AGENDA

COMMITTEE ON EDUCATIONAL POLICY

Meeting: **3:05 p.m., Tuesday, September 13, 2022**
Glenn S. Dumke Auditorium

Romey Sabalius, Chair
Diego Arambula, Vice Chair
Douglas Faigin
Jean Picker Firstenberg
Maria Linares
Julia I. Lopez
Yammilette Rodriguez
Christopher Steinhauser

Consent 1. Approval of Minutes of the Meeting of July 12, 2022, *Action*
Discussion 2. Research, Scholarship and Creative Activity, *Information*

MINUTES OF MEETING OF COMMITTEE ON EDUCATIONAL POLICY

Trustees of The California State University
Office of the Chancellor
Glenn S. Dumke Auditorium
401 Golden Shore
Long Beach, California

July 12, 2022

Members Present

Diego Arambula, Vice Chair
Douglas Faigin
Jean Picker Firstenberg
Maria Linares
Julia I. Lopez
Yammilette Rodriguez
Christopher Steinhauser

Wenda Fong, Chair of the Board
Jolene Koester, Interim Chancellor

Trustee Arambula called the meeting to order.

Approval of the Consent Agenda, Action

A motion to approve the consent agenda without discussion passed. The minutes from the meeting on May 25, 2022 were approved as submitted.

Recommended Amendments to Title 5 Regarding Blended Academic Programs, Action

In this item, Dr. Sylvia A. Alva, executive vice chancellor of Academic and Student Affairs, presented a proposed amendment to Title 5 for board approval. The amendment would allow for the double counting of up to 12 semester units for both a bachelor's and master's degree in a blended academic degree program. As a result, the total number of units would be revised to 138 from 150. Dr. Alison Wrynn, associate vice chancellor for Academic Programs, Innovations and Faculty Development, outlined the benefits of blended degree programs and how the amendment would further support student success including student savings in tuition cost and time to degree. In addition, campuses would benefit from the potential increase in student diversity within

graduate programs through greater access for undergraduates. Dr. Wrynn concluded the presentation by addressing next steps should the board approved the amendment, including the articulation of policy and implementation on campus through the shared governance process.

Following the motion to approve, trustees commented regarding how the unit change was calculated and voiced their support for policy changes that result in making post-baccalaureate degrees more accessible to students.

Through a roll call vote, the Recommended Amendments to Title 5 Regarding Blended Academic Programs passed unanimously.

Graduation Initiative 2025, Information

Dr. Sylvia A. Alva, executive vice chancellor of Academic and Student Affairs, began the presentation by sharing preliminary data indicating that nearly 114,000 students earned a CSU bachelor's degree in May 2022. She also noted the milestones achieved since the launch of Graduation Initiative 2025 including the first-year student four-year graduation rate increasing from 20 percent in 2016 to 33 percent in 2021.

Dr. Darlene Daclan, academic affairs business systems director, provided an update on the CSU's efforts to reengage and reenroll underserved students as part of the university equity priorities. In her remarks, she outlined how the campuses and the Chancellor's Office are supporting both policy and organizational changes to support this area. Dr. Daclan concluded the presentation with a series of promising practices focused on ongoing reengagement and reenrollment efforts.

President Coley and President Morales also shared a brief update on their campus' reenrollment efforts. Trustees posed questions regarding addressing administrative holds and how efforts coincide with a 2019 basic needs assessment. A robust discussion followed the use of aggregated and disaggregated data to inform organizational change in direct support of underserved student populations.

The CSU Certificate Program in Student Success Analytics, Information

The presentation began with Dr. Sylvia A. Alva, executive vice chancellor of Academic and Student Affairs, introducing Dr. Cynthia Alvarez, assistant director of student success, and Dr. Nele Hempel-Lamer, German professor at Cal State Long Beach and the founding director of the Certificate Program in Student Success Analytics. Dr. Hempel-Lamer shared a brief description of the Student Success Analytics Certificate Program, a faculty-grown initiative in which participants become fluent in the use of data to better inform student success efforts. Dr. Alvarez outlined how the program empowers participants to use data to make effective change on their campus. Dr.

Alvarez concluded the presentation by sharing a variety of examples of the impacts the certificate program has had on the CSU and beyond.

Following the presentation, CSU Channel Islands President Yao shared his experience as a past participant in the Analytics Certificate Program. Trustees voiced their support for the program and advocated for increasing awareness about the certificate program among K-12 school districts.

COMMITTEE ON EDUCATIONAL POLICY

Research, Scholarship and Creative Activities

Presentation By

Sylvia A. Alva
Executive Vice Chancellor
Academic and Student Affairs

Ganesh Raman
Assistant Vice Chancellor
Research

Lynn Mahoney
President
San Francisco State University

Summary

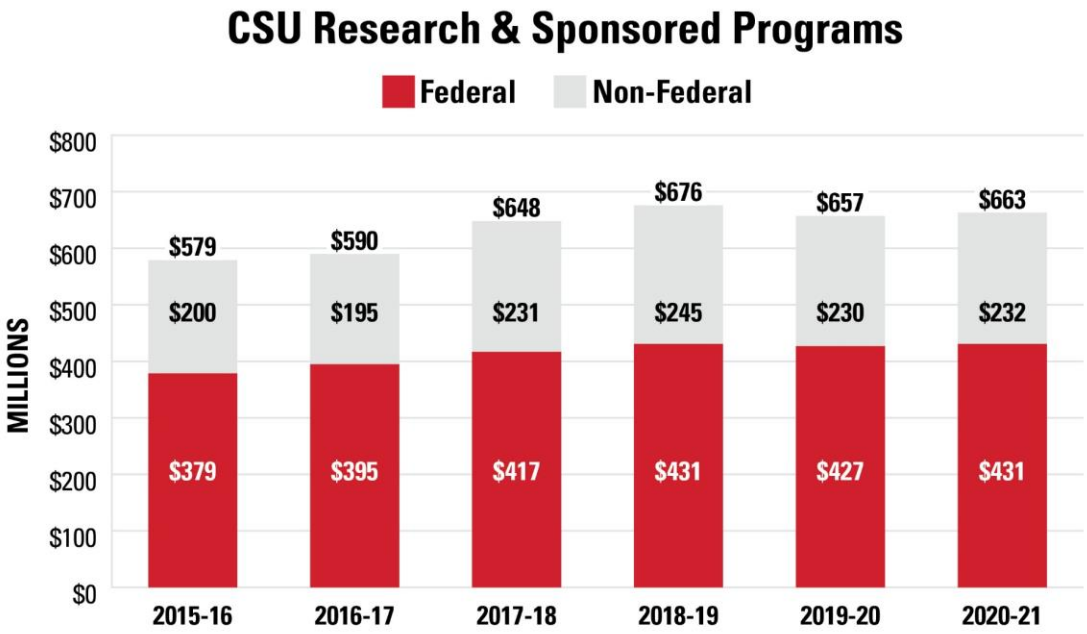
A hallmark of The California State University (CSU) is a focus on research, scholarship and creative activity that can be applied to identify, address or transform society's most urgent challenges. Whether pursuing directed research in areas of public health and climate change or giving voice to underserved populations through artistic endeavors, CSU students have a unique opportunity to engage in experiential learning and discovery. Working alongside faculty in the lab, out in the field or in a studio, students benefit from a vibrant learning experience while having the opportunity to contribute to their larger communities.

