

SJSU Research Foundation 2021 Annual Report

SAN JOSÉ STATE UNIVERSITY
DIVISION OF RESEARCH AND INNOVATION



COVER: Holly Bowers, Research Faculty with SJSU Moss Landing Marine Labs, is using a handheld qPCR instrument that can detect DNA from target HAB species. More on page 16.

THIS PAGE: SJSU Research Foundation Early Career Investigator Award winner and Assistant Professor Ellen Middaugh interacts with students in her Sweeney Hall classroom on September 26, 2018. More on page 21.
(Photo: Jim Gensheimer)



The numbers and statistics presented in this report are limited to the activity managed by the San José State University Research Foundation and is not representative of the overall research expenditures of the larger institution as there are programs funded directly by the institution or through the Tower Foundation.

The annual report also reflects award activity or gross sponsor commitments recorded in the fiscal year. The audited financial statements reflect fiscal year expenses on sponsored awards. In many cases, expenses are actually lower than the award activity because of multi-year awards, which are recorded in their entirety when received but expended over multiple years.

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ABOUT

The SJSU Research Foundation is a non-profit 501(c)3 California corporation that operates solely for the benefit of San José State University. It is an “auxiliary” of San José State University.

Auxiliary organizations at the California State University (CSU) are non-profit organizations and separate legal entities. They operate pursuant to written operating agreement with the CSU Board of Trustees, have separate governing boards with close connections to a campus and follow all legal and policy rules established by the CSU system and the respective campus administration. Auxiliary organizations were created to perform essential functions associated with a postsecondary educational institution, which under California law were difficult, cumbersome or legally restricted for the university and were not supported by state funding.

The entire team at the SJSU Research Foundation continues to be inspired by the endeavors and accomplishments of SJSU researchers. We are committed to supporting their efforts through our dedication to providing streamlined, robust, and efficient research administration systems and services.



ABOVE: Students are experiencing models of different types of galaxies thanks to Thomas Madura, SJSU Research Foundation Early Career Investigator Award winner and Assistant Professor of Physics and Astronomy at SJSU. Madura leads a \$1.5 million NSF Innovative Technology Experiences for Students and Teachers grant that uses 3D printing technologies to help motivate students with blindness/visual impairments to pursue a higher education and career in a STEM (Science, Technology, Engineering, Mathematics) field. See more on page 21.

LEADERSHIP



Mohamed Abousalem

President
SJSU Research Foundation
Board of Directors

Vice President for
Research and Innovation
San José State University

The 2019-20 fiscal year represented a period of contrast for the San José State University Research Foundation. More than \$56 million in research grants were awarded to SJSU faculty and project staff during the period - then near the end of the year, continuing that work in the face of a global pandemic presented unforeseen challenges for everyone involved.

No one could have predicted the impact and length of the barriers to continuing research activity during COVID-19 office and campus access restrictions. Research administration was forced to adapt along with the rest of our community, but with teamwork and flexibility the principal investigators, staff, and students have continued to pursue their research across a broad range of academic disciplines.



Pamela C. Stacks

(retired Dec. 2020)

Vice President
SJSU Research Foundation
Board of Directors

Associate Vice President for
Research
San José State University

We continue to engage more faculty each year in grant applications and increase student involvement in awarded projects. As we embark on a phase of ambitious growth for the SJSU research and innovation enterprise, the Research Foundation is focused on building scale for increased sponsored program activity and strengthening our relationships with stakeholders on and off campus. It is through these programs and relationships that SJSU researchers contribute to our communities with work that improves lives and serves society.



Andrew Exner

Executive Director
SJSU Research Foundation

Through this annual report we recognize and congratulate the SJSU faculty and students whose important work has wide-ranging impact at the local, national and international levels. While measuring the numbers is an important exercise, the profiles contained in this annual report give a face and a story to the millions of dollars infused into the SJSU research enterprise and highlight the importance and impact of these research projects.

We hope you enjoy learning about their work as much as we enjoy helping them make it happen.

NUMBERS

SJSU Research Foundation numbers for Fiscal Year 2019-20, which ended on June 30th, 2020

232 Awards received valued at more than
\$56 Million

303 Proposals submitted valued at more than
\$100 Million (214 faculty)

\$50.6 Million Dollars
In research expenditures across 453 active projects

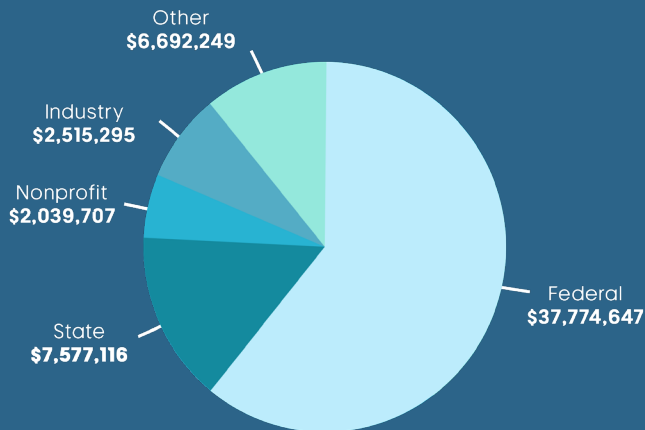
154 SJSU Faculty
Engaged in sponsored research projects, grants or
contracts managed by the Research Foundation

275 SJSU Students
Engaged in sponsored research projects, grants or
contracts managed by the Research Foundation

65 SJSU Project Staff
Engaged in sponsored research projects, grants or
contracts managed by the Research Foundation

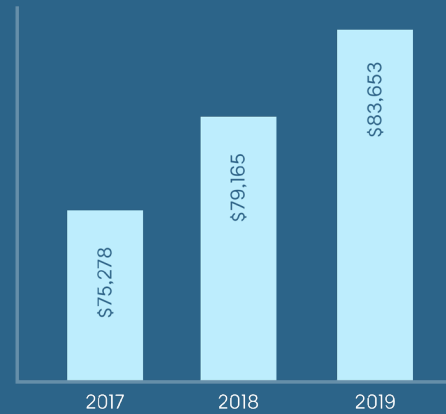
\$2.1 Million Dollars
Returned to San José State University in indirect revenue
and strategic investment to the campus (50% increase
over prior year)

Award Type



Research Expenditures

(In Millions)

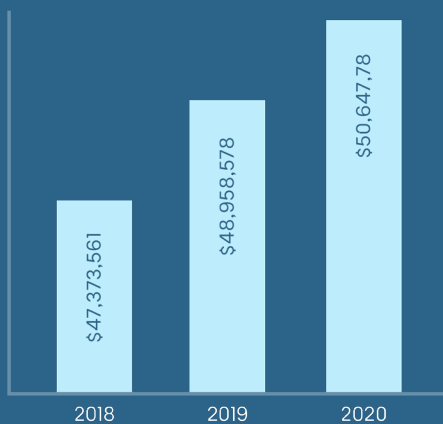


Research and Development (R&D) expenditures at selected institutions of higher education have steadily increased over the past 3 years. From FY2018-19 to FY2019-20, research expenditures increased 5.7%, with a 6.3% increase in Federal dollars.

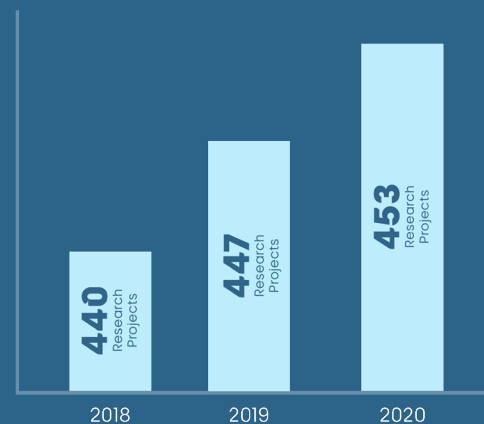
Gibbons, MT; National Center for Science and Engineering Statistics (NCSES). 2021. Universities Report 5.7% Growth in R&D Spending in FY 2019.

Reaching \$84 Billion. NSF 21-313. Alexandria, VA: National Science Foundation. Available at <https://ncses.nsf.gov/pubs/nsf21313/>.

Award Expenditures



Number of Awards



Research expenditures at SJSU increased from \$48.9M in FY2018-19 to \$50.6M in FY2019-20. This represents a 3.4% increase in expenditures on sponsored programs for this year, and a trend of an approximately 3.3% increase in research expenditures for each of the prior three years. This was also accompanied by a 7% increase in the number of personnel engaged in research, which increased from 747 to 803 in FY2019-20.



LEFT: Bay Area commuters waiting to board a BART train. Photo Credit: Thomas Hawk

Karen Philbrick and Hilary Nixon Mineta Transportation Institute

On the first day of Karen Philbrick's doctoral program in psychology, a professor walked into the classroom and asked if anyone was interested in joining a large-scale project as a research assistant. Philbrick tentatively raised a hand.

