



California State University  
SAN MARCOS

COLLEGE OF  
SCIENCE TECHNOLOGY  
ENGINEERING  
& MATHEMATICS

# CELEBRATION OF ACHIEVEMENT

Honoring the  
outstanding students,  
faculty and staff who  
make CSTEM  
successful

**THURSDAY, MAY 9  
USU BALLROOM  
4:30-7:30 PM**





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## **2024 Celebration of Achievement**

### **Master of Ceremonies**

Dennis Kolosov, Ph. D.  
Assistant Professor, Biological Sciences

### **Introduction**

Dean Jackie Trischman

### **Presentations**

Biological Sciences & Biotechnology  
Matthew Escobar, Ph.D., Department Chair

Chemistry and Biochemistry  
Sajith Jayasinghe, Ph.D., Department Chair

Computer Science and Information Systems  
Ali Ahmadinia, Ph.D., Department Chair

Mathematics  
Amber Puha, Ph.D., Department Chair

Physics  
Gerardo Dominguez, Ph.D., Department Chair

College of Science, Technology, Engineering, & Mathematics  
Jackie Trischman, Ph.D., Dean

### **Closing**

Dennis Kolosov, Ph. D.  
Assistant Professor, Biological Sciences



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## **Introduction by Dean Jackie Trischman**

Mindfulness was our theme this year. Think meditation, breathing, kindness. Mindfulness was appropriate this year as we went through our breathing exercises just to keep from screaming at some points. Between budget woes, salary negotiations, pandemic learning loss and ChatGPT (which just said "Yeah, right!" when I asked it to write my welcoming remarks), we had quite a challenging year.

But as today's program attests to, our faculty, staff, and students were up to the task. They looked at that horizon and understood that we reach it one step at a time. Next week, many of our students in the room today will walk across the stage and think they have reached that horizon. But, that's the nature of life on a sphere... we never really reach the end, we just keep walking, skipping, jumping, and flying. Students might even think they will leave CSUSM behind. But once a Cougar, always a Cougar, thanks to the solid foundation everyone in this room has helped them create.

Across the year, I saw bold initiatives of student leaders, perpetual curiosity in our faculty, and unwavering commitment from our staff who always went the extra mile. From groundbreaking research to pioneering educational programs, from record-breaking outreach events to the design of our new Integrated Science & Engineering building, each milestone is a testament to our collective resolve. I hope that you all took some of the mindfulness moments throughout the year to keep your life in balance as much as possible. As we celebrate the end of our academic year and the new beginnings for our graduates, let us all commit to being mindful along our journey, taking each new challenge one step at a time and taking every opportunity to celebrate how far we've come.



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## Biological Sciences

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Casey Mueller and Cameron St. Onge**

Cameron has been working with Dr. Mueller since January 2023, and is the 2023-2024 Beckman Scholar, which included participating in the 2023 Summer Scholars program and research for BIOL 489/499. Cameron has presented his results at the 2023 Southern California Conference for Undergraduate Research (SCCUR), the 2024 American Physiological Summit, and will be presenting at the Society for Experimental Biology in Prague in Summer 2024. Cameron and Dr. Mueller are preparing a manuscript for publication with Cameron as the first author. Cameron's research project explores how temperature alters between-individual variation in morphological and physiological traits of chorus frog tadpoles. His findings have the potential to be highly informative, as variability between individuals is often overlooked when examining the effects of the environment on developmental traits. Yet such variability may influence how populations respond to environmental change.

Cameron has a deep curiosity for the natural world with a focus on physiological ecology, conservation, and primate biology and is interested in a career that allows him contribute to conservation efforts. Cameron will graduate in May 2024 with an overall GPA of 3.955. He will continue to develop his research skills over Summer 2024 and as a Master's student in Dr. Mueller's lab beginning Fall 2024.





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## **Molsoft Award**

Awarded to **Josue Navarrete**

Using their computational background, Josue is motivated to solve complex problems for the conservation of climate sensitive ecosystems. To highlight their commitment to this, Josue has used their computational skills in many applications and experiences including a “Data Science for the Public Good” summer 2022 internship at Virginia Polytechnic Institute and State University, as well as participating in the Bioinformatics: BRITE REU at Boston University in summer 2023. In both experiences Josue employed various programming languages such as python, Java script (embedded in GEE), and R/Rstudio.

Josue received a Poster Award for their research at Boston university at ABRCMS, a national research conference for minoritized scientists.

Josue has received early admission to the 2024 REM-EFRI Summer Research Program at UCSD/Scripps Institute of Oceanography to perform metabolic modeling in Python of Bacillus species in collaboration with 4 laboratories at UCSD/SIO, with the goal of developing 3D-printed probiotic “living” surfaces that can prevent the spread of pathogens in the face of future pandemics.

Josue's career goals and professional aspirations revolve around establishing a research career that integrates data science, ecology, and biology with a near-term goal of pursuing a PhD in Data Science. Specifically, they wish to become a university professor at a primarily undergraduate Hispanic-Serving Institution (HSI) in data science, to pursue these research interests and train the next generation of future faces of STEM.



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## **Biotechnology**

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Betsy Read and Yutzil Zavala**

Yutzil started working with Dr. Betsy Read as a Summer Scholar in 2023 and worked with Dr. Read ever since.