During the pandemic, research activities were adapted and recalibrated to ensure learning and scholarship activities remained possible while maintaining the integrity of existing grant projects. Emerging from the more acute phase of the pandemic, grant funding remains steady with a five-year growth of $84 million. The following are highlights of research, scholarship and creative activities across the 23 campuses and 10 multi-campus affinity groups. Through these hands-on experiences, CSU graduates are better prepared to meet the emerging and growing needs of the state and help transform its future.

External Funding

As illustrated in the chart below, total external expenditure—from grant and contract revenue—for CSU research and sponsored programs has been steady over the past several years. In 2020-

21, the most recent year for which data are available, the total amount was $663 million. This represents a growth of $84 million over a five-year period.



Unlike state funds that are used exclusively for basic university operations, faculty compete for these external funds, which are used for innovative projects that benefit local communities and prepare students for 21st century careers.

External Funding Accomplishments

Examples of grants and contracts in areas of education, equity, student success, health research and creative activity received by CSU faculty during the 2021-22 academic year are listed below.

California State University, Bakersfield

The First Degree
Alumnus Michael Mejia was commissioned to write a play focusing on first-generation students for production in the fall of 2021. The First Degree traces the stories of four students at CSU Bakersfield throughout their four years as they face financial pressures, juggle work and school and dealt with family expectations and self-doubt. Despite these obstacles, these students can carve out their pathways for the future. As CSU Bakersfield has a large population of first-generation students, the play allowed students to see their lives reflected on stage and provided inspiration for

them to pursue their education. This production was mounted in tandem with CSUB/Kern County's One Book Project's selection of Reyna Grande's "A Dream Called Home", which recounts the author's first-generation experiences.

Californians For All College Fellowship
Funding agency: State of California-California Volunteers
Total award: $3,299,351
Investigators: Katrina Gilmore and Markel Quarles

CSU Bakersfield launched this fall Californians For All, a two-year College Corps program which 200 students earn $10,000 for their education. All participating College Corps partners were selected for demonstrating: a commitment from top leadership to prioritize the Corps as a campus-wide initiative; a strategy to collaborate with other participating campuses in the region; a thoughtful plan to link the service experience to academic outcomes, ensuring on-time degree completion; and a compelling recruitment strategy with a particular focus on low-income students and Dreamers.

California State University Channel Islands

Project AYUDAS: Articulating Your Undergraduate Degree & Academic Success in STEM
Funding agency: U.S. Department of Education
Total award: $5,999,990
Investigator: Michelle Hasendonckx

Project AYUDAS develops STEM Transfer and Articulation pathways through a transfer college readiness initiative serving students/supporters, and STEM curricular pathways with CSU Channel Islands and community college faculty. The program also cultivates a STEM culture of retention and academic excellence through academic support for technical writing support, technology powered just-in-time interventions and faculty and peer mentorship, and transforms institutional culture towards STEM inclusive excellence through curricular redesign, active learning pedagogies and equity-minded pedagogy for STEM faculty. The program is expected to increase the number of Hispanic and low-income students who enroll and complete a STEM major, improve articulation of STEM courses with two-year college partners, improve academic support services and demonstrate improved student success outcomes.

California State University, Chico

Tracking Covid-19 in Residence Halls
Biological sciences professors Troy Cline and Gerald Cobián led a research project tapping Chico State's residence halls' wastewater system for evidence of COVID-19. Twice a week, student researchers gathered samples then returned to the lab to process the wastewater samples through

a PCR machine to exponentially amplify viral RNA to detectable amounts. As they examine the results, the testing creates potential to identify a spike in cases days before students even realize they are sick. As a result, the university can put additional safety measures in place to mitigate spread, while also adding to global scientific knowledge about viruses and pandemics.

California Broadband for Unserved Areas
Funding agency: California Public Utilities Commission (CPUC)
Total award: $3,735,251
Investigator: Jason Schwenkler

The CPUC is charged with the promotion of broadband adoption across the state, with infrastructure deployment in unserved areas of California. These infrastructure deployment mandates advance the larger public health and public safety goals of California and the U.S. The Geographical Information Center (GIC) works with the CPUC in modernizing its internal GIS database, as well as sharing data and maps with the public. The GIC will support geocoding and GIS layer validation, provide data analysis, data tables and summary reports, and will continue to support the field verification of wireless and wired applications.

California State University, Dominguez Hills

Metro Station Art Installation
Assistant Professor Devon Tsuno's artwork will soon become part of the greater Los Angeles region's rich history of public art projects. The Los Angeles County Metropolitan Transportation Authority (Metro) recently named Professor Tsuno among 17 artists chosen to create site-specific, integrated artworks for four stations along its Purple Line (D Line) Extension Sections 2 and 3. Professor Tsuno will design an installation as part of the Wilshire/Rodeo Station that is currently under construction and slated to open in 2025. He works primarily with spray paint and acrylic to create abstract landscape paintings, prints and large-scale installations that are deeply rooted in family history, the Japanese American experience and Los Angeles' natural environment.

U-RISE at California State University Dominguez Hills
Funding agency: NIH/NIGMS
Total award: $822,559
Investigator: Leonardo H. Martinez

The U-RISE student research program at CSU Dominguez Hills strives to increase the number of underrepresented students who enroll and complete a biomedical or behavioral science Ph.D. The goals are to build academic skill capacity, the student's capacity for scientific research careers and to provide enrichment opportunities and resources to support future Ph.D. candidates. The skills they gain will prepare them for the transition to a graduate institution. These components will

increase the number of U-RISE students entering Ph.D. programs across the nation and they will join the biomedical workforce to improve lives.

California State University, East Bay

LISTEN with AAC
Funding agency: Department of Education
Total award: 1,250,000
Investigator: Elena Dukhovny

Learning Interdisciplinary Strategies to Teach and ENgage with Augmentative and Alternative Communication (LISTEN with AAC) training program was guided by the current American Speech, Language Hearing Association and the California Commission on Teacher Credentialing standards in speech-language pathology or special education. This grant will train six professionals in SLP and six in special education annually. Each trainee will successfully complete a graduate program in speech-language pathology or special education while engaging in the interdisciplinary training activities and requirements of this project, including: a joint course work to develop knowledge of AAC educational best-practices and familiarity with current research and interdisciplinary field experiences in schools and service-learning projects to translate knowledge to practice.

California State University, Fresno

Pulitzer Prize in Poetry Finalist
Artist: Mai Der Vang

Assistant Professor Mai Der Vang was honored as a finalist for the Pulitzer Prize in Poetry for her book of documentary poetry "Yellow Rain". She is the first Hmong American to be recognized in the 106-year history of the Pulitzer's Arts and Letters prizes. The book integrates archival research and declassified government documents to examine the biological warfare that threads through wars involving Hmong people. In lyrical poems of witness that defy historical erasure, "Yellow Rain" acknowledges those who perished and the trauma of those who survived. The Pulitzer committee said Professor Vang's recognition was particularly notable given that the Hmong people had no formal written language until the 1950s. The book was also a finalist for the Los Angeles Times Book Prize, finalist for the California Book Award from the Commonwealth Club and finalist for the PEN/Voelcker Award for Poetry from PEN America.

