic excellence. As a first-generation college student and mother of three, Heather's academic journey is remarkable. Despite myriad challenges, she stands as a beacon of perseverance and tenacity. Heather is currently pursuing a blended B.S/M.S. in Mechanical Engineering, both at Cal Poly, San Luis Obispo and will graduate in Winter 2025. Her research focuses on sociotechnical thinking in engineering education, aiming to cultivate a more equity-minded cohort of engineers adept at addressing societal challenges. She is excited about this field of study because she believes it will contribute to a more just world by changing the way engineering instructors teach and, in turn, how engineering students think about their role in society. Heather's commitment to leveraging engineering for social change is clear. Beyond academia, Heather is deeply engaged in her community, advocating for underrepresented groups and promoting diversity and inclusion in engineering. Recognizing the significance of representation, she actively fosters opportunities for those facing similar obstacles. Heather believes in the power of engineering to make positive change and is dedicated to creating a more equitable and inclusive society. Through her endeavors, Heather is contributing to the creation of more just and equitable engineering and the world.

OUTSTANDING RESEARCH IN STEM AND SERVICE/LEADERSHIP

VANESSA CERVANTES · ANIMAL SCIENCE

Vanessa Janet Cervantes is a young, high achieving, Hispanic woman who has been self-funded and working full-time since the age of 16. In her two years spent at Cal Poly to date she has achieved 1,000 + veterinary and research hours. She has explored a variety of clubs ranging from Dressage Team, the Zoo & Exotic Animals Careers (ZEAC) club, and the Cal Poly Barbell Club (CPBC). Vanessa has made great efforts to stay involved within her major and college via her mentored research activities, including research projects on Bull fertility, microbiome, and behavior, Layer Egg quality, and bovine reproduction research. She is also a member of the Animal Science & Dairy Science (ASCI/DSCI) Board. She participated as a speaker in the Fresh Tracks First-Generation 2023 panel regarding low-income first-generation minorities in agriculture and environmental sciences. Vanessa was featured in the Cultivate magazine published by the Cal Poly College of Agriculture, Food & Environmental Sciences (CAFES) after being interviewed by Anya G. Rehon discussing her experience as a first-generation student at Cal Poly. Vanessa has traveled all around the world in hopes of assisting conservation centers with marine and wildlife rehabilitation and research. Most recently, Vanessa developed a partnership with Mary Beth Glass, Director of Admissions at Loop Abroad, so that other Cal Poly students could join her in Australia to achieve hands-on experience working with veterinarians from all around the world and assisting endangered species.

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SONOMA
STATE UNIVERSITY

OUTSTANDING RESILIENCE
ANDRES CASTELLANOS · BIOLOGY & APPLIED STATISTICS

As a child, Andres Castellanos immigrated with his family from Guadalajara, Jalisco, Mexico, to Fresno, CA. He began working in the fields alongside his father at the age of eight, waking up at 5:00 AM to labor under the heat of the sun of the Central Valley during summer breaks. While his peers looked forward to their summers, he had to face hours of labor, picking fruit to help support his family. Working in the fields helped him realize the value of education. His father often reminded him that without a dedication to learning, he risked being trapped in a cycle of manual labor. Growing up in this environment made him understand that an education could help him break free from the constraints of poverty and limited opportunities.

Growing up with no knowledge of the English language, he often found himself feeling alienated from his peers. This changed when he had his first math class, as the numbers and simple orders of operations were the same in both English and Spanish. As he matured, he questioned why some individuals faced daily struggles for basic necessities while others enjoyed abundance. This curiosity, alongside his passion for mathematics, led him to explore statistics as a tool for understanding and addressing social inequalities. His interests grew when in college he took his first Introduction to Statistics course. He began to realize the application of probability and statistics to our real world, which interested him in doing more research in this field.