Yutzil has contributed to several different projects in the Read laboratory. As part of the "Haptophyte Genome Project" which aims to sequence the genomes and transcriptomes of 35 species, including 10 coccolithophores, Yutzil has isolated high quality RNA from several species in the middle of the light and dark phases of growth for IsoSeq experiments needed for genome annotation. A manuscript detailing the genome and the potential use of this new isolate as an indicator of water quality is in preparation and expected to be submitted for publication later this month.

Yutzil will be graduating in May 2024 with a GPA of 3.42. She is an active member of the Biotechnology Club, a CELs instructor, and was selected as one of two undergraduate students to be part of a graduate level 10-day Global Immersion course "BioSciences Beyond the Borders," in Japan. Yutzil intends to take a gap year and work in the Life Science Industry before pursuing her PhD. She aspires to be a University Professor and role model for other Hispanic women.

### **CSUBiotech Crellin Pauling Student Teaching Award**

Awarded to **Poorvi Datta**

### **CSUBiotech President's Scholar Award**

Awarded to **Reagan Walsh**



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## Chemistry and Biochemistry

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Kambiz Hamadani and Andre Dominguez**

Since the Fall of 2022, Andre Dominguez has been participating in the iterative development of optimization of a course-based undergraduate research experience (CURE) focused on making and using a home-made purified and reconstituted (PuRe) in-vitro translation system which can enable open-source genetic code reprogramming for diverse applications at scale and unhindered by the exorbitant costs of commercial versions of such tools.

Andre initially participated in this project in Fall of 2022 by: purifying the third most conserved protein in bacteria - a challenging translation factor called Lep-A (recently renamed Elongation factor-4 in recognition of its central role in translation); characterizing the activities of two different amino acyl-tRNA synthetase enzymes using a non-radioactive UREA-PAGE gel shift protocol optimized for our PuRe CURE lab. In 2023, Andre joined the Hamadani Lab to continue supporting the PuRe CURE effort as a research mentee and eventually as an instructional support student.

In the Spring of 2024, after graduating he continued to work as a research assistant supporting research efforts aimed at subcloning, in-vitro transcribing, and ribozyme-mediated production of a minimal set of 21 tRNAs that are required to exert total control over the genetic code of life outside a living organism. Andre's efforts have helped Dr. Hamadani create a second hands-on authentic laboratory experience for biochemistry majors and we celebrate this achievement and the advanced learning opportunities it brings for future CSUSM students.



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## **Computer Science and Information Systems**

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Justin Morris and Shyam Sundhar Yathirajam**

As a Faculty/Student pair, Shyam and Dr. Morris have made significant contributions to Computer Science, particularly in Artificial Intelligence (AI) and Machine Learning (ML). Their focus is on HyperDimensional Computing (HDC). HDC is a light-weight ML algorithm that is orders of magnitude more efficient than Deep Neural Networks (DNNs). Their main contributions are towards applying HDC for time sensitive and resource constrained applications to save energy and achieve faster results than previously applied ML models like DNNs. For example, one project the pair worked on was using HDC for forced oscillation detections in windfarms. In comparison, the model they came up with is 55 times faster and over 3 orders of magnitude more efficient. Overall, their collaboration resulted in two published papers and two more under submission.

Shyam published a paper that was part of a grant driven by interdisciplinary work between the CSIS and Physics Departments. This project, published at the IEEE Bigdata Conference-2023, deals with detecting forced oscillations in windfarms.

Shyam not only worked on AI/ML in the field of renewable energy, but also on AI/ML for healthcare. This research was accepted by the Journal for Medical Artificial Intelligence.

Shyam, a master student is not only a distinguished young researcher, but also an excellent student with a GPA of 3.6. He will be graduating this Spring and has aspirations to join the industry workforce as an expert on AI and ML applications.





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## Mathematics

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Wayne Aitken and Jesse Stevenson**

Jesse Stevenson and his thesis advisor Professor Wayne Aitken have built an active research collaboration. Jesse also works in the Department of Mathematics as a Teaching Associate. He is an outstanding and compassionate teacher, much like his thesis advisor, Dr. Aitken.

Stevenson and Aitken are working to understand the connection between certain topological groups, namely the classification of locally compact topological groups, and their relationship to Lie groups. This area is called "Hilbert's Fifth problem" since it is related to the fifth of a famous list of problems proposed by David Hilbert in 1900. In addition to Hilbert, this area has gotten a lot of attention by leading mathematicians including John von Neumann, Lev Pontryagin, and more recently Terence Tao and others. A solution to Hilbert's Fifth problem was put forward in the 1950s by Andrew Gleason, and independently by Deane Montgomery and Leo Zippin, but the theory developed continues to be applied to many contemporary questions (as discussed in detail in Terence Tao's 2014 textbook on the subject). Recently Dr. Aitken has become interested in various aspects of group theory, and Jesse Stevenson has become interested in various aspects of contemporary topology, and this collaboration has helped both.

Jesse will graduate in Spring 2024 with an overall GPA of 3.245. His goal is to earn a PhD in Mathematics and become a professor.





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### *The Wolfram Award*

Awarded to **Maxwell King**

The Wolfram Award is granted to Maxwell King, a graduating senior. As part of homework in Math 490 (Mathematics of Biochemical Reaction Networks), students were assigned a project to study a dynamical system using the software XPPAUT. This software is menu-based, but the menu can be challenging without first having learned advanced mathematical theory. Maxwell taught himself how to use the software and turned in a well-written assignment based on it. His written presentation also included a write up using LaTeX and graphing using Matlab.