Enhancing Dairy Processing Education and Diversity
Funding agency: USDA-NIFA
Total award: $750,000
Investigators: Carmen Licon and Susan Pheasant

This highly competitive award from the U.S. Department of Agriculture, National Institute of Food and Agriculture will purchase state-of-the-art equipment to expand production at the Fresno State Creamery and increase the knowledge and skills of the graduate and undergraduate students who receive paid internships and become tomorrow's dairy and food workforce. Faculty will develop regional conferences, workshops, webinars and short courses. The program will also provide outreach and technical assistance to dairy businesses as well as establish an institute for ethnic and specialty dairy product development to create new dairy — and culturally diverse — products to meet the evolving trends of the region.

California State University, Fullerton

Mapping LGBTQ Communities
Funding agency: National Endowment for the Humanities
Total award: Nearly $350,000

Assistant Professor Eric Gonzaba and his research team have plotted more than 30,000 establishments for the interactive "Mapping the Gay Guides" project. The nationwide listings spanning 1965 to 1980 include bars, restaurants, bathhouses cinemas and other establishments. The travel guides are one of the longest-running series of its genre — published annually from the 1960s until 2021. The research team's long-term goals include mapping remaining guides and securing a permanent, online home for the data indefinitely. The guides and other print materials can show patterns over both location and time in ways that may not be available elsewhere. Researchers can use this data to better understand historic LGBTQ+ events and issues in the United States. Professor Gonzaba intends to create a "Mapping the Gay Guides" archival collection at Cal State Fullerton with materials donated from the guides' publishing company.

Supporting Formerly Homeless with Smart Home Technologies
Funding agency: National Science Foundation
Total award: $1,215,370
Investigators: Anand Panangadan, Kiran George and Tabashir Nobari

A grant-funded Cal State Fullerton community-based project will develop smart-home technologies for people previously affected by homelessness and now living in permanent supportive housing. The three-year project brings together a team of interdisciplinary researchers from Cal State Fullerton and USC, along with two nonprofits, to address Orange County homelessness issues. The team will study successful use of smart-home technology in supportive housing and will develop prototypes to demonstrate how technology can facilitate and improve services. Prototypes may include a smart pot for cooking, a smart pillbox and a social connectivity app. Additionally, the project will investigate key technologies to increase safety, ensure residents' privacy preferences and expand smartphone interfaces to access the internet and services.

California State Polytechnic University, Humboldt

Reclaiming Mouralherwaqh
Funding agency: Ocean Protection Council (OPC)
Total award: $308,951
Investigator: Laurie Richmond

The project involves a unique partnership among the Wiyot Tribe, Cal Poly Humboldt, Humboldt Baykeeper (a water quality focused community-based organization) and Friends of the Dunes (a local land trust and conservation organization) to support the Wiyot Tribe in acquiring a 48-acre coastal property in an area called Mouralherwaqh on Wigi (Humboldt Bay) for ecocultural restoration and protection purposes. The project includes site assessment, land acquisition, community engagement and the development of a monitoring and ecocultural restoration and management plan that draws from traditional ecological knowledge and western science to support water quality, coastal habitat and cultural sustainability on the site and in the connected region. Currently the Wiyot Tribe owns less than one percent of their ancestral lands and this will increase the Tribe's land holdings by 12%.

California State University, Long Beach

Exploring Parent-Child Link to Science Learning
2022 University Achievement Award
Graduate Outstanding Research, Scholarly and Creative Activity

Grace Ocular, a recent graduate from the Dual Language Development program, has authored four peer-reviewed articles, 21 conference presentations and an award-winning master's thesis. She has also collaborated with her faculty mentors, Dr. Betina Hsieh and Dr. Kimberly Kelly, to produce a manuscript titled "Connecting Informal Learning Environments: Linking parental elaborative talk to child STEM talk during informal learning at an aquarium and at home." This is the first study to explore whether and how parent-child conversations mediate children's informal science learning across informal learning settings (i.e., aquarium, home). She is a Sally Casanova Fellow and is beginning a Ph.D. program in developmental psychology at Loyola University, Chicago.

CAREER: Vascularization in Cardiac Fibrosis Models
Funding agency: National Science Foundation
Total award: $430,660
Investigator: Perla Ayala

Dr. Perla Ayala's work is intended to increase understanding of the mechanisms of vascularization in cardiac fibrosis conditions. Her proposed 3D model will mimic important characteristics of the infarcted fibrotic cardiac tissue. The results obtained from this study will provide insight for

facilitating the development of advanced regenerative therapies that can be implemented in the clinic. Her research also offers inclusive educational and research opportunities for students from underrepresented groups in science and engineering.

Project Resilience: Improving Post-Pandemic Asian American and Pacific Islander Student Wellness and Fostering Career Pathways at the Beach
Funding agency: U.S. Department of Education
Total award: $1,460,090
Investigators: Barbara Kim and R. Varisa Patraporn

Project Resilience expands the capacity to serve high-need AAPI and low-income undergraduate students affected by the pandemic. The goal of this project is to strengthen academic outcomes and social support for AAPI and low-income students who are experiencing educational, health, mental health and socioeconomic challenges due to inequities and a rise in anti-Asian and xenophobic hate crimes and violence in their communities during the pandemic. Project Resilience includes: learning communities designed to integrate culturally relevant topics and academic support for undergraduates; peer mentoring and other programs to increase knowledge about and access to mental health and student support services; professional development, internship and networking opportunities to build skills and explore post-graduation paths; and faculty development to further understand, engage and support AAPI and low-income students.

California State University, Los Angeles

CAREER: Microclimate Amelioration Underlying Biodiversity-Ecosystem Functioning Research
Funding agency: National Science Foundation
Total award: $976,464
Investigator: Alexandra Wright

This project examines how different species of plants can modify the microclimate around them, such as decreased temperatures, increased humidity and increased soil moisture. The modification of microclimate may be one important mechanism allowing many species to coexist, which is a key to biodiversity. This project also provides research opportunities and education to graduate students and undergraduate students. Understanding how biodiversity helps buffer ecosystems from environmental stressors is an essential next step to predicting the consequences of future extinctions. This understanding will also help understanding of how ecosystems might retain function with fewer species.

CREST Center for Advancement Toward Sustainable Urban Systems
Funding agency: National Science Foundation
Total award: $5,000,000
Investigators: Arturo Pacheco-Vega, Gustavo Menezes, Sonya Lopez, Yixian Wang and Jeffrey Santer

The Center for Advancement toward Sustainable Urban Systems (CATSUS) will advance research on issues related to the generation, supply, consumption, protection and revitalization of energy and water systems within the framework of urban environments. It will also increase the research capacity of Cal State LA and develop highly effective undergraduate and graduate level research education curriculum, training and opportunities in STEM fields for students from underrepresented minority groups. Energy consumption in urban areas is responsible for 70% of greenhouse gas emissions and cover only three to four percent of the planet's surface area, but they affect 41% of watersheds globally. CATSUS will integrate research findings into undergraduate and master's level engineering education, K-12 and community college outreach, and policy-informing components, while creating pathways towards doctorate and postdoctoral research programs.