She soon found herself in Richmond, Virginia, working with locomotive engineers and conductors at a Class I freight rail carrier. Her assignment: collect data on sleep hygiene and the impact of scheduling on safety. "As I sat in a yard office in steel-toed boots at 3 a.m., collecting data," Philbrick says, "I realized I was hooked." Transportation research held the promise of affecting change on a broad-scale, she discovered, and the field quickly became her focus.

Today, as executive director at the Mineta Transportation Institute at SJSU (MTI), she leads an organization with significant impact. MTI's mission is "to increase mobility for all, by improving the safety, efficiency, accessibility, and convenience of our nation's transportation system." To that end, MTI leads two multi-university consortiums, securing over 23.6 million dollars in state and federal funding over the last five years and launching 196 research projects. MTI's research areas include active transportation, planning and policy, security and counterterrorism, sustainable transportation, and transit & passenger rail. The institute's critical research consists

of the Database on Terrorist and Serious Criminal Attacks against Public Surface Transportation, used by transit officials, policymakers, and the Department of Homeland Security to identify transportation threats and attack trends.

MTI leads a multitude of education and workforce

development programs, with the goal of developing a new cohort of transportation professionals ready to lead a more diverse, inclusive, and equitable transportation industry. One such project delivers elementary, middle and high-school students programs to stimulate interest in careers in transportation.

At the university level, all MTI-funded research projects involve university student research, offering

real-world problem-solving opportunities to hundreds of students. "Developing a transportation workforce with the skills needed to plan, design, deploy, operate and maintain transportation systems that may not even exist today presents a unique and exciting challenge," Philbrick says. "Educators must engage with industry leaders on an ongoing basis to identify emerging career pathways, continually review and revise their offerings, find creative ways to attract potential entrants, and not only provide students with the skills they need today but inspire them to lead the way into the future."

"To increase mobility for all, by improving the safety, efficiency, accessibility and convenience of our nation's transportation system."

- Karen Philbrick
Executive Director, Mineta Transportation Institute

Cassandra Paul and Tammie Visintainer

Transforming Undergraduate Teaching and Learning

The first two years of college can be a challenging time for many undergraduates. For first-generation students and those from underrepresented racial and ethnic groups, it can be especially challenging. A new project, led by Dr. Cassandra Paul, Associate Professor of Physics and Astronomy, and Dr. Tammie Visintainer, Assistant Professor of Teacher/Science Education, seeks to support these undergraduate students' sense of belonging and ultimately increase success, retention and graduation rates.

Over the course of five years, the project will explore ways to transform the teaching and learning experiences of introductory science courses by cultivating a culture of community development, sense of belonging, and academic inclusivity. To establish a foundation for research and program activities, the first year will focus on understanding students' science experiences. SJSU students will be involved throughout

the process. Undergraduate students will be selected to serve on the advisory board, and students from the Science Education MA program will be central members of the project research team.

The project was inspired by Dr. Paul's work in physics course reform and Dr. Visintainer's research exploring intersections of race, identity, and learning in science education. Dr. Paul worked with innovative approaches to introductory physics course design as part of a research and teaching team at the University of California, Davis. She brought this expertise with her to SJSU and adapted the approach to radically transform physics courses. Dr. Visintainer engaged with issues of equity in science education during her doctoral program at the University of California, Berkeley, where she explored the science experiences of high school students of color and first-generation undergraduate students.

“SJSU students will be involved throughout the process.”

- Cassandra Paul and Tammie Visintainer

Assistant Professor, Physics & Astronomy with the College of Science

Assistant Professor, Teacher Education with the Lurie College of Education



FROM LEFT: Cassandra Paul & Tammie Visintainer

BELOW: David (DJ) Soriano in his SJSU stole, which signifies him as “a first-generation, Latinx, LGBTQ, STEM major” and a “proud nerd”.



Emily Chan

National Forum on the Assessment of Scholarly Communication

Over the past 20 years, the process of conducting and sharing research has been transformed by new technologies and increasingly democratic models. Emily Chan, Associate Dean for Research & Scholarship at SJSU, believes that academic libraries are well-positioned to meet faculty's evolving needs. Chan believes libraries can strengthen their ability to support research in all stages, from planning and publishing, to preserving and discovery.

Chan has been active in the area of scholarly communication, working to develop research programs that can make a difference. In August 2019, SJSU and Sacramento State University were awarded an Institute of Museum and Library Services National Forum grant to assess scholarly communication programs at M1 public institutions. The project involved librarian focus groups, campus stakeholder interviews, and discussions between librarians, campus stakeholders, and other experts at the virtual Scholarly Communication Assessment Forum in May 2020. Considering the input from these wide user groups, Chan states: "We hope to create flexible rubrics that academic

libraries can utilize in measuring and reporting their successes in meeting local campus scholarly communication needs.

Ultimately, this will help libraries demonstrate their expertise and overall value to the academic institution." Chan sees this work as a benefit to not only academic researchers, but everyone in the campus community — and beyond. "Everyone is a content creator today," Chan says. "Understanding your rights, responsibilities, and the parameters of what and how you can share and consume media and information is more important than ever. As libraries formalize and assess their activities in this arena, devising common quantitative and qualitative criteria that all libraries can use will be helpful."

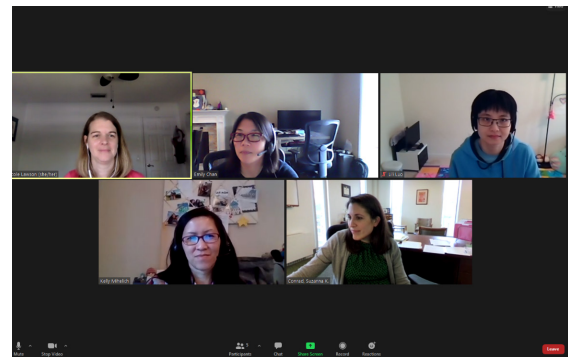
“Everyone is a content creator today.”

- Emily Chan

*Associate Dean for Research & Scholarship,
Dr. Martin Luther King, Jr. Library*



ABOVE: Emily Chan, Associate Dean for Research & Scholarship, Dr. Martin Luther King, Jr. Library



ABOVE: From top left (going clockwise): Nicole Lawson (Associate Dean for Academic Services, CSU, Sacramento); me; Lili Luo (Professor, School of Information, SJSU); Suzanna Conrad (Dean of the University Libraries, Towson University, formerly the Associate Dean for Digital Technologies & Resource Management, CSU, Sacramento); Kelly Mihelich (Administrative Support Coordinator, CSU, Sacramento); not pictured (Daina Dickman, Scholarly Communication Librarian, CSU, Sacramento)



ABOVE: Selena Anderson, Creative Writing Assistant Professor, English Department with the College of Humanities & the Arts

“I have a small and exceptionally dedicated team of student assistants who help present these readings, as well as the book club, craft lecture series, writing workshops, and growing social media presence. They show such promise and will go on to graduate school and work in arts administration and publishing. They’ll write too. I’m really proud of the work we do.”

- Selena Anderson
Creative Writing Assistant Professor, English

Selena Anderson Center for Literary Arts

Selena Anderson, professor of fiction and literature at SJSU, comes from a family of readers. “Everyone valued books,” she says. “My grandmother was a librarian, and she’d read everything — even the bible cover to cover, three times that I know of. I wanted to read like her.”

From this love for reading, writing was a natural extension. Anderson’s stories have appeared in *Oxford American*, *BOMB* and *American Short Fiction* and reprinted in *Best American Short Stories* and elsewhere. “I write stories about people who want to win,” she says. “My characters are hardly ever passive, especially in situations where they lack control. They are often pushed to a point of taking a big risk. That’s when the world around them peels back and reveals itself in odd ways.”

As director of the local arts grant-supported Center for Literary Arts, Anderson shares her passion for reading

and writing with the San José community. The program offers workshops that serve seniors, youth who’ve experienced housing insecurity and general community members who are interested in writing fiction, poetry, or nonfiction. The series has drawn a number of notable speakers, including award-winning authors Viet Thanh Nguyen, Tommy Orange, Paul Beatty, Carmen Maria Machado and Naomi Shihab Nye.

SJSU students are deeply involved in the Center for Literary Arts. “I have a small and exceptionally dedicated team of student assistants who help present these readings,” Anderson says, “as well as the book club, craft lecture series, writing workshops, and growing social media presence. They show such promise and will go on to graduate school and work in arts administration and publishing. They’ll write too. I’m really proud of the work we do.”



Robert Marx

Understanding Trans Youth Resilience in Communities of Color



ABOVE: Frank Peña '21 Sociology; Robert Marx, Assistant Professor, Child and Adolescent Development with the Lurie College of Education

Existing research on trans and genderqueer (TGQ) young people tends to focus on the negative experiences they may face—their deficits, their struggles, their pain. Robert Marx, assistant professor of education at SJSU, found it familiar emotional territory. “Growing up a queer, Jewish person in the American South,” he says, “I was constantly bombarded with messages that I was wrong, immoral, or strange.”