OUTSTANDING ACHIEVEMNET
FRANCISCO ELIAS · BIOLOGY

Francisco Elias is a sophomore biology major at Sonoma State University. He was born and raised in Los Angeles, California, where life was difficult. His father worked from 6 AM until 9 PM, yet the family barely made it through each month. His mother told him that he had three jobs as the elder brother; to study and get good grades in order to have a nice life, to always be respectful and care for the feelings of others, and to set a good example for his siblings.

Francisco did as his mother instructed, and although he did not feel that he fit in with his peers, he earned good grades in high school, and after his family moved to a ranch in Napa, California, he enrolled at Sonoma State. He began working with professors in the lab during his freshman year, and was very active in research during his sophomore year. Working with his research mentor and her graduate students has made him feel that he has found a place where he belongs. He feels he has learned much from working with them, and is excited to continue to learn about ecology.

As the first person in his entire family to enroll in a university, Francisco hopes to motivate his siblings and show them that despite the difficulties that they experienced early in their lives, they can still make it into a university and work towards a better life.

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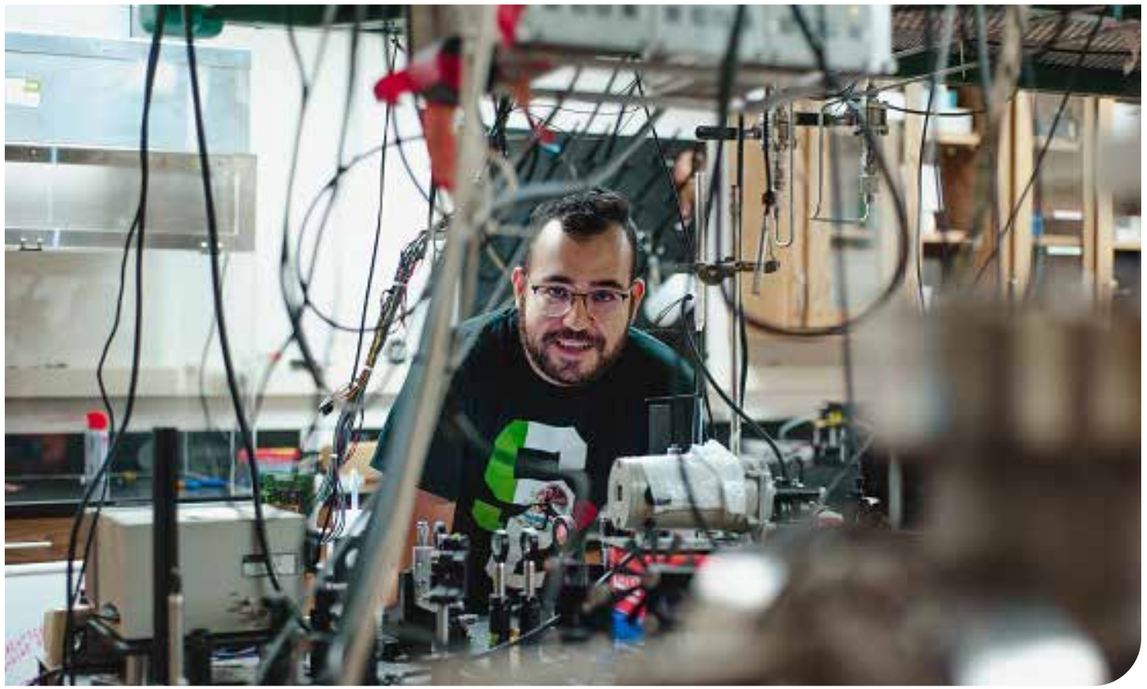
California State University | Stanislaus