California State University Maritime Academy

Hybrid CHE
Funding agency: California Air Resources Board (CARB)
Total award: $300,000
Investigators: Christine Isakson and Ryan Storz

This academic research effort addresses California's regulatory effort to reduce particulate diesel matter (known under the acronym of CHE) for mobile cargo handling equipment at ports and intermodal railyards. This research is central to understanding the impacts of various engine modalities and underpins the contemporary American transportation trade infrastructure. The investigators are exploring innovative technical distribution matrix analysis models to develop a detailed, non-biased evaluation of leading-edge clean air technologies and cargo handling modalities. They study energy recovery, regeneration and storage with multiple fuels and charging sources for operating at hybrid near-zero-emission or net-zero emission levels.

California State University, Monterey Bay

NOAA Cooperative Science Center for Coastal and Marine Ecosystems
Funding agency: NOAA
Total award: $445,000
Investigator: Corey Garza

The NOAA Cooperative Science Center for Coastal and Marine Ecosystems (NOAA CCME) includes Florida A&M University, California State University Monterey Bay and four other minority-serving institutions in the western U.S. The mission is to recruit, educate and train a new generation of scientists, particularly from underrepresented minority communities, in NOAA-relevant STEM disciplines and social sciences. NOAA CCME will train the future workforce within three thematic areas of: place-based conservation; coastal resilience; and coastal intelligence via student education and training. Such training will be in the fields of uncrewed systems, artificial intelligence, cloud computing, 'omics, data and citizen science with attention to the cross-cutting research of climate change and environmental justice.

California State University, Northridge

Ford Postdoctoral Fellowship on Mexico's Indigenous Social Networks
Xóchitl Flores-Marcial, an associate professor of Chicana/o studies at California State University, Northridge, is one of a handful of scholars from around the world studying the Zapotec gift-giving practice known as "Guelaguetza". She has been awarded a prestigious Ford Postdoctoral Fellowship to complete her book, "Zapotec Gift: Guelaguetza, Mesoamerican Social Networks 1330-2020", which will be the first of its kind to document the Zapotec tradition. With the support of the fellowship, she will spend much of next academic year in Mexico studying pre-Hispanic stone records and colonial paper registers and other rare documents in the archives of Museo Nacional de Antropología. She will also collaborate with Zapotec community leaders and Mexican historians to research Guelaguetza traditions. Professor Flores-Marcial said she hopes her research will "…bring to light the particular role Zapotec women had in managing crucial economic powers and social ties needed to sustain Guelaguetza through the trauma of 300 years of colonialism."

Documentary Named Finalist for Student Academy Awards
"Translucent" is a documentary that captures the reality of gender transitioning, giving a voice to someone who genuinely understands the struggle from personal experience. For their work on the deeply moving documentary, Avery Winter and Kayla Hoeflinger became the first CSUN students to be selected as finalists for the prestigious Student Academy Awards, a competition sponsored by the Academy of Motion Picture Arts and Sciences. The recent graduates competed in the documentary category with finalists making up fewer than seven percent of entries selected from a pool of more than 1,400 projects.

Characterizing Human-Pathogen Interactions and Natural Selection with Ancient DNA
Funding agency: National Institutes of Health
Total award: $1,723,279
Investigator: Eduardo Amorim

The possibility of recovering ancient DNA (aDNA) molecules from archeological samples has yielded great opportunities for the study of human evolution and history. This project will develop

and apply methods to study human host-pathogen coevolution and adaptation using aDNA. It will also help advance the field of paleogenomics by generating aDNA datasets that comprise large sample sizes per archeological site and developing new methods and approaches to leverage information from time-series genetic data. These novel resources will be used to study host-pathogen interactions during the outbreaks of the plague in Eurasia (e.g., the Black Death) and the period of contact between Indigenous peoples from South America and European colonizers. Characterizing the molecular and evolutionary basis of host-pathogen interactions may improve understanding of the dynamics of human infectious diseases, help identify therapeutical targets and inform public health policies to combat future epidemics.

California State Polytechnic University, Pomona

Mental Health Youth Action Forum Delegate
As a first-generation student, Zane Landin has faced multiple challenges including working numerous jobs and internships, struggling with mental health, and the unexpected loss of his mother. He graduated as a Kellogg Honors College member and McNair Scholar. Recently, he was chosen as one of 30 young activists to participate in the first-ever Mental Health Youth Action Forum at The White House. Currently, he is interning at the NASA Jet Propulsion Laboratory as the Universe Public Engagement intern and General Motors as the Diversity, Equity, and Inclusion Communications intern.

Secure Unmanned Autonomous/Aerial Vehicles Labs
Funding agency: U.S. Air Force
Total award: $4,851,500
Investigator: Alison Baski

Cal Poly Pomona and Cal Poly San Luis Obispo are working in collaboration with the U.S. Air Force Research Lab to develop Unmanned Autonomous/Aerial Vehicles (UAV) Labs. The funding aims to expand the capabilities of these UAV Labs for multidisciplinary research and education on UAV autonomy and security, including collision detection and avoidance, UAV cybersecurity, system identification, improving communication latency and flight test verification. The funding allows for the modernization of lab spaces and acquisition of major equipment, including UAVs of various sizes and capabilities, state-of-the-art-sensors for increased autonomy and remote data acquisition, advanced communication hardware, high-performance computing and mobile ground control stations for flight testing.

Cal-Bridge Initiative
Funding Agency: National Science Foundation
Total Award: $5,000,000
Investigator: Alexander Rudolph

To address the problem of underrepresentation in the STEM professoriate, the Cal-Bridge Initiative creates a comprehensive, end-to-end pathway for undergraduates from the diverse student population of the CSU through graduate school to membership in the professoriate. The current Cal-Bridge program is an eight-year-old partnership of over 200 CSU and UC faculty who work together to help CSU undergraduates in multiple STEM disciplines successfully matriculate to Ph.D. programs. With this new grant, the program will be extended through 2023. The expanded Cal-Bridge Initiative will have the capacity to produce 100-200 STEM Ph.D. degrees per year from underrepresented populations and could double the number of CSU STEM faculty from underrepresented groups in the CSU in as little as seven years from reaching full capacity.

California State University, Sacramento

Slowing the Spread of Viruses
Funding agency: National Institutes of Health
Total award: $426,000
Investigator: Katherine McReynolds

The National Institutes of Health awarded Professor Katherine McReynolds $426,000 to continue her studies into therapeutic agents capable of blocking transmission of infections, including the coronavirus and HIV. Professor McReynolds and student researchers are studying sugarcoated polymers in their lab that could ultimately be incorporated into products such as nasal and throat sprays to block the coronavirus from infecting cells and prevent serious illness. Similarly, the substances could be integrated into a gel or condom to prevent the spread of HIV.