Marx entered academia determined to create research that told a more complete story: “Research that centers queer youth as the authors of their own stories,” Marx says, “and positions them as gifted, complex people with strength and hope.” Marx’s current project, The Trans Resilience

Project: Understanding Trans Youth Resilience in Communities of Color, is a partnership with undergraduate student Frank J. Peña that aims to do just that. “Our research explores the sources of strength and support TGQ youth of color find in their families, schools, and communities,” Marx says, “hoping to both highlight the many ways in which TGQ youth of color

are thriving in a world not set up for their success and to provide recommendations for how youth-serving organizations, teachers, and parents can best support them.”

A manuscript is currently in progress for an academic audience. “In the future, we hope to turn these findings into user-friendly, accessible resources for those who want to support,

love, or work with TGQ youth of color: infographics and easily shared documents to distribute to schools, non-profits, clinicians, and family resource centers that draw on our findings to offer practical suggestions for offering support to TGQ youth of color.”

The work would not be possible without SJSU student Frank J. Peña. “To the foundation of the research, he brings 10 years of experience working

with TGQ youth, as well as his lived experience as a transman of color. In addition, he was invaluable in the recruitment of participants and conducting and coding interviews.” As Frank himself says, “it’s incredibly validating and important to finally see research that reflects and is informed by my own lived identity.”

“It’s incredibly validating and important to finally see research that reflects and is informed by my own lived identity.”

- Frank Peña '21 Sociology



Wei-Chien Lee

Improving the Mental Health of all San José State University Students

Each year, more than 3,000 SJSU students, or about 10 percent of the student population, report that they have seriously considered suicide. Surveys also reveal that many more students have experienced depression, anxiety or stress — significantly impacting their learning, relationships and overall health. The Garrett Lee Smith Campus Suicide Prevention Grant, a program led by clinical psychologist Dr. Wei-Chien Lee, works to improve this picture of SJSU student mental health.

The grant supports a range of training programs, community engagement and outreach. Programs include mental health and substance use screenings, peer outreach, promotion of the National Suicide Prevention Lifeline and assessments of current campus suicide prevention and interventions. In every aspect of the work, SJSU students are integral. “Currently we have 22

students working on this project,” Lee says. “They have helped to provide outreach, inform campus, collect information and provide presentations on mental health issues.”

The program is in the final year of a three-year run.

“10,000 people, 10,000 hopes is our end goal,” Lee says, “to create a campus full of people who have information, are aware of resources and are ready to help people who might have been experiencing mental health issues.” Many life events and mentors have inspired Lee throughout her career, but nothing inspires her more than the students she works with. “I could spend 30 days just sharing with you how amazing our students are,” Lee

says, “and how much I have enjoyed supporting each of them to thrive, learn to trust themselves and know how wonderful and capable they are. I love seeing students’ smiles and I am grateful that I always received hugs from students when I walked through campus.”



“10,000 people, 10,000 hopes is our end goal,”

- Wei-Chien Lee
Counseling &
Psychological Services

IF YOU ARE IN AN SJSU CLASS OF 50 PEOPLE,

WITHIN THE LAST 12 MONTHS

6 of them had seriously considered suicide

25 felt things were hopeless

1 of them had attempted suicide

40 felt exhausted (not from physical activities)

3 of them had intentionally injured themselves

41 felt overwhelmed by all you have to do

What Can You do? Share the following information with all your students and community members.

National lifeline: 800-273-8255

National crisis text line: 741741

SJSU Counseling and Psychological Services (CAPS) 408-924-5910

“2018 Spring American College Health Association-National College Health Assessment” (or “2018 Spring ACHA-NCHA”)

ABOVE: Wei-Chien Lee,
Counseling & Psychological
Services

Maria Cruz

The Ronald E. McNair Postbaccalaureate Achievement Program

The Ronald E. McNair Postbaccalaureate Achievement Program helps first-generation, low-income and underrepresented students develop research and apply to Ph.D. programs across the nation.

The program has served more than 300 SJSU students over 25 years at SJSU; this success is due in large part to the passion of leaders like Dr. Maria Cruz, Director of the McNair program since 2017.

Dr. Cruz's career is a model for a McNair scholar. A descendent of the Wixáritari (Huichol indigenous Mexican Nation), she is the first in her family to graduate from college and the first to receive a Ph.D. Today, as a socio-cultural anthropologist at SJSU, her research explores the Testimonio Oral Tradition and History (Vansina 1985; Menchaca 2001) of both women and men who identify as first-generation Chicana, Mexican American, or Indigenous and their experience as college students in the U.S.-Mexico Borderlands.

By staying active in her research, Dr. Cruz is able to stay abreast of the research world and better guide students to finish their work and continue on to graduate school. "I

am dedicated to helping all of our McNair Scholars create and develop groundbreaking research so that they have the confidence to apply to Ph.D. Programs across the nation," she says.

"They are also the first in their families to go to college but are also the first to go on to higher education and become professors in their prospective fields such as anthropology, biomedical, sociology,

psychology, etc.," Cruz says. "Our students have benefited by reaching their goals and dreams of becoming professors, or are leaders in local communities or the private sector, and are now mentors themselves."



“Our students have benefited by reaching their goals and dreams of becoming professors, or are leaders in local communities or the private sector, and are now mentors themselves.”

- Maria Cruz

Aspire-McNair Director, Lecturer for Chicana Chicano Studies



TOP: Director Aspire-McNair Scholars Programs, Lecturer Mexican Studies, Chicana and Chicano Studies with the College of Social Sciences

ABOVE: The McNair Scholars 2018 Cohort.



ABOVE: Social work graduate student intern (Class of 2019) consulting with the police and emergency room medical staff regarding a child abuse case.

“I am very excited about this child welfare simulation training...”

- Peter Lee, Director of the School of Social Work



Peter Lee and Pnina Green Title IV-E Child Welfare Training 2019-2020

When a social worker is called upon to check on the welfare of a child, they could be walking into a tough and potentially dangerous environment. So, how does a student who is still learning how to handle these situations get hands-on training?

SJSU’s Title IV-E Child Welfare Program has developed an advanced course that allows students to integrate social work theory, knowledge, skills, and values in simulated scenarios.

“I am very excited about this child welfare simulation training and how it will prepare us for opportunities to use simulation in other aspects of our curriculum,” says Dr. Peter Lee, Director of the School of Social Work.

In collaboration with the Valley Foundation School of Nursing, Lee, along with Pnina Green, Title IV-E Project Coordinator, Professor Meekyung Han, Professor Coleen Kohtz, Professor James Ramoni, and Professor Barbara Watkins,

successfully turned the pilot seminar from the 2017-2018 academic year into an official course.

“The two-and-a-half-hour session of each simulation exercise allows each student to participate in the role of ‘social worker’ in a scene,” explains Han.

“Simulation training allows students preparing for professional child welfare social work a safe space to practice their clinical case management skills through real-life child welfare case examples,” adds Green, “And to receive immediate constructive feedback from facilitators to apply in their field practice.”

The course is part of the School’s two and three-year Title IV-E programs. After graduation, students go on to apply their skills and serve communities by working for public county child welfare services.

Holly Bowers, Ross Clark, Kevin O'Connor

Evaluating Agricultural Management Practices Benefiting the Monterey Bay



ABOVE: ABOVE: Ross Clark, Director of Central Coast Wetlands Group, SJSU Moss Landing Marine Labs, is taking water elevation stick measurements.

“By hiring SJSU graduate students, we are able to support high quality graduate education and scientific research, while benefiting from the scientific findings that result from these students’ research.”

- Kevin O'Connor
Program Manager, SJSU
Moss Landing Marine Labs

In the central coast region of California, farm-derived nutrient runoff is a widely-known problem. In Monterey Bay, runoff contributes to the growth of offshore algal blooms, which produce harmful effects on virtually all marine life. Hundreds of millions of dollars have been spent in attempts to address this issue, but how effective are these investments? How can they be made more efficient, and implemented more widely to restore our watersheds?

At Moss Landing Marine Laboratories, a team of SJSU scientists, including Ross Clark, Dr. Holly Bowers and Kevin O'Connor, seek to find and implement solutions. A new research grant strengthens a partnership between the Central Coast Wetlands Group and the Environmental Biotechnology Lab, combining systems to reduce agricultural nutrient run-off with expertise in harmful algae monitoring and

detection capabilities.

The team hopes to accomplish several ambitious goals. By expanding watershed monitoring systems and estimating how much removal is needed to reduce algae in Monterey Bay, they will demonstrate exactly how farm



ABOVE: Handheld qPCR instrument that can detect DNA from target HAB species.

runoff treatment systems reduce nutrient discharges into waterways. Developing recommendations for nutrient management practices, and working with industry, coastal resource managers and the state to integrate findings into regulations and industry practices, they will create a blueprint for water quality treatment systems across the agricultural watersheds of Monterey Bay.

SJSU students studying at the Moss Landing Marine Laboratories working with the team are given an extraordinary opportunity to take part in the research — an arrangement that is mutually beneficial. “By hiring SJSU graduate students,” says Kevin O'Connor, “we are able to support high quality graduate education and scientific research, while benefiting from the scientific findings that result from these students’ research.”

Miri VanHoven

The Effect of Sleep on Neural Circuit Connections.