Maxwell is interested in the fields of data analysis, optimization, and numerical analysis. He is considering applying to graduate programs in applied mathematics or computer science.

### *K. Brooks and Marion Reid Student Achievement Awards*

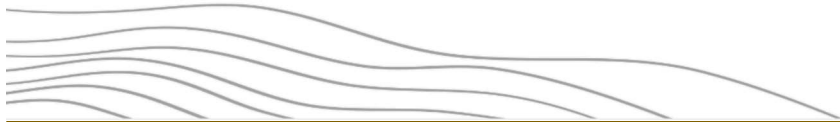
Thanks to a generous donation by the Founding Librarian Dean and Librarian Emerita Marion Reid, and Founding Faculty Member and Professor Emeritus K. Brooks Reid, the Department of Mathematics annually recognizes three students that have shown outstanding academic performance in Mathematics.

Awarded to:

**Thomas Cameron** – Reid Discrete Mathematics Award

**Carmen Gutierrez** – Reid Algebra/Analysis Award

**Trevor Ryback** – Reid Graduate Student Award



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**2024 Celebration of Achievement**



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## Physics

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Justin Perron and Mireya Gonzales-Rivera**

Mireya has distinguished herself as a stellar student, earning a remarkable 3.971 GPA.

She has also proven herself as a top-notch researcher in Dr. Perron's lab. Mireya's research focuses on studying silicon quantum dot devices. These devices isolate individual electrons in semiconductors and have applications in quantum information science. Mireya's experimental work focused on developing a form of quantum device readout using reflectometry including testing silicon quantum dot and donor qubit devices. She has presented her work at the annual meeting of the Far West Section (FWS) of the American Physical Society (APS), the annual APS March Meeting in Minneapolis, and at the National Conference on Undergraduate Research last month. Her presentation earned her the Stephen Chu award for best undergraduate research at the FWS meeting.

In addition to her work in the lab and classroom, Mireya was President of the Women in Physics club and on the executive board of the Society of Physics Students. In these roles she organized speakers and outreach events. She also tutored at the STEM success center as well as informally tutored several other physics majors. She has also been a leader in the CSUSM quantum student learning community, helping run meetings and leading journal club discussions. She demonstrated exemplary leadership by successfully encouraging her classmates to engage and volunteer for these events, amplifying her impact on our community.



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## Engineering

### *Outstanding Faculty-Student Collaboration*

Awarded to **Dr. Soudeh Khoubrouy and Francisco Gonzales**

Francisco excelled academically but also actively assisted his peers during class, labs, and outside of scheduled hours. Because of his diligence, punctuality, and more importantly his trustworthiness and compassion, he was selected as Instructional Student Assistant (ISA) for this semester in Dr. Khoubrouy's EE 100 lab sessions.

Additionally, Francisco serves as student researcher in Dr. Khoubrouy's lab. He collaborates with her senior design group and other students on a project involving Electroencephalogram (EEG) data collection, its signal processing, and machine learning analysis.

The current project involves EEG data collection while human subjects are watching food, cat, and dog images sounds. They apply machine learning to classify the EEG signals. This year's senior design project, The Machine Learning Method, classifies the EEG signals into two main classes of image and sound, specifying which task was being done while that EEG signal was being collected. The second part of the project, which will start this summer, will focus on classifying the EEG signals into food versus non-food stimuli. These projects require data collection, human interaction, communication, electrical engineering, computer science, and neuroscience knowledge and skills.

### **San Diego County Engineering Council *President's Citation***

Awarded to **Jazmin Pantoja**



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## **CSTEM Dean's Outstanding Graduate Award**

Awarded to **Patty Tulloch**

Patty Tulloch is this year's CSTEM Dean's Outstanding Graduate. She has demonstrated a remarkable commitment to uplifting and encouraging her peers and the high school students who will come after her in underserved communities, all while balancing a heavy academic load, biomedical research, club sports, teaching as a TA, and much more.

Her resilience has been on full display as she worked to build community and self-confidence despite societal stereotypes that were being reinforced all around. Her mentors described her as an incredibly motivated and intentional leader.

Patty is driven by her dream of becoming a surgeon. Early in her career at CSUSM she was encouraged to join the Pre-health Society where she became an event coordinator, student liaison and ultimately President. Patty has been an integral part of bringing physicians from various specialties to campus for visits as well as getting a group together and starting SHRP and taking on a leadership role in the newly-formed Flying Samaritans.

By the time Patty graduates, she will have initiated a new research direction for two labs in Biology, presented work at several national conferences and co-authored a submitted manuscript. Her productivity and laboratory skills are noteworthy, but her creativity and leadership in the research lab are what really set her apart.

In addition, as the CSTEM Dean's Award recipient, she will be the Student Grand Marshall at the CSTEM Commencement and will carry the student Mace.



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## **OGSR Dean's Outstanding Graduate Award**

Awarded to **Jocelyne Dates**

Jocelyne has a stellar academic record complemented by numerous awards and scholarships that showcase exceptional proficiency in coursework and laboratory research. Her thesis work, focused on voltage-gated ion channels in larval lepidopterans, has not only resulted in significant advancements in insect physiology but has also led to five publications, including a review paper and an invited book chapter.

Beyond her research endeavors, Jocelyne has been actively involved in academic and service activities, serving as Vice President of the Graduate Representatives Council and engaging in outreach initiatives with local organizations. She has also demonstrated a commitment to mentorship, guiding numerous undergraduate and graduate students in the laboratory and sharing her expertise through guest lectures and mentorship programs.