Degree with a Purpose: Integration of Career Development and Financial Wellness into the College Experience
Funding agency: U.S. Department of Education
Total award: $3,000,000
Investigators: Melissa Repa and Lynn Tashiro

The Degree with a Purpose project addresses educational and economic barriers for underrepresented and low-income students by prioritizing career development throughout their college experience. The project will incorporate early-career preparedness, financial wellness, and work-based learning into programs, such as new student orientation. It will also help faculty integrate these topics into existing courses and programs and provide students with dedicated counseling and individual career planning.

California State University, San Bernardino

Operas Explore Early 20th Century Feminism and the Cold War
Professor Stacey Fraser serves as a project director to create two full-length works in spring 2022 that are funded by the National Endowment for the Arts. The first opera, "Why Women Went West: I Mary, Mary by Herself", celebrates writer Mary Hunter Austin's quest for the American Southwest. It explores controversies over human rights, water wars and early 20th-century feminist artist communities. It was presented with Professor Fraser at the Cal State Fullerton New Music Festival. The second opera, "The New Frontier", is a tragic chamber opera exploring aspects and characters of the Cold War-era conveyed through Professor Fraser assuming a different character for each of the separate songs.

California State San Bernardino Reentry Initiative (CSRI)
Funding agency: California Department of Corrections and Rehabilitation
Total award: $50,174,003
Investigators: Jay Fiene, Eric Goddard, Elaine Zucco and Andrea Mitchel

The goal of the CSRI is to reduce recidivism and increase public safety through effective community reintegration. The programs and services provided reintroduces participants into their respective communities, family systems and other positive support structures. The programs and services offered in four Southern California locations (San Bernardino, Moreno Valley, Victorville and Indio) include: education and literacy support; pre-employment and job readiness; substance use disorder counseling; and Cognitive Behavioral Therapy interventions regarding criminal thinking, anger management, family relationships and Recovery and Reentry Housing.

National Centers of Academic Excellence in Cybersecurity Community
Funding agency: National Security Agency
Total award: $1,999,195
Investigators: Tony Coulson and Clare Weber

IECI's innovative approach will create apprenticeships in CSU San Bernardino's cybersecurity baccalaureate programs to accelerate students' experience and education, while meeting employers' workforce needs. IECI will build on the nationally recognized cybersecurity program at CSU San Bernardino and cybersecurity education in local community colleges and K-12 schools to establish a pipeline of world-class talent. Students will evolve from exploration to pre-apprentice to apprentice in a structured program that includes career, curricular and experiential learning, plus evaluations and completion requirements. Unlike other cybersecurity credentialing programs that rely on lecture and lab-based training, IECI will emphasize learning outside of the classroom, on the job and with mentors and professionals. Apprentices will earn income as they pursue their education and grow in the cybersecurity field.

San Diego State University

The Prison Arts Collective (PAC)
Annie Buckley, director of San Diego State's Institute for the Arts, Humanities, and Social Justice launched the Prison Arts Collective in 2013 when she was a visual studies professor at CSU San Bernardino. She moved to San Diego State, relocated PAC's headquarters and expanded to a total of four CSU campuses and 13 prisons. The program provides access to the arts for those who are incarcerated with arts courses that are led inside the prisons by CSU faculty, students, volunteers and peer facilitators. PAC also offers an arts facilitator training that teaches incarcerated individuals to lead the workshops and develop their own curriculum.

Faculty Unified towards Excellence in Research and Transformational Engagement (SDSU FUERTE)
Funding agency: National Institutes of Health
Total award: $15 million
Investigator: María Luisa Zúñiga and Mark Reed

San Diego State University is embarking on a $15 million effort to bolster Latinx health disparities research and strengthen the pipeline of scientists focused on the subject. SDSU FUERTE (Faculty Unified towards Excellence in Research and Transformational Engagement) plans to hire a cohort of up to 11 faculty focused on Latinx health disparities research and provide them with thoughtful career development and mentoring. Four of the new faculty will be hired at SDSU Imperial Valley. The new faculty positions will focus on areas like addiction, cancer disparities, environmental health and obesity. They represent a significant investment in San Diego State's growing health disparities research core. FUERTE's leaders aim to support the new hires by building and testing a mentorship model that strengthens faculty outcomes by providing better career advancement and support.

San Francisco State University

TIME Magazine Recognizes Co-Founder of Stop Asian American and Pacific Islander Hate
San Francisco State University Professor of Asian American Studies Russell Jeung was named one of TIME magazine's 100 most influential people in the world for 2021. Professor Jeung earned this recognition for co-founding Stop AAPI Hate, a national coalition against anti-Asian American and Pacific Islander racism and hate in the U.S. Stop AAPI Hate addresses the rise in racism linked to the COVID-19 pandemic by tracking and responding to incidents of hate, violence and discrimination targeting AAPI people. The coalition has been recognized by national media outlets such as the New York Times, PBS News Hour, Oprah Daily and more.

Examining Anti-Racist Healing in Nature to Protect Telomeres of Transitional Age
Funding agency: National Institutes of Health
Total award: $2,682,854
Investigators: Leticia Márquez-Magaña, Charlotte Tate, David Rebanal and Angela Gallegos-Castillo

This highly prestigious grant is led by a multi-ethnic, transdisciplinary team of investigators using community-engaged research approaches to reduce health disparities. The multilevel studies are designed to gain understanding of how anti-racist spaces in nature can protect the telomeres of 18–26-year-old Black, Indigenous and People of Color to prevent premature cellular aging and the onset of chronic disease. The overall goal is to reduce structural racism in public nature spaces so that local, state and national parks are equitably accessed and encourage nature-based activities viewed as medicine. In fact, nature as medicine is part of the ancestral knowledge of many communities of color and this work will reclaim nature for healing.

San José State University

Human Systems Integration: Collaborative Human Factors Research to Improve Safety, Efficiency and Reliability of NASA's Aeronautics & Space Missions: Phase 2
Funding agency: NASA
Total award: $81,649,964
Investigator: Sean Laraway

In the past 10 years, covering two cooperative agreements of almost $200 million, the SJSU-NASA Human Factors Program team members have co-authored/delivered/developed/conducted 700 journal publications, conference presentations, workshops, training materials, NASA technical reports, field tests and other scientific products. The team also has won or received a nomination for 31 NASA awards and 30 awards from scientific organizations for papers presented at scientific conferences and filed eight patents with NASA co-inventors. It has had 45 SJSURF personnel transition to NASA civil service, 15 SJSU master's students complete their MS/MA research at NASA Ames Research Center, and along with NASA collaborators, released over 550 pieces of software, including bug fixes, upgrades and enhancements. The program has provided over 330 paid student research assistantships to a highly diverse group of students from high school freshman to doctoral candidates. Many of these were CSU students, primarily from SJSU and CSU Long Beach which served as a partner on human factors research.

California Polytechnic State University, San Luis Obispo

Increasing Forest Resilience and Restoring Forest Health
Funding agency: Cal Fire Forest Health Program
Total award: $4,679,175
Investigators: Grey Hayes and Mark Swisher

Cal Poly's Swanton Pacific Ranch – a living and learning laboratory fostering Learn by Doing – partnered with nearby Cal Fire Soquel Demonstration State Forest to address fire resilience planning and create key opportunities for students to assist in implementing treatments to restore and maintain healthy forests while enhancing carbon storage. The funding will facilitate increased efforts in forest health and resilience and increased wildfire safety by implementing treatments such as reforestation, forest thinning, removal of dead trees and other potential fire fuels. It will also provide for tree pruning to more than 930 acres of redwood forest between the two sites, both of which are designated as outreach forests in coastal redwood systems.