Miri VanHoven, Miri VanHoven, Associate Dean of Research and Professor of Biological Sciences, has long been fascinated by the tiny cells that power our ability to learn and remember. In these small cells, she sees the potential for research that can ultimately lead to a better understanding of neurological disorders, such as autism, schizophrenia and dementia.

A new project, “The Effect of Sleep on Neural Circuit Connections,” explores these types of applications, using the microscopic round worm *C. elegans*, whose nervous system is similar to that of humans at the cellular and molecular levels. “We use a combination of molecular, genetic, behavioral and imaging experiments to understand how synapses form,” she says, “and how they are affected by sleep.”

This research has yielded several new discoveries. “We have collaborated with Dr. Noelle L’Etoile’s laboratory at UCSF to discover that synaptic structures are altered by sleep in *C. elegans*,” she says. “We hope to further unravel the molecular pathways by which these two processes occur, so that we can make inferences into human physiology.”

SJSU research students play an integral role in all of her laboratory’s experiments. “These experiences help them to become the next generation of scientists and medical professionals,” she says, “and many of my students have gone on to top graduate, medical and pharmacy schools, as well as careers in biotechnology.”



ABOVE: Miri VanHoven, Associate Dean of Research and Professor of Biological Sciences, College of Science

“...potential for research that can ultimately lead to a better understanding of neurological disorders, such as autism, schizophrenia, and dementia.”

– Miri VanHoven, Associate Dean of Research and Professor of Biological Sciences, College of Science





“Undergraduate and graduate students are launching an extensive mixed-methods city-level study focused on San José, California.”

- Wilson Yuan
Assistant Professor, Justice
Studies Department with the
College of Social Sciences

ABOVE: Wilson Yuan, Assistant Professor, Justice Studies Department with the College of Social Sciences
BELOW: Robert and Wilson discussing how to use census tracts to understand crime hot spots in San José, CA.

Wilson Yuan

San José Neighborhood Crime Survey

Many crimes and victimization experiences go unreported in immigrant and marginalized communities. How can we better the relationship between these communities and the criminal justice system, and other resources? Wilson Yuan’s work explores how an immigrant’s status is associated with victimization and how immigrants of different racial and ethnic groups mobilize formal and informal resources in response to crime.

With his current project, “San José Neighborhood Crime Survey: An Examination of the Relationship between Immigration and Victimization,” Yuan examines different types of victimization — including domestic violence, assault, and burglary — across subgroups of Latino and Asian immigrants.

Wilson’s research has yielded many concrete contributions to his field. “I have published eight articles in top journals in Criminal Justice and

Criminology in the past three years,” he says, as well as “ongoing research projects that will produce several high impact journal articles, book chapters, and conference presentations.”

Both undergraduate and graduate SJSU students are heavily involved in Wilson’s ongoing research. Yuan and his undergraduate and graduate students are launching an extensive mixed-methods city-level study focused on San José,

California. “Through my recently funded grant by the National Institute of Justice,” he says, “Several students will be hired to conduct qualitative interviews among crime victims and apply methodologies learned in class to real-life examples.”



SELF-SUPPORT PROGRAMS

In addition to sponsored program funding, SJSU Research Foundation also operates several self-support programs related to the Student Research, Scholarship, and Creative Activity (RSCA) activities.

Timpany Center

Physical Health and Wellness

The Timpany Center is a non-profit educational and therapeutic center. Operated as a non-profit partnership with Santa Clara County and the SJSU Research Foundation since 2009, the center promotes physical health and wellness in individuals with disabilities, obesity and advanced age.



International House

An Intercultural Home

The International House offers an intercultural home to approximately 70 U.S. and international students attending San José State University. It was founded by alumni of SJSU, Alan and Phyllis Simpkins, who bought, remodeled, and furnished the building in 1978.

International Gateways

English Language Programs

Since the early 1980s, International Gateways has partnered with the SJSU Research Foundation to offer high-quality English language programs, cultural experiences, and support services to international students, professionals, and visitors who want to develop communication skills and strategies for success in a global community.

RIGHT: International Gateways students participating in the yearly Silicon Valley Innovation Challenge.



35TH ANNUAL CSU STUDENT RESEARCH COMPETITION

The California State University Student Research Competition is held annually to promote excellence in undergraduate and graduate scholarly research and creative activity. It recognizes outstanding student accomplishments from throughout the twenty-three campuses of the CSU. Each year San José State University holds its own Student Research, Scholarship, and

Creative Activity (RSCA) Competition, and the finalists go on to represent SJSU at the CSU-wide event. One of SJSU's finalists, Gurpreet Klar, received second place at the 34th Annual CSU Student Research Competition hosted virtually by Cal State East Bay (CSUEB) in 2020.

Gurpreet Klar

'23 Chemical Engineering

Second Prize

"Development of a microfluidic approach for rapid and continuous detection of pathogens in food and water samples"

Mentors: Dr. Liat Rosenfeld, Dr. Crystal Han

Department of Chemical Engineering
Department of Mechanical Engineering

2021 SJSU STUDENT RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY (RSCA) COMPETITION FINALIST

These eight students will represent SJSU at the 35th Annual CSU Student Research Competition:

Victor Lui

Faculty Mentors: Younghee Park and Nima Karimian
Computer Engineering, Charles W. Davidson College of Engineering

"Secure Biometric Key Generation Scheme Using ECG"

Terri Lee

Faculty Mentor: Yu Chen
Information and Systems Technology, Lucas College and Graduate School of Business

"Learning Artificial Intelligence with a Chatbot: A Study Among Business Undergraduate Students"

Aeowynn Coakley

Faculty Mentor: Frank Huynh
Biological Sciences, College of Science
"Novel Roles of Sirtuin 4 in Testes Revealed Using an Unbiased Bioinformatics Approach"

Muhammad Khan

Faculty Mentor: Alberto A. Rascón Jr.
Biological Sciences, College of Science
"Mutagenesis and Recombinant Expression of Aedes aegypti Serine Protease I (AaSPI), a Possible N-Terminal Nucleophile (Ntn) Hydrolase"

Nicholas Roubineau

Faculty Mentor: Madalyn Radlauer
Chemistry, College of Science
"Copolymerization of Styrene and Alkene-Modified Pincer Ligands to Support Iridium Catalysts for Alkane Dehydrogenation"

Hung Tong

Faculty Mentor: Cristina Tortora
Mathematics and Statistics, College of Science
"A Mixture of Multivariate Contaminated Normal Distributions with Missing Information"

Tomasz Lewicki

Faculty Mentor: Kaikai Liu
Computer Engineering, Charles W. Davidson College of Engineering
"Autonomous Drones for Wildfire Detection"

Alaysia Palmer

Faculty Mentor: Cara Maffini
Child and Adolescent Development, Connie L. Lurie College of Education
"Growing Up with a Sibling with Autism: College Students' Perspectives"

SJSU RESEARCH FOUNDATION EARLY CAREER INVESTIGATOR AWARD

2020 ECIA Winners: Ellen Middaugh and Thomas Madura

Dr. Ellen Middaugh's work is guided by a very timely question: How do youth become informed, ethical and effective advocates for themselves and their communities in the digital age?



Middaugh, Assistant Professor of Child & Adolescent Development SJSU, became interested in civic engagement from an early age. "Growing up in Charleston, South Carolina, I was surrounded by an enormous amount of racial and gender inequality and saw how it was embedded in our institutions," she says. "I didn't have language to talk about this or a sense that I could do anything about it. My own civic education didn't give me that."

Today, young people have access to a far more dynamic and fluid public sphere.

Middaugh's research explores the ways in which we learn about, discuss and exercise public voice on civic issues, and how we can inform a new approach to civic education.

"I have been fortunate to be able to share this work with teachers and collaborate with them to change their classroom practices to align with engagement with our democracy as it exists today," she says. "In the future, I hope to accomplish the development of a comprehensive curriculum that can be used by teachers in any context to support youth to be informed, empowered, and ethical civic actors."

A theoretical and computational astrophysicist, Thomas Madura specializes in the study of massive stars, specifically their late-stage evolution and how these stars lose mass before exploding as powerful supernovae. Madura, Assistant Professor of Physics and Astronomy at SJSU, leads a \$1.5 million NSF Innovative Technology Experiences for Students and Teachers grant that uses 3D printing technologies to help motivate students with blindness/visual impairments to pursue a higher education and career in a STEM (Science, Technology, Engineering, Mathematics) field.

This idea for the project began at NASA's Goddard Space Flight Center, where Madura worked with colleague Ken Silberman. "Ken is an engineer and registered patent attorney who is

completely blind," Madura says. "His enthusiasm and passion helped motivate me to pursue these ideas, which eventually culminated in our recent NSF grant award."



"I hope that my work will help inspire all students to pursue an education and career in STEM," Madura says. "I also hope that my work will inspire other researchers and educators to make their work more accessible, especially to individuals with disabilities."