Jocelyne's dedication to academic excellence is evident through her participation in the NIH Bridges to the PhD program and her acceptance into twelve PhD programs nationwide, coupled with her impressive track record of securing external fellowship funding. Additionally, her advocacy for diversity, equity, and inclusion in STEM has left a lasting impact on the community, fostering inclusive environments where all students feel valued and empowered.

With a dozen of acceptance offers to programs across the country, we are thrilled that Jocelyne will be starting a Ph.D. program this Fall to continue her studies and one day be a tenure-track faculty where she can teach and build her own research program.



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## **CSTEM Dean's Outstanding Undergraduate Research Award**

Awarded to **Daniel Hernandez**

Daniel Hernandez has demonstrated outstanding research engagement and achievement working with Dr. Lutfur Rahman on several projects that are currently under review in leading computer security venues. The pair have been working together since 2022.

Their research revolves around the increasing prevalence of smartphones; hackers are increasingly focusing on the mobile domain. Despite the serious threat, there are only a limited number of studies analyzing user strategies for distinguishing real and fake SMS messages. Dr. Rahman and his students have published 3 papers on this topic and have more 5 in the pipeline.

Daniel worked on a project titled "Unveiling Human Factors and Message Attributes in a Smishing Study." In this study they examined the user's ability to distinguish between authentic and fraudulent SMSs. In fall 2023, the study was submitted into the 24th Privacy Enhancing Technologies Symposium (PETS 2024).

Daniel led another Smishing Detection project. In this study, they investigated users' behaviors and perceptions about smishing attacks. This study highlighted the need for more robust and comprehensive user education to detect smishing attacks more accurately.

Hernandez is currently working on a third project where he applies his Machine Learning skills. In addition to his outstanding research and academic record (over 3.5 GPA), Daniel mentors fellow students.



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### **CSTEM** *Community Engaged Scholar*

Awarded to **Isabel Serrano**

Isabel is both an excellent scholar and a dedicated community citizen, well-deserving of the Community Engaged Scholar Award.

Isabel was an apprentice in the Summer Research Program 2023, during which she shadowed a research student, and hopes to continue as a full-time researcher as a Summer Scholar.

In addition to her academics and research responsibilities, Isabel has been very active in on-campus and off-campus activities. She served as the founding president for OSTEM (Out in STEM) and treasurer for AWM (Association for Women in Mathematics). Both organizations are aimed at supporting different underrepresented groups.

Outside campus life, Isabel is determined to support and give back to her community. Taking advantage of her bilingual background, she volunteered as a respite worker at Camp Pendleton. She supported a marginalized family to address health challenges. Isabel also volunteered at Operation HOPE–North County, which is a homeless shelter. She coached and supported both adults and children from the facility to address life difficulties and challenges.

Isabel's academic performance (3.97 overall GPA), undergraduate research work, and leadership within the College, are all exemplary. She is a sophomore majoring in Biochemistry, anticipated to graduate in Summer 2026. Her goal is to pursue a Ph.D. degree in medicinal chemistry and eventually establish a career in the pharmaceutical industry. She is not only a talented scholar, but more importantly a passionate citizen and leader, dedicated to positively impact her community.





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## **CSTEM Outstanding Student Leader**

Awarded to **Jeremy Benjamin**

Jeremy is a well-deserving recipient of the 2024 CSTEM Outstanding Student Leader Award. His academic record, work within the student research community, and leadership within ASI and within the College are all exemplary. He regularly advocated for the transformational power of higher education, through hard work as a student researcher and the presentation of that work and through his leadership roles in our campus community.

As his nomination letter stated, he has been on a remarkable journey and shown extraordinary dedication to academic and scientific pursuits. He has shown outstanding patience, persistence, intelligence, and decision-making skills in the classroom, in the research laboratory, and in his leadership roles as the lone student member of the CSUSM Military Advisory Council, the ASI Student Veteran Representative, and as a member of Project Rebound. Jeremy shared his experiences and insights not only with our campus, but with the attendees of the 2022 Social Mobility Symposium, and his commitment to creating a supportive environment for military veterans and for formerly incarcerated students will have a lasting impact. In addition to these formal roles, Jeremy could always be counted on to give lab tours, explain his work to CSTEM VIP tour groups, help a new group of URISE students to understand why their attendance at workshops is important, or represent the campus well at a professional conference. Whenever called upon, Jeremy showed up and acted as a leader.

CSTEM is proud of Jeremy's accomplishments and of the legacy of leadership that he leaves behind.



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### ***CSTEM Inclusive Excellence & Diversity Award***

Awarded to **Siaje Gideon**

Siaje Gideon is the recipient of the 2024 CSTEM Inclusive Excellence and Diversity Leadership Award. Her academic record, ASI leadership, work as a peer mentor across the campus, and leadership within the College are all exemplary. She has shown a commitment to building a community of support for all students in STEM. Though she has been heavily involved in ASI leadership, research mentoring and support of all students in the College, we recognize your inspiring work as a leader in the Black Student Center, as the Intersarsity Black Campus Ministry Club president, as the Black in STEM Club founder, and as a tremendous advocate for marginalized students in STEM with this award.