Workforce Educational Programs for Forest Health and Fire Hazard Reduction
Funding agency: California Department of Forestry and Fire Protection (CAL FIRE)
Total award: $4,200,000
Investigators: Jeremy James, Grey Hayes, Dan Turner, Christopher A. Dicus, Lilli Kaarakka and Richard Cobb

Cal Poly's Swanton Pacific Ranch will provide increased training for the current and future workforce in fire mitigation. The comprehensive workforce development program funded by CAL FIRE will address the array of diverse skills required by our current and future forest health workforce while embedding these educational programs into strategically located management scale demonstration projects that allow expert practitioner knowledge to influence and evolve workforce training. Programs include a statewide training and demonstration program for the current workforce, an expanded education program in wildland fire and fuels management for four-year and community college students across the state and the creation of a living field lab centered on a long-term community driven project to adaptively manage wildland-urban interface fuels, carbon and biodiversity at a management scale.

<u>California State University San Marcos</u>

"Border Line Fears" Wins Three Emmy Awards
Salma Rodriguez, a student majoring in Art, Media and Design, won three student Emmy Awards from the Pacific Southwest Chapter of the National Academy of Television Arts & Sciences. She was honored in the categories of student programming, short form; student craft, writing; and student craft, editor. All three awards were given for a short documentary piece she created titled "Border Line Fears," which spoke about immigration to the United States from Mexico and sought to humanize mainstream news stories with real faces representing statistics.

Growing Capacity in Research Examining Entrepreneurship
Funding agency: National Science Foundation
Total award: $215,740
Investigators: Carly Bertrand and Paola Ometto

This project examines entrepreneurship among minority communities and identifies how success varies for individuals who experience discrimination. The research utilizes interviews and focus groups to better understand the factors that shape the success or failure of entrepreneurial ventures among entrepreneurs of color and the ways in which discrimination shapes the pursuit of independent business ventures. This study will also evaluate how individuals understand their entrepreneurship as part of their larger social environment and as a strategy for change. Findings from this project will be useful to policymakers as well as to organizations seeking to support entrepreneurship within marginalized communities. It will also create opportunities for collaboration within minority-serving institutions, provide opportunities for minority students and community members to build research capacity through training and experience, and promote examples of the resilience of minority entrepreneurs.
Sonoma State University

Biliteracy and Content Area Integrated Preparation (BCAIP)
Funding agency: Department of Education
Total award: $2,907,516
Investigator: Ed Lyon

Bridging teachers, university educators, and families for Emergent Bilingual Learning, BCAIP will bring together content area and bilingual authorization pre-service teachers, their mentors, content method and language/literacy university educators and families in solidarity to strengthen teacher preparation for emergent bilingual learning through coursework, field experience, culturally and linguistically sustaining mentorship, and a language and literacies learning lab that all integrate biliteracy with content area learning. BCAIP will employ a quasi-experimental design by comparing participating pre-service teachers' teaching to a baseline control group and using fidelity of implementation measures as a covariate to evaluate the program's effectiveness. BCAIP will disseminate the teacher preparation model and tools through a multimedia website for programs across California and nationally to replicate.

California State University, Stanislaus

HACU/Grow with Google HSI Career Readiness Program
Funding agency: Hispanic Association of Colleges and Universities
Total award: $25,000
Investigator: Julie Sedlemeyer

This project provides online career readiness education with the up-to-date digital skills needed to successfully transition toward professional life and thrive in the modern workplace. Stanislaus State Career & Professional Development Center’s mission is to educate and support Warriors as they explore and further understand themselves and their career options. Benefits include gaining

valuable experience, developing as professionals, connecting with employers and successfully launching their post-graduation career plans.

Systemwide Collaborations

Affinity Groups

The CSU has 10 multi-campus affinity groups that support research collaborations on a breadth of topics that are important to California.

Agricultural Research Institute

ARI's mission is to enable applied research, through the power of the CSU system, that benefits California agriculture, natural resources and food systems, while cultivating the next generation of agricultural leaders. A key to ARI's success is aligning the organization to address the challenges facing California's agricultural and natural resource industries by conducting applied research that is relevant, timely and impactful. By engaging and collaborating with stakeholders, it is developing actionable knowledge to help solve problems, while at the same time mentoring and developing the state's future workforce and leaders. Since inception in 1999, ARI has funded over 1,150 projects and allocated $196 million ($92 million CSU dollars matched with $104 million of industry, state and federal agency dollars) in direct support of applied research. Students participate in over 92% of ARI projects and receive science training and career mentoring by ARI supported faculty. Approximately 25% of ARI's budget supports students, and 1,432 students have received over 289,000 hours of paid training over the last five years. The skills learned through research are value-added components to a student's education. The benefits are manifold: students involved in research are far more likely to graduate, be employed in a major-related career, and more likely to obtain an advanced degree. Most graduates remain in California, making an investment in students an investment for the future of California.

Recent Highlights

Shelby Guillen, a Food Science and Technology student at Cal Poly Pomona, was selected for an ARI-Hispanic Serving Institute Public Policy Fellowship to develop strong science-based policies for consumers regarding the foods they choose to eat. Her project focused on development of "clean labeling" food products, an important regulatory issue with the food industry, government regulators and consumers. She interned with the USDA Agricultural Marketing Service in Washington, D.C. and was mentored by Karen Comfort (Office of the Assistant Secretary for Administration). Ms. Guillen interviewed USDA program leaders and identified best practices and likely pathways for the impending rules. Following her ARI-HSI Fellowship, she accepted a position with the Food Disclosure & Labeling Division at the USDA.

ARI-supported scientists are adapting cropping systems to climate change by utilizing remote sensing to manage water and fertilizers, detecting disease and insect damage, and breeding crops

to withstand heat and use less water and fertilizers. A promising new approach utilizes naturally occurring micro-organisms found in healthy soils to help build resiliency against environmental and biological stressors. A team at Cal Poly San Luis Obispo that includes Cristina Lazcano, Eric Boyd, Gerald Holmes, Shashika Hewavitharana, Alexis Pasulka and Kelly Ivors, discovered that a disease-resistant strawberry cultivar supports a soil microbiome with a high abundance of pathogen-suppressing bacteria, resulting in less disease. This discovery may allow plant breeders to develop disease-resistant cultivars by focusing on the rhizosphere microbiome and allow growers to manage their soil to increase beneficial micro-organisms. These approaches are economically sustainable and help promote healthy and biodiverse agroecosystems.