STATEMENT OF ACTIVITIES: FISCAL YEAR ENDING 06/30/2020

REVENUE AND SUPPORT

Federal Contracts and Grants	\$25,124,366
State Contracts and Grants	\$9,805,350
Other Contracts and Grants	\$7,322,368
Indirect Cost Recovery-C&G	\$8,408,250
Other Revenue and Support	\$742,989

Total Revenue

\$58,060,953

EXPENSES

Program Activities	
Sponsored Programs	\$41,751,641
Board Designated Programs	\$1,297,857
Campus Organization Expenditures	\$5,574,648
Support Activities-Management and General	\$8,596,282
Transfers to SJSU and Tower Foundation	\$1,000,000

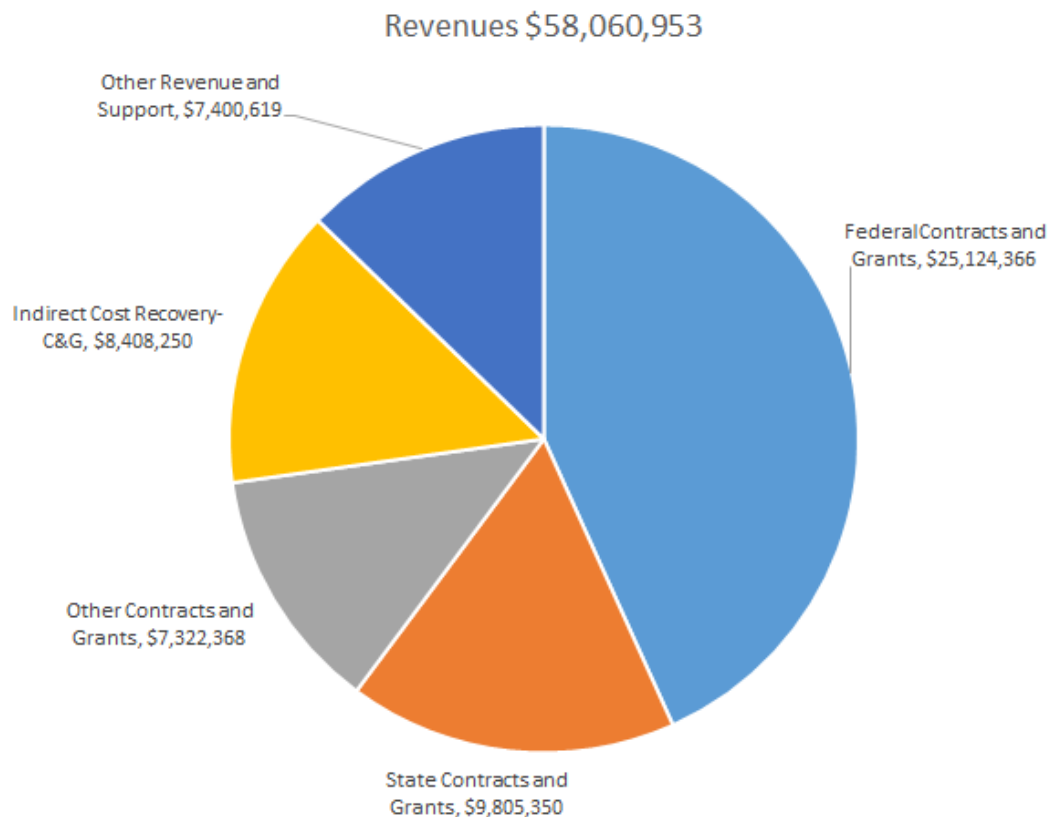
Total Expenses

\$58,220,428

CHANGE IN NET POSITION

\$ (159,475)

Net Position at beginning of year	\$16,954,278
Net Position at end of year	\$16,794,803



GRANTS AND CONTRACTS FISCAL YEAR 2019-20

College of Business

Dean's Office

Dan Moshavi and Karen E. Philbrick
National Summer Transportation Institute
Program FY2019
CA State, Dept of Transportation
\$6,600

Dan Moshavi and Karen E. Philbrick
MTC Leadership Academy Training
Metropolitan Transportation Commission
\$100,000

Dan Moshavi and Karen E. Philbrick
MTI Database on Terrorist and Serious Criminal
Attacks against Public Surface Transportation
U.S. Dept of Homeland Security
\$142,829

Dan Moshavi and Karen E. Philbrick
Mineta Consortium for Transportation
Mobility (MCTM)
Department of Transportation
\$1,420,000

Dan Moshavi and Karen E. Philbrick
CSUTC- California State University
Transportation Consortium - Senate
Bill 1 (CSU Lead Center) - Year 3
California State University System
\$2,000,000

Dan Moshavi and Karen E. Philbrick
Mineta Consortium for Transportation Mobility
(MCTM)
Department of Transportation
\$1,427,900

Dan Moshavi and Karen E. Philbrick and Hilary K. Nixon
Microtransit Pilot Evaluation
Google, Inc.
\$100,000

College of Education

Child & Adolescent Development

Robert Marx
The Trans Resilience Project: Understanding
Trans Youth Resilience in Communities of Color
Society for Research in Child Development
\$7,290

Communicative Disorders & Sciences

Wendy Quach and Pei-Tzu Tsai
Project Tapestry: Preparing Culturally
Competent Speech-Language Pathologists
to Deliver High Quality Services to Children
with Disabilities
Department of Education
\$250,000

Wendy Quach and June McCullough

Project EPICS - Educating Pacific Island
Clinicians in Speech
Department of Education
\$250,000

Wendy Quach

19th Biennial Conference of the International
Society for Augmentative and Alternative
Communication (ISAAC)
Oregon Health Sciences University
\$37,884

Education, Dean's Office

Heather Lattimer

Better Together: California Teacher Summit:
The California State University
CSU Fullerton
\$11,700

Special Education

Emily Slusser

Early Childhood STEM Education: Training
and Ambassador Program
Santa Clara Co Office of Ed
\$7,000

Teacher Education

Katya Aguilar

San Jose State University Single Subject Intern
Program 2019-2020
Milpitas Unified School District
\$80,542

Katya Aguilar

San Jose State University Single Subject Intern
Program 2020-2021
Milpitas Unified School District
\$80,535

College of Engineering

Dean's Office

Kacey Beddoes

Collaborative Research: Research:
Characterizing Engineering Student Mental
Wellness and Its Role in Predicting Attrition
National Science Foundation
\$174,001

Tina Panontin

Systems Engineering Subject Matter Expertise/
Research
Metis Flight Research Associates
\$152,707

Jinny Rhee and Blanca

Sanchez-Cruz

2017-2018 MESA Engineering Program
(MEP) @ SJSU
Regents of The Univ of California
\$10,000

Aerospace Engineering

Nikos Mourtos

Scan Drawings from Unitary Wing Tunnels
Jacobs, Inc.
\$30,911

Biomedical Engineering

Alessandro Bellofiore

A Comprehensive Testing Platform for
Mechanical Heart Valves to Propel Innovation
towards Anticoagulant-Independence
Dept of Health & Human Services
\$336,326

Guna Selvaduray

Homeowner's Guide to Earthquake Safety -
2020 Edition
Seismic Safety Commission
\$9,943

Chemical & Materials Engineering

Ozgur Keles, Birsen Sirkeci, Raymond Yee and David Yan

Acquisition of a Metal Additive Manufacturing
System for Multi-Disciplinary Research and
Education at a Minority-Serving Institution
National Science Foundation
\$326,960

Anand Ramasubramanian

Erythrocyte Biomechanics in Chronic Fatigue
Syndrome
Open Medicine Foundation
\$35,620

Civil & Environmental Engineering

Akthem Al-Manaseer

SJSU/CSULB Asphalt and Aggregates Research
and Certification
CSU, Long Beach Foundation
\$238,620

Computer Engineering

Jerry Gao

Smart City Research Project for Just Light
Technology, Inc.- Project #1
Just Light Technology
\$16,957

Jerry Gao

Smart City Research Project for Just Light
Technology, Inc.- Project #2
Just Light Technology
\$16,957

GRANTS AND CONTRACTS

Hyeran Jeon

NSF Student Travel Support for the 5th Career Workshop for Women and Minorities in Computer Architecture
National Science Foundation
\$16,000

Ronald Mak

Intelligent Systems Research and Development Support-3 (ISRDS-3)
KBR Wyle Services, LLC
\$50,012

Younghee Park and Xiao Su

SaTC: EDU: Collab: Enhancing Security Education through Transiting Research Integration on Security in Emerging Network
National Science Foundation
\$14,400

Electrical Engineering

Mohamed Badawy

Power Electronic Converters for Data Center Applications (48V to 12V DC-DC Converter)
Facebook, Inc.
\$119,299

Essam Marouf

Investigation of Saturn's Rings By Cassini Radio Occultation: Cassini Equinox Mission to Saturn
Jet Propulsion Laboratory
\$38,485

Hui Yung Wong

Chip Design for Self-Healing Electronics
NASA
\$50,000

Hui Yung Wong

Development of Low-Cost Graduate Course with Virtual Fab and Hands-on Circuit Lab Experience
North Carolina State University
\$49,585

Hui Yung Wong

Modeling and Simulation of MST
Atomera
\$27,520

Hui Yung Wong

Materials Modeling Research Project
Synopsys Inc.
\$30,000

Juzi Zhao

NeTS: Small: Collaborative Research: Design and Provisioning for Inter-Datacenter Multigranular Flexible Optical Networks
National Science Foundation
\$8,000