In addition to her advocacy, she has superior research skills, a strong work ethic, humble attitude, excellent communication skills, and outstanding academic integrity. In addition, her professionalism will undoubtedly lead to her being a PI in her own lab someday. Her self-awareness, self-monitoring, and resilience are remarkable. She shows an emotional intelligence that allowed her to persevere in her academic and research journey and help others along the way, both in the lab and in leading events like the Black Voices in STEM event. Because of her leadership, many students stayed in school and worked hard to overcome systemic barriers using strategies she shared.

CSTEM is proud of Siaje's accomplishments and of the legacy of empathetic and encouraging leadership that she leaves behind.



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## **CSTEM *Minerva Award for Outstanding Graduate Teaching***

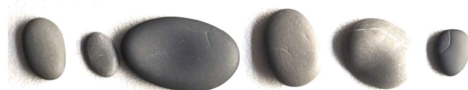
Awarded to **Dulce Robles Martinez**

It is a pleasure to award Dulce Robles Martinez as the recipient of the 2024 CSTEM Minerva Award for Graduate Student Teaching. Her progression from a Learning Assistant at the junior undergraduate level to a Graduate Teaching Assistant, Course-embedded Learning Support Facilitator and a guest lecturer in core classes and upper division electives are indeed a testament to her commitment to continued growth as an educator. She has learned how to adapt to the learning styles in a classroom and to mentor effectively in smaller groups as well. Her nominator writes that "Students in Dulce's mentorship group raved about her ability to truly connect with them in a meaningful way and give helpful advice for their future."

Her faculty mentors have given her progressively more responsibility, to the point where multiple faculty noted her as their most sought-after partner in the classroom.

Dulce is also extremely committed to science communication and public outreach. She participated in several community STEM outreach programs devoted to teaching and inspiring children of all ages, such as SuperSTEM Saturday. Beyond our campus she has participated in "STEMivate" and the "Tutor Connection Program" in Vista, CA.

Dulce's academic and research accomplishments, leadership and mentorship activities in the laboratory, the classroom, and the community are first rate and she is well-deserving of this award.





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## **College of Science, Technology, Engineering, and Mathematics**

### **Outstanding Staff**

Amy Armstrong

Lori Asaro

Rebekah Baza

Sara Belontz

Victor Bolanos

James Bowen

Breanna Caso

Clarivil Cedillo

Diane Cordero

Jeani Cressy

Tonya Devitt

Courtney Dow

Dana Edstrom

Farideh Farheidar

Jessica Faulkner

Anissa Garcia

Elizabeth Gonzalez

Albert Halili

Dakota Heisel

Jennifer Johnson

George Lane

Calvin Le

Rebecca Luu

Leticia Marin

Diane Mitchell

Jeffrey Morales

Courtney Nance-Sotelo

Elizabeth Nercessian

Jonathan Pont

Angelica Ramos

Everardo Robles

Sara Sandoval

Laurie Schmelzer

Emma Smith

Janine Smock

Mikaela Speets-Drake





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## **CSTEM Outstanding Staff Award**

Awarded to **Jeffrey Morales**

Jeffrey's impact goes beyond measure, serving as a beacon of encouragement and support for both faculty and students alike in our CSUSM community. He has embraced the role of expert guide, mentor, and advisor for our Engineering students as well as taking on an expanded role to include events activities that draw more broadly in CSTEM. He creates an atmosphere that fosters a sense of belonging for everyone around him and goes out of his way to support faculty, other student-support and technical staff, students, and often the Dean's office as well.

In addition to his duties as a Pathways Advisor, Event Planner, Outreach Specialist and others, Jeffrey serves as an advisor for several clubs, including the National Society of Black Engineers (NSBE) and the Society of Women Engineers (SWE). He works closely with student leaders of the clubs, provides guidance, and coordinates their events and outreach efforts. He has overseen the creation of several new affinity groups in the past several years.

What makes Jeffrey special is his kind-hearted and cheerful character, which is an essential quality for an advisor. He goes beyond his responsibilities to help others and to create a collaborative, productive, and enjoyable environment in our program. His positive attitude is appreciated across the college as he genuinely lives the campus mission of "Student Success".





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### **CSTEM *Outstanding Lecturer Award***

Awarded to **Patricia Byrne**

Professor Byrne is a CSUSM Biology master's alum who has been a lecturer faculty member in Biology in upper- and lower-division lecture and laboratory courses since 2017. She also holds an appointment as Researcher at the San Diego Zoo Safari Park. In addition to being an outstanding and impactful instructor that resonates with students, Prof. Byrne brings these research perspectives and projects into CSUSM classrooms. She also donates her time to mentor CSUSM Biology and PSM Biotechnology students and provides a pipeline for our students to work in these efforts at the Beckman Center for Conservation Research. She has also been a key person in developing and coordinating laboratory curricula across a spectrum of classes in the Biology department. Overall, as a Lecturer, Prof. Byrne has a long history of making key contributions in teaching, research, and service, above and beyond her call of duty.

Professor Byrne is a dynamic instructor who connects with our students on multiple levels. She has a unique ability to connect with students on an emotional level, inspiring them to believe in their abilities and opening their eyes to career opportunities they never imagined for themselves.

Professor Byrne has also been instrumental in curricular development for laboratory courses in our department, particularly for the development and implementation of innovative CURE modules on topics that resonate with our students. Prof. Byrne is an invaluable instructor that continues to make important positive impacts on our students.