Council on Ocean Affairs, Science and Technology (COAST)

COAST launched the State Science Information Needs Program (SSINP) in 2020 with $3 million in one-time funding from California to focus on supporting the highest priority ocean and coastal related needs for scientific information. To date, COAST has made eight awards totaling $2.8 million and leveraged another $395,000 in state and federal funding for a total investment of $3.2 million in new research over the last two years. COAST received another one-time appropriation in the 2022 state budget for $5 million that will support COAST and SSINP while expanding core funding programs, such as the California Collaborative Fisheries Research Program. This year, COAST established a new funding program to help students defray costs associated with field work, prioritizing students with little or no field experience to encourage more students, particularly those from historically underserved groups, to participate in ocean and coastal science. This program is an extension of COAST's robust campaign to create a more equitable, inclusive and diverse community with opportunities to pursue marine science and ocean and coastal issues while feeling welcomed, supported and included.

Recent Highlights

COAST provided first-year student Kaiku Kaholoaa, a native Hawaiian from Moloka'i, with his first hands-on undergraduate research experience through the Scholars-In-Training program at CSU Monterey Bay. This program gave Mr. Kaholoaa the opportunity to work in multiple laboratories, including Dr. Cheryl Logan's lab where he investigated the impacts of climate change on tropical coral reefs. He was a UROC McNair Scholar, a recipient of the Goldwater scholarship, the co-founder and president of the SACNAS Chapter, and the vice president of the Moss Landing Marine Laboratories Student Body Club. After graduating, he received a NSF Graduate Research Fellowship to fund his Ph.D. degree at Stanford University.

Professor Eunha Hoh, division head at the School of Public Health at San Diego State University, is a leader in scientific research on microplastics, the small pieces of plastic found ubiquitously around the world. In response to the proliferation of microplastics, policy and decision makers are developing guidance and legislation related to the impacts of microplastics on humans, wildlife and the environment. Professor Hoh co-chaired the development of a scientific guidance document for the state of California to assess and address risk to the marine environment and to identify

proposed solutions. The guidance led to California's adoption of the first-in-the-nation microplastics reduction strategy in February 2022. In September 2020, COAST awarded Professor Hoh and her colleagues $399,406 through the State Science Information Needs Program to further study the toxicity of microfibers and tire wear particles, the latter being recently identified as the predominant type of microplastic found in San Francisco Bay.

CSU Program for Education and Research in Biotechnology

CSUPERB supports biotechnology education and research throughout the CSU to promote biotechnology and economic development in California. Among its goals are to provide leadership in training California's biotechnology work force and enable CSU faculty and undergraduate, graduate and returning students to advance their careers and become leaders in biotechnology sectors in California and across the nation. It also extends and develops relationships with regional and industrial partners, and expands general education across the CSU and California to enhance understanding of biotechnology issues, challenges and opportunities. CSUPERB provides grants and awards, organizes the annual CSU Biotechnology Symposium, sponsors industry-responsive curriculum, and serves as a liaison between the CSU and government, regional and biotechnology industry partners, including philanthropic partners. The organization promotes biotechnology workforce development by supporting innovative coursework, real-world research experiences, and core resources for students and faculty across all 23 CSU campuses. Nearly 1,000 CSU students, faculty, deans and administrators interact with the CSUPERB program office yearly.

Recent Highlights

Chagas disease is caused by *Trypanosoma cruzi* and affects more than 300,000 people in the U.S. and up to seven million in Latin America, killing thousands each year. CSUPERB grant awardee Noopur Dave, a student at CSU Fullerton, recently published her findings in "eLife" that outlined how this parasite can sense its internal and external environment, establishing sensing mechanisms not previously known in parasites in the laboratory. This pioneering work, developed in the laboratory of Veronica Jimenez, showed an important new mechanism that can be exploited as a target for potential drug development.

The explosion of genomics research has spawned a data explosion in the field of evolutionary biology. Dr. Arun Sethuraman, who recently moved from CSU San Marcos to San Diego State, won a five-year NSF CAREER award of $608,360 to address this challenge with bioinformatics software. The methods and tools of this project will be utilized extensively by evolutionary biologists and the resulting accessible software pipelines and curricular material will be deployed for recruiting and retaining underrepresented groups into computer programming and bioinformatics at a variety of levels (K-12, undergraduate, graduate and post-graduate).

California Desert Studies Consortium

The California Desert Studies Consortium facilitates research, education and outreach about the importance of arid lands. The Consortium provides infrastructure for STEM and transdisciplinary

work in the Mojave Desert region, with an emphasis on sustainability. Established in 1976, the Desert Studies Consortium includes seven member campuses: Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona and San Bernardino. The centerpiece of the consortium is the Desert Studies Center, also known as the Zzyzx Campus, a 1,280-acre full-service field station in the Mojave Desert. The location provides easy access to a broad range of ecosystems, geological features, fossil beds and historical sites.

Each year, the Consortium hosts over 7,000 overnight visits from courses and researchers from the CSU and beyond. Positioned in the exceptionally scenic environment of Soda Springs, the Desert Studies Center frequently hosts conferences and workshops. The Center accommodates up to 65 individuals in dormitory-style apartments, plus longer-term housing for researchers, and multiple classrooms and meeting spaces.

Recent Highlights
Savannah Weaver is a graduate student in the department of Biological Sciences at Cal Poly San Luis Obispo, studying lizard physiology with Dr. Emily Taylor. She earned the Judith A. Presch Scholarship and a prestigious NSF Graduate Research Fellowship to enable her work at the Desert Studies Center. Ms. Weaver and her team captured and measured 107 lizards representing nine different species. In addition to the physiological measurements of lizards, she is using video recordings to investigate their behavior around water, whether they drink it and how this informs their conservation in the context of the climate crisis.

Dr. Nick Van Buer, an associate professor of Geological Sciences at Cal Poly Pomona, filmed a 500-mile, 35-day trek across the California desert, from near Yuma to the Sierra Nevada Mountains. Challenges during his wilderness hike included finding natural water sources, baking campfire bread, crossing dune fields, climbing rugged mountain ranges and swimming the Colorado River twice. He produced a series of public-oriented YouTube videos about his journey, using the story of his adventure to serve as a window into the geology of the Mojave Desert. Topics discussed include active faulting of eastern California; evidence from Death Valley that Earth was completely frozen over about 635 million years ago; and the widespread granites of the Mojave, formed during the age of the dinosaurs as the roots of supervolcanoes.

CSU Shiley Haynes Institute for Palliative Care
The CSU Shiley Haynes Institute for Palliative Care offers continuing education certificate-level and topical courses in palliative care and care management to working healthcare professionals across the nation and worldwide. To date, programs, courses and educational tools have been utilized by more than 25,000 healthcare professionals and more than 26,000 pre-professional students across the CSU.

Recent Highlights
The National Symposium for Academic Palliative Care Education and Research reconvened this year in-person with more than 200 attendees featuring four plenary speakers of international reputation, 12 paper presentations, 10 workshops, one panel and 18 posters offering ground-breaking results from research and clinical innovations in the COVID era.

Advocacy work continues in support of the pending U.S. legislation, the Palliative Care and Hospice Education and Training Act, currently active in the U.S. Senate, and other initiatives to support interprofessional academic and continuing education.