Industrial & Systems Engineering

Hongrui Liu

Proposal to Test/Research Market Clearing Systems For ISO New England
ISO New England
\$10,320

Mechanical Engineering

Fred Barez, Louis Freund, and Winifred Schultz-Krohn

Autonomous Vehicle (AV) and Mobility-as-a-Service (Maas)
Confidential Company
\$199,600

Farzan Kazemifar

Collaborative Research: Intermittency in Multi-Phase Flows in 2D and 3D Porous Media: Coordinated Experiments and Simulations
National Science Foundation
\$65,438

Farzan Kazemifar

A Review of Emerging Technologies and Methods for Carbon Sequestration
CA State, Air Resources Bd
\$25,000

Vimal Viswanathan

Collaborative Research: Fostering Engineering Creativity and Communication through Immediate, Personalized Feedback on 2D-Perspective Drawing
National Science Foundation
\$89,992

College of Health and Human Sciences

Justice Studies

Yue Wilson Yuan

San Jose Neighborhood Crime Survey: An Examination of the Relationship between Immigration and Victimization
Department of Justice
\$1,020,679

Kinesiology

Jennifer Schachner

Older Americans Act Funding - Title III D. Disease Prevention and Health Promotion Sourcewise Community Grant
Sourcewise
\$59,273

School of Social Work

Laurie Drabble

Sexual Orientation Differences: Prevalence & Correlates of Substance Use & Abuse
Public Health Institute
\$70,000

Laurie Drabble

Effects of Marriage Recognition on Substance Abuse and Health for Women
Public Health Institute
\$19,590

Peter Allen Lee

Title IV-E Child Welfare Training 2019-2020
UC, Berkeley
\$1,734,815

Peter Allen Lee

San Jose State University BASW Mental Health Scholarship Program (MHSP) 2019-2021
Santa Clara County
\$300,000

Peter Allen Lee

BHWET Integrated Behavioral Health MSW Stipend Program
UC, Berkeley
\$85,000

College of Humanities and the Arts

Art & Art History

Anne Simonson

Bay Area California Arts Project (BayCAP) 2019-2020 – CSMP/ESSA Federal Funds
Regents of the University of California
\$20,000

Dean's Office

Shannon Miller and Chris Burrill

Son Lunay Jovenes Zaparedores at the Hammer
Mid Atlantic Arts Foundation
\$4,000

Design

Diana Seah

New Generation Work Place and User-Experiences
Panasonic Industrial Sales Company of America
\$14,200

English & Comparative Literature

Selena Anderson

Center for Literary Arts Program Funding 2019-2020
City of San Jose
\$15,000

Revathi Krishnaswamy

Deep Humanities & Arts for Socially Responsible Technology
New England Foundation for the Arts
\$4,000

FISCAL YEAR 2019-20

Susan Shillinglaw

John Steinbeck: Social Critic and Ecologist
National Endowment for the Humanities
\$181,977

Roohi Vora and Jennifer K. Johnson

San Jose Area Writing Project 2019-2020 - CSMP/ESSA Federal Funds
Regents of The University of California
\$25,698

Roohi Vora

San Jose Area Writing Project 2019-2020 - CSMP
Regents of The University of California
\$32,185

Shannon Wright

The California Arts Project- CSMP 2017-2018
Regents of The University of California
\$5,000

Humanities

Victoria A. Rue

A West Coast Tour of the Play Maryam: A Woman of Bethlehem
Sam Mazza Foundation
\$7,500

Linguistics & Language Development

Roula Svorou and Chris Donlay

Documenting Domaaki (dmk), a Severely Endangered Indo-Aryan
National Science Foundation
\$17,887

School of Music and Dance

Heather Cooper

School of Music and Dance Presents Sean Dorsey Dance
New England Foundation for the Arts
\$4,000

College of Science

Dean's Office

Elaine D. Collins

SJSU MESA Schools Program - Downtown College Prep
Downtown College Prep
\$9,261

Elaine D. Collins

SJSU MESA Schools Program ESUHS
Agreement
East Side Union H.S. District
\$48,620

Elaine D. Collins

SJSU MESA SCHOOLS PROGRAM LCPA (Latino College Preparatory Academy) Agreement 19-20
Latino College Preparatory Academy
\$4,862

Elaine D. Collins

SJSU MESA SCHOOLS PROGRAM RCLA (Roberto Cruz Leadership Academy) Agreement 19-20
Roberto Cruz Learning Academy
\$4,862

Elaine D. Collins

SJSU MESA Schools Program - Bridges Academy (of Franklin McKinley School District)
Franklin-McKinley School Dist
\$4,631

Elaine D. Collins

SJSU MESA Schools Program ARUESD Agreement
Alum Rock Unified Elem School Dist
\$23,940

Elaine D. Collins

SJSU MESA Schools Program (MSP) Academic Year 2019-2020
Regents of The Univ of California
\$157,383

Elaine D. Collins

MESA College Prep Program for AY 2020-2021
Regents of The Univ of California
\$180,000

Michael J. Kaufman

Using the Astronomical Infrared Bands as Calibrated Probes of Astrophysical Conditions with the NASA Ames PAH IR
NASA
\$277,064

Michael J. Kaufman

An upGREAT Map in M20: [O] and [Cl] Emission from a Young Star Forming Region
University Space Research Association
\$19,700

Biological Sciences

Bree Grillo-Hill

Roles for Intracellular pH Dynamics in Cancer Cell Behaviors
U.S. Department of Health & Human Services
\$109,844

Cleber C. Ouverney

*MARC U*STAR at San José State University 2020-2021*
U.S. Department of Health & Human Services
\$275,484

Miri K. VanHoven

Olfactory Memory Acquisition Consolidation and Recall
UC, San Francisco
\$118,635

Miri K. VanHoven

The Effect of Sleep on Neural Circuit Connections
UC, San Francisco
\$191,516

Joseph Brandon White and Bree Grillo-Hill

Acquisition of SeaHorse XFe96 Instrumentation for Metabolomics Research Efforts at SJSU
Department of Defense
\$248,371

Katherine Wilkinson

Control of Muscle Proprioceptor Sensitivity
Department of Health & Human Services
\$108,375

Chemistry

David Brook Jr

RUI: Switchable Molecules and Materials Through Coordination of Verdazyl Radicals
National Science Foundation
\$310,000

David Brook Jr, Madalyn Radlauer, Abraham Wolcott and Christopher Smallwood

Acquisition of an X-ray Diffractometer for Research and Teaching in the Physical Sciences
Department of Defense
\$218,432

Lionel Cheruzel

RUI: Light-Driven Selective Chemoenzymatic C-H Functionalization
National Science Foundation
\$86,078

Madalyn Radlauer, Chester Simocko and Melanie A. McNeil

MRI: Acquisition of Gel Permeation Chromatograph with Multiple Detectors to Expand Capabilities for Macromolecular Characterization
National Science Foundation
\$116,295

Madalyn Radlauer

Metallopolymers as Functional Metalloprotein Mimics with Secondary Coordination Sphere Interactions
U.S. Department of Health & Human Services
\$439,458

Alberto A. Rascon Jr.

Vector Control Strategy Through Inhibition of Aedes aegypti Midgut Proteases
U.S. Department of Health & Human Services
\$100,414

Karen A. Singmaster

CSU SJSU LSAMP Program 2018-2021
CSU, Sacramento
\$20,000

GRANTS AND CONTRACTS

Karen A. Singmaster

CSU SJSU LSAMP Program 2018-2021
CSU, Sacramento
\$40,000

Karen A. Singmaster, Clever C. Ouverney and Alberto A. Rascon Jr.