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### **CSTEM Faculty Outreach Award**

Awarded to **Dr. Robert Iafe**

Dr. Iafe's commitment to recruiting, training, and supporting a diverse population of students at CSUSM is remarkable.

Dr. Iafe is the advisor for the American Chemical Society (ACS) Student Chapter. They focus on professional development of its members, but also actively participates in outreach and service to the community. Under Dr. Iafe's advisement the club re-established its chapter with the National ACS and has performed activities which culminated in receiving Outstanding (highest praise) and Commendable recognition from the National ACS, including receiving the Green Chemistry Award designation.

One of the most impactful activities of the ACS Club is STEM outreach to the greater San Marcos and North County Community. They perform a Science Show at ChemExpo during National Chemistry Week in the fall and SuperSTEM Saturday in the spring. At ChemExpo the ACS Club performs a 30-minute demonstration to showcase the wonders of the chemical world. Then they volunteer hours to work at individual STEM demo booths. At SuperSTEM Saturday, the students take it up a notch and perform the "Better than Magic: Chemistry Show," where a group of students focus on magic science and explain and explore the chemical principles behind the tricks.

Dr. Iafe has been extremely successful in fundraising to help recruit and retain promising under-represented students. One notable grant for \$1M from National Science Foundation established the Chemistry and Biochemistry Targeted Learning Community (CBTLC). The CBTLC serves students who show potential academic success in chemistry and biochemistry, and awards scholarships to students with unmet financial need.

Dr. Iafe has shown deep commitment to student support and growth. His achievements and dedication make him highly



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### **CSTEM Community Partner**

Each year, the College of Science, Technology, Engineering, & Mathematics honors a community partner who has demonstrated a commitment toward helping CSUSM, and CSTEM in particular, to fulfill its mission of student success.

Presented to:

**Chris Lucian**, Hunter Industries

As an alumnus who has done a lot to help others navigate difficult educational paths, Chris knows the transformational power of a CSUSM education. His passion for shared creativity and talent in software development and machine learning has kept him in close touch with our computer science and software engineering leaders in CSTEM. He has understood our challenges and opportunities well as we launched Software Engineering and our capstone programs in both CS and SE. Chris helped the CSIS Department and our campus develop some grand visions that are starting to come to fruition. His vision of mob programming has even made its way into our building discussions with our architects, teaching them a new set-up they will be using from now on.

We look forward to celebrating the Hunter-CSTEM partnership, and we hope to continue working with Chris to encourage talented students in our region to see themselves in STEM.







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### **CSTEM Campus Heroes**

Each year, the College of Science, Technology, Engineering, & Mathematics recognizes campus heroes who have helped us achieve our goals through their outstanding service and support.

Presented to:

**William Craig**, *Director of Operations, IITS*  
*University Advancement*

The College of Science, Technology, Engineering, & Mathematics annually recognizes a campus partner who helps us achieve our goals through their outstanding service and support.

The Dean of CSTEM is delighted to recognize William Craig, Director of IITS Operations as the 2024 CSTEM Campus Partner of the Year for his valuable contributions to the achievements of CSTEM by standing up the High Performance Computing Research system. His work to help faculty make this dream a reality will have a profoundly positive impact on our future research and mentoring productivity.

*We are grateful for all that you do, and we recognize that it directly contributes to our mission as a college and as a campus.*





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### *The 2024 CSTEM Gonfalonier*

Awarded to **Dr. Wayne Aitken**

Professor Wayne Aitken has been selected as the 2024 CSTEM Gonfalonier. Dr. Aitken joined the Department of Mathematics in 1994. He is an accomplished and compassionate educator having taught 26 distinct mathematics courses over his 30 years at CSUSM. He is passionate about Math History, Abstract Algebra, Number Theory and Arithmetic Geometry and has a demonstrated ability to reach students at all levels from Math 100 to Math 699. He shaped and helped grow the mathematics graduate program serving multiple terms as the coordinator. He has supervised 11 graduate student theses and has 2 more in-progress.

Prof. Aitken has a strong record of leadership. He served as Senate Vice Chair and Chair, Department Chair, and most recently chaired the University Graduate Studies Council.

Prof. Aitken has held a four-year National Security Agency grant and published 14 peer-reviewed papers in high quality journals. He has recently completed and is currently working on some book- and monograph-length projects. He has recently posted three substantial publications on ArXiv and is also working on some important translations of seminal mathematical writing from the era when English was not the only language of published works. Currently, Dr. Aitken is participating in a campus research group in Arithmetical Dynamics with Dr. Ayers, Dr. Sharif, and Dr. Smith.

Dr. Aitken is clearly worthy of leading the faculty as the Gonfalonier at commencement.



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## **CSUSM** *President's Outstanding Lecturer Award*

Awarded to **Dr. Lenuta Gonzales**

The President's Faculty Award for Outstanding Lecturer honors outstanding contributions to student learning by our lecturer faculty. This year's recipient is Dr. Lenuta (Elena) Cireş Gonzales, chemistry and biochemistry lecturer faculty in the College of Science, Technology, Engineering, and Mathematics.

Dr. Gonzales has been teaching in the Chemistry Department since 2014, and all of her efforts are centered on student learning and success. She teaches a range of lower-division and upper-division courses, including Organic Chemistry Laboratory I & II, General Chemistry and General Chemistry Activities.

Dr. Gonzales has a remarkable ability to create an inclusive learning environment that resonates deeply with students. A student testimonial said that Dr. Gonzales ignited a passion for teaching, and he found her lectures to be transformative experiences that made complex concepts accessible, engaging and relevant.