Moss Landing Marine Laboratories (MLML)
MLML is known for a hands-on, field-oriented approach which places students, faculty, researchers and staff at the frontiers of marine science worldwide where discoveries are being made. It provides skills and training for students to become successful scientists, teachers and resource managers serving societal needs involving marine issues. Three million dollars was secured in the Governor's budget to fund enhanced infrastructure for MLML's oceanic research. Specifically, the funds will refurbish MLML's Del Mar Wharf to enhance MLML's marine operations and foster climate change research. Dr. Jim Harvey (MLML) and Scott Benson (NOAA) are monitoring, tagging and recording the activities of leatherback turtles off California. They have also used satellite tags to record movements across the Pacific, cameras attached with suction cups to monitor feeding activities and aerial surveys to examine distribution and abundance.

Recent Highlights
MLML graduate Caroline Rodriguez (CSUMB) received a Knauss Fellowship in Washington D.C. to work at the nexus of marine conservation and environmental justice and to advocate for vulnerable communities who are most impacted by climate change. Keenan Guillas (SJSU) was awarded the Sir James Lougheed Award of Distinction for his research on behavioral changes of marine sponges in relation to human disturbances. A pioneer study by graduate student Marcel Peliks (CSUMB) has generated the first multiple high-resolution maps of the seafloor in the Monterey submarine canyon that document how beach sediments move to the deep ocean.

The results of the recently funded NOAA grant on seaweed-abalone integrated multi-trophic aquaculture (IMTA) were recently published in the top impact aquaculture journal "AQUACULTURE" by Professor Mike Graham and Scott Hamilton (MLML). The project has been further funded by two subsequent grants in 2022 (Seagrant "IMTA: Improving Integrated Multi-Trophic Aquaculture system for co-culture of seaweeds and abalone" and NOAA Saltonstall-Kennedy "Examining capacity of seaweed and shellfish co-culture"). Professor Birgitte McDonald's NSF CAREER research in penguin ecology will take her to Antarctica twice, once to Cape Crozier and then to the Eastern Ross Sea.

Ocean Studies Institute

The Ocean Studies Institute (OSI) is a consortium of CSU campuses that is pooling resources to explore the ocean and coastal regions more effectively. It is based out of the Los Angeles Harbor and includes nine campuses (Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, San Bernardino and San Marcos) addressing research and education on urban ocean and coast sciences. A recent example of OSI research is a continuing investigation into the life history of juvenile giant sea bass raised in captivity.

Social Science Research and Instructional Center

The Social Science Research and Instructional Council of the CSU (SSRIC) supports the development and use of quantitative research skills among CSU students, faculty, and staff. Activities include hosting a student research conference each spring allowing students to present their work, receive feedback and gain experience presenting to others. SSRIC also provides awards that facilitate CSU faculty participation in statistical training workshops and allows CSU faculty to place questions on CALSPEAKS surveys of California public opinion. Additional awards are available to CSU faculty for developing new instructional materials—including teaching modules and exercises—that are made freely available to CSU students and faculty members via the SSRIC website. SSRIC also provides CSU member campuses access to more than 70,000 behavioral, health and social science databases.

Recent Highlights

Executive Director of SSRIC Billy Wagner (CSU Channel Islands) and Leslie Ponciano, director of Research Opportunities at the CSU Chancellor's Office, were awarded a $260,740 National Science Foundation grant to launch the California Alliance for Hispanic-Serving Social Science Advancement (CAHSSA) with collaborators at UC Irvine and UC Santa Barbara who were awarded an additional $536,118. In its first year, CAHSSA has already served hundreds of social science faculty in the CSU and UC systems with grant development webinars. Further, the PIs, who serve as a model for collaboration between the UC and CSU systems, conducted a large-scale survey to identify barriers for social science faculty from Hispanic-Serving Institutions to obtain external funding. Mentored grant writing groups, grant writing retreats for collaborative teams and seminars for social science administrators and leaders begin fall of 2022 and will continue through 2024.

Each year at the SSRIC annual Student Research Conference, the best social science papers in four categories are awarded. The best undergraduate paper award went to Marie St. James whose major is Communication Studies at Cal Poly San Luis Obispo. The winning paper was titled, "The Effect of Framing a COVID-Related Protocol Message on Intentions to Wear a Mask and Willingness to Repost". For this paper Ms. St. James collected data to determine whether messaging to those who identify as politically conservative, which appeals to conservative values, would be more effective versus neutral messaging regarding mask wearing. Findings indicate that the messaging appealing to conservative values was not more effective than neutral messaging. However, mask wearing

intentions as well as willingness to repost online mask messaging could be predicted based on reported political affiliation.

Science, Technology, Engineering, and Mathematics Network (STEM-NET)

STEM-NET is a multi-campus collaborative working with all 23 CSU campuses and areas of STEM research and education. STEM-NET connects and strengthens faculty research and educational collaborations across the CSU system and across disciplines. It expands opportunities for active learning, innovative pedagogy, and supports CSU faculty in developing grant proposals with potential for scaling and sustainability with high impact and fundability. The mission of STEM-NET is to share expertise and leverage system-wide opportunities to foster the implementation of global best practices for our students and faculty in pedagogy, learning and research related to STEM fields within the CSU system. Equally important is how our steps to close equity gaps in STEM education.

Recent Highlights

Joel Cortez is a physics graduate from Cal State San Bernardino, now pursuing a Ph.D. at Pennsylvania State University. While the pandemic limited his research opportunities, he stayed engaged due to his perseverance, passion for physics and active involvement with the Cal State San Bernardino Cal-Bridge program. He successfully grew his research skills and presented his research on light dark matter, and clouds on Mars at four conferences. His fascination with how physics helps the world organize the universe inspired him to overcome any remote learning issues he faced during the pandemic. He plans to continue his research on clouds on Mars and become a physics professor.

Yu Chen has received funding from the National Science Foundation to broaden artificial intelligence (AI) education among undergraduate students by using AI for social good (AI4SG). The project will develop three AI learning modules for students to establish AI learning in their communities where they will identify social issues and create hands-on AI learning labs. In addition, the project will implement the interdisciplinary AI4SG modules among students in information systems, geography and computer science at San José State, Cal Poly Pomona and Cal State San Bernardino. It will generate evidence on how AI4SG education, through culturally responsive computing, can impact motivation, learning outcomes, innovation and equity gaps. This research will lay the groundwork for more interdisciplinary, community-engaged and inclusive AI education through the lens of AI4SG throughout the 23 CSU campuses.

CSU WATER (Water Advocacy Towards Education & Research)

WRPI has been rebranded to be aligned with other CSU affinity groups and recast as CSU WATER (**W**ater **A**dvocacy **T**owards **E**ducation and **R**esearch), a leader in student professional development for water careers with a focus on drought and water supply issues affecting agriculture, municipalities and natural resources.

Recent Highlights
A new five-year strategic plan and operations manual includes outreach planning by forming both external (stakeholder) and internal (CSU) advisory and executive boards and establishing CSU WATER faculty representatives at each campus to help promote the CSU WATER mission.

Conclusion

CSU research, scholarship and creative activities contribute to the intellectual and creative vibrancy of campus life while offering solutions to real-world problems. These activities are critical both to the success of Graduation Initiative 2025 and to fulfilling the CSU mission of student success, faculty excellence and service to California and beyond. CSU continues to prepare each new generation of researchers, artists, performers and scholars to carry on the spirit of collaboration, innovation and community.