San Jose State University Rise Program
Department of Health & Human Services
\$563,811

Annalise L. Van Wyngarden

Undergraduate Summer School in Nuclear and Radiochemistry
University of Missouri
\$35,000

Ningkun Wang

Intramolecular Allosteric Regulation of SIRT1 Deacetylase Activity by the N-terminal Domain
U.S. Department of Health & Human Services
\$138,960

Abraham Wolcott

Fluorescent Enhancement of the Nitrogen Vacancy Center in Nanoscale Diamond for Bioimaging Applications
U.S. Department of Health & Human Services
\$108,375

Abraham Wolcott

Fundamental Surface Science of Nanoscale Diamond and their Interaction with Biological Surfaces
Department of Defense
\$20,000

Geology

Robert B. Miller

EDMAP: Construction and Structure of Major Cretaceous Intrusive Suites, Lake Alpine Area, North-Central Sierra Nevada, California
Department of Interior
\$17,471

Carlie Pietsch

Collaborative Research: Mass Extinction Ecological Response and Recovery in the Cretaceous/Paleogene Gulf Coastal Plain
National Science Foundation
\$175,988

Meteorology & Climate Science

Patrick Brown

Large Spatial-Scale Droughts in Wind and Solar Energy Resources and their Relation to Temperature-Related Floods in Energy Demand
Carnegie Institute of Science
\$95,000

Sen Chiao

Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District
Santa Clara Valley Water District
\$24,962

Sen Chiao

The NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology
Howard University
\$100,000

Craig B. Clements

Collaborative Proposal: Sundowner Winds Experiment in Santa Barbara, CA (SWEX)
National Science Foundation
\$185,089

Craig B. Clements

Plume Dynamics and Meteorology Support for the Fishlake National
U.S. Forest Service
\$60,909

Craig B. Clements

Meteorology and Climate Science Modeling
San Diego Gas & Electric
\$553,431

Craig B. Clements, Sen Chiao, and Patrick Brown

Analyze 30 YR Climatology 2KM WRF Model (2047625)
Pacific Gas & Electric Company
\$379,007

Minghui Diao and Sen Chiao

ROSES-2015/Health and Air Quality Applied Sciences Team
NASA
\$125,000

Mathematics & Statistics

Roger C. Alperin

EFRI-ODISSEI: Origami and Assembly Techniques for Human-Tissue-Engineering (OATH)
Northeastern University
\$5,000

Guangliang Chen

Finite Rank Kernels
Intuit Inc.
\$27,791

Dashiell Fryer and Yan Zhang

Game-Theory Research for Blockchain Rewards
Ethereum Foundation
\$100,000

Tim Hsu and Marion Campisi

Closing Equity and Access Gaps in Discrete Mathematics
State of California
\$100,000

Jordan Schettler

Undergraduate Research Groups in the CSU Alliance for PUMP: Preparing Undergraduates through Mentoring toward PhDs
National Science Foundation
\$316,449

Julie S. Spitzer, Jordan Schettler and Cheryl D. Roddick

Santa Clara Valley Mathematics Project (CSMP - State)
Regents of The University of California
\$20,000

Julie S. Spitzer, Jordan Schettler and Cheryl D. Roddick

Santa Clara Valley Mathematics Project 19-20 (ESSA federal funds)
Regents of The University of California
\$24,223

Liam Stanton

Electronic Transport in High Energy-Density Matter
Michigan State University
\$16,035

Liam Stanton

Continuum Modeling of Cellular Membranes and Oncogenic Proteins
Lawrence Livermore National Laboratory
\$166,534

Yan Zhang and Dashiell Fryer

Proof-of-Custody Game Extensions for Ethereum 2.0 Beacon Chain
Ethereum Foundation
\$25,000

SJSU Moss Landing Marine Labs

Holly A. Bowers and Jason G. Smith

Advancing Portable Detection Capabilities of Harmful Algal Bloom Species in California Waters
University of Southern California
\$80,988

Dustin Carroll

ECCO-Darwin Model Exploration of Physical and Biogeochemical Interactions in the Land-Sea Continuum
Jet Propulsion Laboratory
\$135,648

Ross P. Clark

Developing Riparian Management Goals through Validation of Assessment Tools
Environmental Protection Agency
\$249,286

Ross P. Clark

Conservation Innovation Grant (USDA) Project
Resource Conservation District of Monterey County
\$77,701

FISCAL YEAR 2019-20

Ross P. Clark

RCD 319h Bioreactors
Resource Conservation District of
Monterey County
\$75,000

Ross P. Clark

Planning for Predicted Sea Level Rise
Within the Salinas Valley
Coastal Conservation & Research
\$144,791

Ross P. Clark and Kevin C. O'Connor

A Framework for Condition Assessment and
Monitoring of Estuary MPAs in California
CA Natural Resources Agency
\$1,037,219

**Thomas Connolly, Kenneth Coale and
Jason G. Smith**

CeNCOOS: Long-Term Monitoring of
Environmental Conditions in Support of Marine
Area Management in Central & Northern CA
Monterey Bay Aquarium Res Institute
\$61,000

Colleen A. Durkin

Linking Sinking Particle Chemistry and Biology
w/Changes in the Magnitude and Efficiency of
Carbon Export into Deep Ocean
Skidmore College
\$72,473

Luke Gardner

White Abalone Restoration Research and
Production
Department of Commerce
\$52,609

**Luke Gardner, Scott L. Hamilton and
Michael Graham**

Development of Rock Scallop Hatchery for
California's Aquaculture Industry
Pacific States Marine Fisheries
\$123,000

Jonathan B. Geller

ARI System: The Genomics of Pesticide
Remediating Microbes Relevant to Agricultural
Specialty Crops Grown on California's Central
Coast
CSU, Monterey Bay
\$10,996

Michael Graham

MLML15 Tank Setup & Seaweed Growth Testing
Google, Inc.
\$3,000

Michael Graham and Scott L. Hamilton

Trainee Support - Solving Impediments to the
Co-Culture of Seaweeds and Shellfish
UC, San Diego
\$3,600

Maxime Grand

Collaborative Research: Automated Nutrient
and Trace Metal Determinations based on
Programmable Flow Injection
National Science Foundation
\$467,624

Scott L. Hamilton

Validating Age and Growth of Captive Fishes
from Mexican Waters at the Monterey Bay
Aquarium
Monterey Bay Aquarium
\$9,926

Scott L. Hamilton and Michael Graham

Development of Techniques for the Cultivation
of Monkeyface Pricklebacks as a Sustainable
Alternative to Unagi
UC San Diego
\$50,847

Scott L. Hamilton

CA Sea Grant Fellowship (Katherine Neylan):
Eat Your Greens: Evaluating Microalgae
Supplemented Feeds for Sablefish Nutrition and
Growth
UC, San Diego
\$39,925

Scott L. Hamilton

California Collaborative Fisheries Research
Program North and South Coast Monitoring
CA State, Department of Fish & Wildlife
\$310,000

James Harvey and Scott Benson

Upwell Turtles Contract
Upwell Turtleless
\$116,315

James Harvey

Estuarine Wetland and Nearshore Ecology
Studies along the Pacific Flyway
Department of Interior
\$80,000

James Harvey and Murray Stein

Research Vessel Use for Monthly Water Sampling
Applied Marine Sciences, Inc.
\$20,000

James Harvey and Jonathan Mike Prince

Auxiliary General Purpose Oceanographic
Research (AGOR) Support Services
Office of Naval Research
\$180,722

Wesley A. Heim

Lake Hodges Fish Collection
City of San Diego
\$24,999

Wesley A. Heim and Autumn L. Bonnema

Contract No: 1287 - San Francisco Estuary
Institute/Aquatic
San Francisco Estuary Institute
\$236,754

Brigitte McDonald

Surface Water Ambient Monitoring Program
(SWAMP) Bioassessment Field Work for
up to 9 Sites
CSU, Chico
\$59,000

Brigitte McDonald

At-Sea Experimental Disturbances to
Characterize Physiological Plasticity in Diving
Northern Elephant Seals
National Science Foundation
\$118,880

Brigitte McDonald

Support for California Sea Lion Unusual
Mortality Event
UC, Davis
\$52,372

Brigitte McDonald

Enhancing Stranding Response in Central
California through Advanced Training &
Improved Public Outreach
UC, Santa Cruz
\$26,677

Brigitte McDonald

Support for California Sea Lion Unusual
Mortality Event
UC, Davis
\$84,420

Zachariah Peery

Developing a Scientific Basis for Barred Owl and
Northern Spotted Owl Management in the
Coastal Redwood Region of California
CA State, Department of Fish & Wildlife
\$274,645

Zachariah Peery

Effectiveness and Optimization of Forest Fuels
Reductions for Biodiversity Conservation in a
Changing Sierra Nevada
California Department of Forestry & Fire
\$250,113

Marco A. Sigala

Bioassessment Studies to Monitor Stream
Health and Response
Sierra Pacific Industries
\$276,889

Marco A. Sigala

Transfer and Restore the CCAMP Wiki Server and
Data Navigator at Moss Landing Marine Labs
Bay Foundation of Morro Bay
\$20,590

GRANTS AND CONTRACTS

Marco A. Sigala

National Coastal Condition Assessment (NCCA) 2020
Great Lakes Environmental Center
\$217,618

Jason G. Smith

The Alliance for Coastal Technologies (ACT):
National-Scale Efforts Toward Verification and Validation of Observing
University of Maryland Center for Environmental Science
\$90,000

Timothy P. Stanton

Ice Shelf Ocean Cavity Instrumentation
Jet Propulsion Laboratory
\$15,174

Timothy P. Stanton

Long Term Observations of Inertial Waves and Turbulent Diffusivity in the Upper Pycnocline of the Beaufort and Chukchi Seas
Office of Naval Research
\$41,656

Timothy P. Stanton

Deliver Acoustic Current Meter (ACM)
Instrument for IceNode
Jet Propulsion Laboratory
\$21,422

Timothy P. Stanton

Long Term Observation of Upper Ocean Fluxes and Pycnocline Diffusivity the Canada Basin
Office of Naval Research
\$201,422

Richard M. Starr

Subaward from CSUMB - James Lindholm
Contract with Navy
CSU, Monterey Bay
\$12,900

Alison Stimpert

Soundscape Characterization in the National Marine Sanctuaries using Passive Acoustic Monitoring
Naval Postgraduate School
\$100,000