OUTSTANDING ALUMNUS
JOSÉ L. GODINEZ · CHEMISTRY



José L. Godínez Castellanos is a Mexican immigrant and a first-generation college graduate who is on the path to becoming the first in his family to obtain a Ph.D. He earned his B.S. in Chemistry from CSU Stanislaus, where he conducted research on the repair mechanism of UV-damaged DNA using single-molecule spectroscopy under the mentorship of Prof. Elvin A. Alemán. To inspire younger generations from similar backgrounds, José was actively involved for over three years in the Warriors Chemistry Club. During his tenure as president, he helped organize an outreach program that brought hands-on experiments to K-12 students and their families from at-risk communities in the Central Valley. José is now completing his doctoral work at the University of Southern California under the guidance of Prof. Stephen Bradforth. His research focuses on ultrafast DNA photochemistry at different structural scales, from nucleosides to oligonucleotides and cells. At USC, José has mentored five undergraduate students on various projects. As a McNair Scholar alumnus, he guided one student through the process of applying to graduate school and industry positions.

José plans to continue his research as a postdoctoral scholar, with the ultimate goal of becoming a university professor. In this role, he intends to start his own group to study photochemistry while mentoring and inspiring future generations of scientists. His mission is to motivate students from similar backgrounds to reach their full potential and achieve their own academic and professional objectives, paying forward the support he received from his mentors.

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OUTSTANDING ACADEMIC & RESEARCH IN STEM
PAOLA CAMPOS · MATHEMATICS

Paola Viviana Campos is a rising senior at Stanislaus State majoring in mathematics with a minor in computer science. A Hispanic, first-generation student, Paola strives to take advantage of educational opportunities to open doors for other students in her community. Academically, Paola displays great commitment, maintaining a 4.0 GPA and partaking in the Honors Program throughout her undergraduate career. Most recently, Paola received the Outstanding Student Achiever for Mathematics (BS) Award (2023-2024). Beyond academics, Paola has been an active CSU-LSAMP member since 2022 and has participated in research projects across various disciplines, including mathematics education and extremal graph theory. Most notably, in 2023 Paola had the opportunity to conduct ecological and statistical research during an expedition in Costa Rica. This experience had a profound impact on her outlook on research and inspired her to continue learning about statistical methodology. Since then, Paola participated in the 2023 Irvine Summer Institute in Biostatistics and Undergraduate Data Science, where she worked alongside leading researchers in the biostatistics field and conducted research applying statistical models to analyze research attitudes across various populations of interest in clinical trials. Moreover, she has presented her research at national conferences, including the Joint Mathematics Meeting, and continued to expand her studies in statistics during her study abroad experience in South Korea. Most recently, Paola became a Cal-Bridge Scholar and aspires to attend a graduate program that will allow her to continue learning about statistical modeling and its application to address problems of interest in her community.

OUTSTANDING RESEARCH IN STEM
JEFF VENABLE · MATHEMATICS

Jeff Venable graduated with a B.S. in Mathematics from Stanislaus State in Spring 2024. Despite facing challenges as a former community college dropout, he was motivated to return to school to pursue his passion for mathematics. During his two years at Stanislaus State, he earned a spot on the Dean's List each semester, served as Math Club Secretary for one year, and worked as a math peer tutor for a semester. Additionally, under the mentorship of Dr. Jessica De Silva and Dr. Cashous Bortner, Jeff conducted research in the field of extremal graph theory during the Spring and Fall of 2023. In the summer of 2023, Jeff participated in the Combinatorics and Coding Theory in the Tropics REU at the University of Puerto Rico – Ponce. There, he worked on discrete order statistics with Dr. Anant Godbole and locally recoverable codes lifted from graphs with Dr. Fernando Piñero. Jeff's dedication to research earned him a travel scholarship to present his findings at the 2024 Joint Mathematics Meetings, where he delivered two 10-minute presentations and a research poster showcasing his three projects. In addition to his academic and research achievements, Jeff is passionate about making a positive impact in his future career. He aspires to become a professor to inspire students to overcome academic challenges and pursue their dreams. In Fall 2024, Jeff began his Ph.D. studies in Mathematics at North Carolina State University, focusing on combinatorics and algebra.

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