Dr. Gonzales' exceptional dedication to advancing pedagogical practices, fostering student success, and embodying the mission of our university is commendable.



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**College of Science, Technology, Engineering, & Mathematics**



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**CSUSM President's Outstanding Faculty Award for  
*Teaching Innovation & Excellence***

Awarded to **Dr. Yanyan Li**

The President's Outstanding Faculty Award for Teaching Innovation and Excellence recognizes a faculty member who has introduced new and innovative teaching techniques or otherwise exhibited excellence in teaching that produces a significant positive impact on student education. We are proud that Professor Li was awarded this honor for using innovative methods of teaching cybersecurity with hands-on labs and project-based learning, including incorporating teamwork activities in class such as using a flipped classroom model where students study the course materials outside of class and spend in-class time for more interactive discussions and hands-on practices. This approach has resulted in higher student engagement and deeper comprehension.

Professor Li provides mentorship to his students and engages with them outside of the classroom. For example, he created a "capture the flag" competition to help students practice their cybersecurity skills through hands-on challenges.

The combination of challenges, such as these interactive labs and discussions, underscores Professor Li's commitment to providing a comprehensive and enriching educational experience.



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**2024 Celebration of Achievement**



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## **CSUSM *Harry E. Brakebill Distinguished Professor Award***

Awarded to **Dr. Ed Price**

The President's highest award, The Harry E. Brakebill Distinguished Professor Award, recognizes one faculty member, for excellence in teaching, research, creative scholarship and service to the CSUSM community. That honor was awarded to Dr. Edward Price, professor of Physics.

Dr. Price has been with the university since 2005 and is currently serving as the founding faculty director of the Center for Research and Engagement in STEM Education (CRESE).

Professor Price's teaching philosophy is guided by two core principles: all students are capable and students learn best through interactive engagement. These two ideas are put into practice via interactive in-class activities and requesting student feedback to assess their understanding during class. His students and colleagues describe him as an inspirational figure who cares deeply about students' learning and educational journeys.

Over the course of his career, Dr. Price served as department chair as well as a member of multiple college- and university-wide committees, including the Promotion and Tenure Committee, Strategic Plan Implementation Leadership Team and CSTEM Governance and Planning Committee.

Professor Price's contributions to teaching, research and university leadership are exceptional and far-reaching. Coupled with his personal values, which mirror the university values, his tireless efforts and innovative approaches have left an indelible mark on our students, our institution, and our world.



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## Special Recognitions:

### COAST Undergraduate Research Awards

The CSU Council on Ocean Affairs, Science, & Technology (COAST) is the CSU system-wide affinity group for marine and coastal related activities. COAST promotes interdisciplinary, multi-campus collaborations to advance the knowledge of California's natural coastal and marine resources, and the processes that affect them.

**Alin Hanna** | Prototype Development of the Ocean Wave Energy Converter

**Haley Lorenz** | Mathematical Derivation of Ocean Wave Dynamics for Wave Energy Power Converter

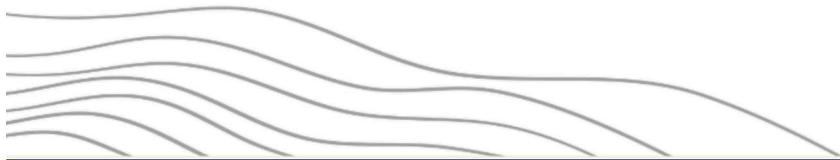
**Josue Navarrete** | Investigating the Resilience of Coastal Microbial Communities Following Rain Storms

**Camila Valderrama-Martinez** | Exploring Microbial Community Composition in Oceanside Beach Surf Zone: A Cross-Sectional Study of Water and Marine Solid Plastic and Non-Plastic Substrates

**Isabel Ortiz** | Studying biomass and diversity of plankton off the coast of Southern California

### Rising Black Scientist Award

Awarded to **Kevin Brown, Jr.** As a cellular and molecular biology student, Kevin is one of four recipients of the Rising Black Scientist Award from the journal "Cell Press," Cell Signaling Technology and the Elsevier Foundation. The other winners were from Yale, Cornell and MIT.





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**CSTEM Finalists at the Symposium**  
*on Student Research, Creativity and Innovation*

These students were selected at our campus symposium to represent California State University San Marcos at the Annual CSU Systemwide Student Research Competition. The competition is held to promote excellence in undergraduate and graduate scholarly research and creative activity by recognizing outstanding student accomplishments throughout the twenty-three campuses of the California State University.

**Brendan Boyd** | Biological Sciences | Savvy Sodium Seekers Stunningly Secure Sparse Salts: Detection and Quantification of Na<sup>+</sup> Channels Within the Excretory System of *Trichoplusia ni*.

**Adriana Cacho** | Biological Sciences | Shake It till You Make It: Voltage-gated Ion Channels in Larval Lepidopterans

**William Cassel** | Computer Science | A Lightweight Obfuscated Malware Multi-class Classifier for IoT Using Machine Learning

**Camila Valderrama-Martinez & Marisa Mendoza** | Biological Sciences | Comparing Nearshore Microbial Community Compositions across Water, Plastic, and Non-Plastic Marine Substrates

**Maya Qaddourah** | Biological Sciences | Investigating the Role of Mismatch Repair on CCTG DNA Repeat Instability





## **New Student Clubs and Organizations**

### **Black in STEM**

President: Siqje Gideon

### **Society of Asian Scientists and Engineers (SASE)**

President: Christopher Rubin

## **CSUSM Grad Slam**

The Annual Grad Slam is a campus-wide research communication competition where both undergraduate and graduate students present their research and scholarly work in a concise and engaging manner to a non-specialist audience. It challenges participants to distill complex ideas into clear and compelling presentations within a short time frame. The goal is to effectively communicate the significance and impact of their research in a way that is accessible and engaging to a wide audience .