Edward Thornton

Coastal Land-Air-Sea Interaction - Thornton Portion
Office of Naval Research
\$39,500

Nicholas A. Welshmeyer

PIA- Evoqua Ballast Project
California Maritime Academy
\$94,614

Nicholas A. Welshmeyer

DNV GL Kurita Ballast Project
California Maritime Academy
\$10,000

Mark Yarbrough

Marine Optical Buoy (MOBY) Operations and Technology Refresh
University of Miami
\$4,354,987

Jenifer Zeligs

Investigating Sea Lion Locomotion
West Chester University
\$15,000

Physics & Astronomy

Alejandro L. Garcia

Hybrid Models and Algorithms
Lawrence Berkeley National Laboratories
\$365,435

Hilary Hurst and Ehsan Khatami

QLCI-CG: The Open Quantum Frontier Institute
Colorado School of Mines
\$27,608

Thomas Madura

Eta Carinae: Taking the Plunge
Space Telescope Science Institute
\$26,524

Cassandra A. Paul, Tammie Visintainer,

Marcos Pizarro and Katherine Wilkinson

Transforming Undergraduate Teaching and Learning Through Culturally Sustaining, Active, and Asset-Based Approaches to Introductory Science Courses
National Science Foundation
\$1,699,743

Gina Quan

Collaborative Research: Expanding Access: Furthering a Network of Diversity Focused Programs in the Physical Sciences
University of Colorado, Boulder
\$30,715

Christopher Smallwood

RUI: Coherent Spectroscopy of Defects in Solids
National Science Foundation
\$328,216

College of Social Sciences

Communication Studies

Matthew Spangler

The Immigrant Experience in California through Literature and History
Nat'l Endowment for the Humanities
\$155,203

Ching Ching Tan

Business Office Intern [Kimmy Dinh]
Jacobs, Inc.
\$35,767

Environmental Studies

Katherine Kao Cushing

CommUniverCity: Community Services Program 19-20
City of San José
\$50,000

Katherine Kao Cushing and Jason DeHaan

Public Litter Can Usage
City of San José
\$23,099

Katherine Kao Cushing

CommUniverCity: Community Leadership Program FY 19-20
City of San José
\$135,000

Katherine Kao Cushing, Richard Kos and Jason Su

Cultivating a Community-Owned Vision for East San Jose Neighborhoods
City of San José
\$53,000

Bruce Olszewski

CDR San Mateo County Recycling/Reuse Website
San Mateo County
\$75,000

Bruce Olszewski

Recycling and HHW Hotline/Website
Santa Clara County
\$152,000

Political Science

Frances Edwards

ICS Training for Field Level TTT Workshops
The National Academy of Sciences
\$300,000

Psychology

Alan Hobbs

San Francisco Bar Pilot Fatigue Study
Board of Pilot Commissioners
\$75,000

Sean P. Laraway

Human Systems Integration: Collaborative Human Factors Research to Improve Safety, Efficiency, and Reliability of NASA's Aeronautics and Space Missions
NASA
\$20,725,485

Sean P. Laraway

Test Subject Recruitment Office
ASRC Federal
\$138,346

Sean P. Laraway

Test Subject Recruitment Office Task 7
ASRC Federal
\$293,837

David Schuster

CAREER: Understanding the Cognitive Processes of Computer Network Defense
National Science Foundation
\$117,660

Susan M. Snycerski

Advanced Rotorcraft Research: Adaptive Autonomy, Future Lift Systems, and Human-Centered Display Design
NASA
\$326,578

Susan M. Snycerski

Implementing Macroergonomics for Increasing the Safe, Effective, and Efficient Operation of the Entry Systems and Technology Division's High Enthalpy Facilities
NASA
\$226,000

Susan M. Snycerski

Future Vertical Lift: Collaborative Research on Flight Control, Autonomous Rotorcraft, and Human-Systems Interface Design
NASA
\$1,450,280

Urban & Regional Planning

Laxmi Ramasubramanian

Conferences: Training and Retaining Leaders in STEM Geospatial Sciences
University of Maine
\$10,636

University Programs

Associated Students

Heather Vise

CCAMPIS - Child Care Access Means Parents in School
U.S. Department of Education
\$512,310

Career Center

Catherine Voss Plaxton and Anita Manuel

Badge to Hire
Education Design Lab
\$50,000

Catherine Voss Plaxton

California Complete Count – Census 2020
California State University System
\$17,281

Curriculum and Assessment

Elena Klaw and Andrea Tully

AmeriCorps Civic Engagement (ACE) Fellows at San Jose State University
California Volunteers
\$75,000

Provost's Office

Maria E. Cruz

ASPIRE (Student Support Services) - San Jose State University
Department of Education
\$492,537

Maria E. Cruz

The Ronald E. McNair Postbaccalaureate Achievement Program
Department of Education
\$279,485

Student Affairs Counseling Services

Wei-Chien Lee

Outcome Study of the Garrett Lee Smith (GLS) Campus Suicide Prevention Grant
Dept of Health & Human Services
\$96,610

University Library

Emily K. Chan and Lili Luo

National Forum on the Assessment of Scholarly Communication
CSU, Sacramento
\$11,970

Office Of Research

Mohamed Abousalem

The City of San Jose 2019 Resident Survey - SJSU
Silicon Valley Community Foundation
\$13,134

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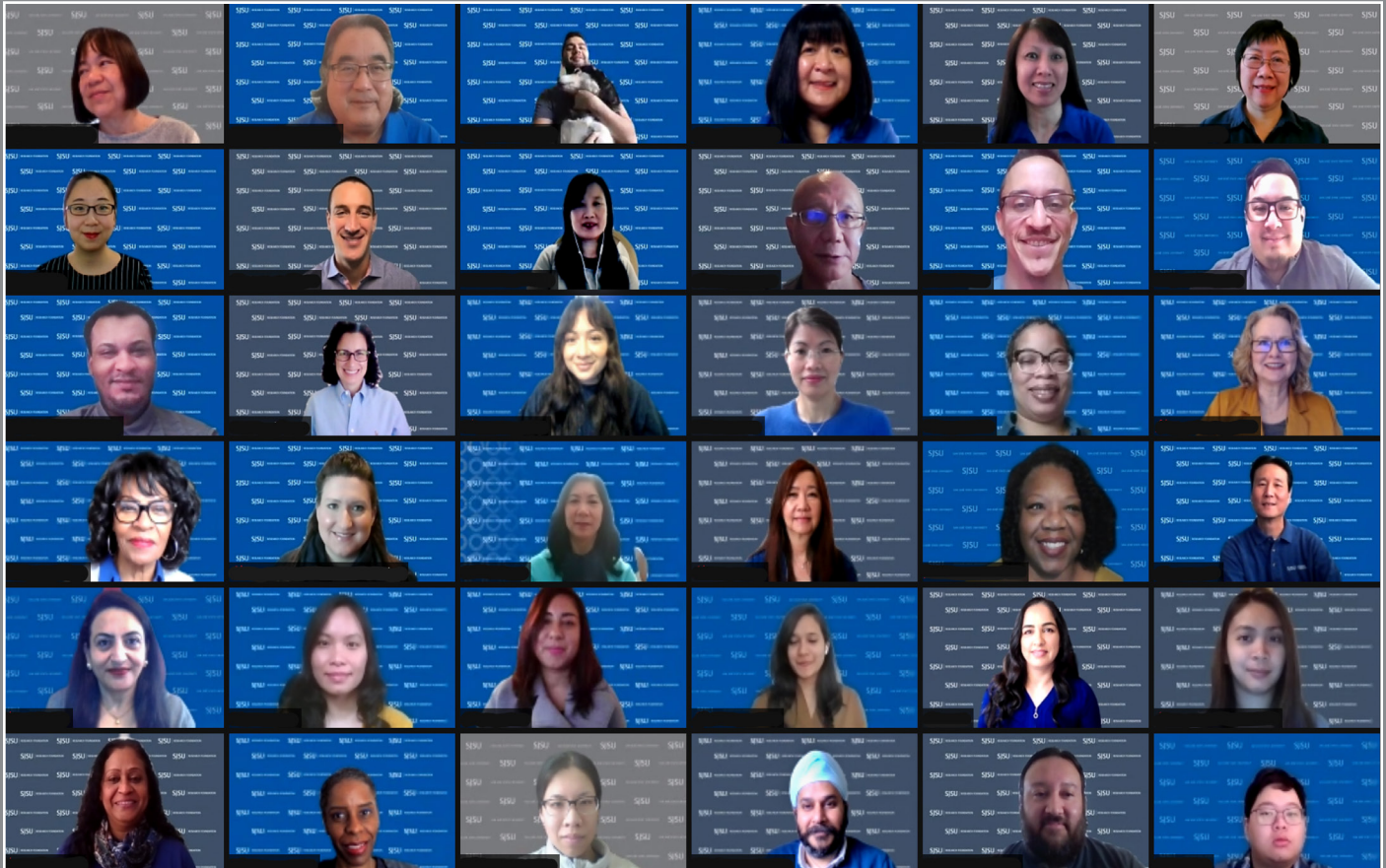
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