**Brendan Boyd** | Biological Sciences | Best Undergraduate Presentation | *Sodium Savants: How Caterpillars Maintain Their Salt and Water Balance*

**Poorvi Datta** | Biological Sciences | Best Graduate Presentation | *Integrating Recorded Lectures with Edited Captions Makes STEM Courses More Accessible for SWD*

**Loly Saenz** | Biological Sciences | Runner Up | *Examining Extra Pair Copulation on South African Penguins*

**Dylan Scofield** | Mathematics | Runner Up | *Fermat's Last Theorem: The Challenge of Adding One*

**2024 Celebration of Achievement**





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## **Students Graduating with Honors**

### **Summa Cum Laude**

Rebeka Alexander  
Gilbert Barbo IV  
Brittney Bloomfield  
Joshua Collins  
Anthony Finn  
Manav Kanji  
Cayden Katnik  
Rishi Kiran  
Mason Laurin  
Adam Lovato  
Angela Muradov  
Lancey Nguyen  
Yanet Olvera  
Ahmad Rahman  
Carter Rath

Harshika Rathod  
Daniel Saghbini  
Alison Sanchez  
Cameron St. Onge  
Angelina Tolano  
Joshua Welden  
Kaden Winspear  
Erica Zomalt

### **Graduating Veterans**

Jael Ray Acuna  
Jeremy Benjamin  
Xavier Christopher  
Gregorio Gomez  
Matthew Guiney  
Juaquin Lopez, Jr.  
Jared Melendrez  
Christopher Mignogna  
Jorge Pineda  
Ruben Roberts  
Pedro Rosales  
Alexander Semrow  
Alac Springer





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## **Students Graduating with Honors**

### **Magna Cum Laude**

Michelle Abalos	Cameron Ginn	Tucker Shaw
Melanie Amaya	Kyrst'n Lynn Hall	Hannah Shipman
Danielle Angello	Nathan Hawrysh	Chloe Spears-Cahill
Hilda Antonio	Quinton Hession	Lauren Strabley
Krystal Atherley	Anthony Hewitt	Noah Thornton
Lily Bailey	Ahmad Houneini	Onel Toma
Adam Beck	Blake Jaeger	Patricia Tulloch
Savannah Benton	Bryan Klenk	Chelsey Uziel
Rachel Bond	Kyungbin Lee	Tri Bao Tyler Vo
Tristyn Bostock	Brian Luna	Jaclyn Walsh
Jessie Boyce	Steven Luong	Ethan Weese
Kevin Brown	Malia Mastora	Ghizal Yosufi
Maycie Byers	Kyle McCollum	Jonas Zyserman
Jesus Campos Miranda	Nhi Nguyen	
Edgar Carbajal	Sebastian Partow	
Nathan Cimino	Andrew Pham	
Clayton Connelly	Serenity Port	
Jobe Dylan Cubillan	Julian Quevedo	
Andre Dominguez	Salma Rashed	
Benjamin Duong	Joshua Remington	
Negar Farahbakhsh	Nicholas Rivas	
Amy Filo	Tatsuya Sato	
Megan Fiske	Rachel Selbrede	
Larry Garcia	Alexander Semrow	



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## **Students Graduating with Honors**

### **Cum Laude**

Ossama Abdullah	Michael Healy	Angel Samora
Ased Adus	Daniel Hernandez	Yzabelle Santulan
Kyra Amini	Andres Hinojosa	Ashley Sayles
Shyann Anaya	Madison Hoover	Sarah Shakir
Jacquelyn Avila	Tavin Jongcharoeun	James Sidney
Noah Bills	Taylor Laborde	Mason Sines
Kaylee Black	Christian Ledet	Clarisa Soto
Maksym Bondarenko	Christopher Lee	Hayden Sumner
Katelyn Buckner	Jason Lenz	Kelsey Thomas
Conner Bunten	Chad List	Cristina Velasquez
Katherine Carlson	Madison Logsdon	Sanya Villanueva
Russhelle Chanka	Alejandra Lopez	Kirandip Walia
Samantha Cifuentes	Irving Lopez-Curiel	Sierra Walters
Hannah Collom	Jaron Manikan	
Gerald Joven Cordero	Leilani Martinez	
Arturo Corral	Geneva Martinot	
Mitchell Curtis	Jerry Mendoza	
Leo da Luz	James Milby	
Connor D'Aliesio	William Phong	
Alfonso De La Cruz	Valentyn Protsyuk	
Anish Dhandore	Rafael Refugio	
Briseida Garcia	Elias Reyes	
Lorelie Gonzales	Mikayla Rodriguez	
Kenneth Ha	Jose Romero	



Support for our students, faculty and programs is always welcomed. Find out more at [www.csusm.edu/cstem](http://www.csusm.edu/cstem)

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SAN MARCOS

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ENGINEERING  
& MATHEMATICS