

# engineering

at San José State

## TRAILBLAZERS OF ENGINEERING

How the women of SJSU have been shaping the future

### A New Way to Approach ByPass Surgery

### Behind the Scenes of COE

Patrick Joice and Roger Jue:  
The Human Engines Supporting  
Engineering

### Tip of the SPEAR Spartan Engineering Club Pursues New Rocket Technology

A More Efficient Means for Future  
Space Exploration



**AS A UNIVERSITY SITTING IN THE HEART**

of Silicon Valley, San José State University has played an important part in making this high tech tech region one of the most innovative areas in the world. We are proudly a regional university with global impact.

SJSU sends over 1,800 engineers into the workforce every year, providing more engineers to Silicon Valley companies than any other university. Our students are creative, resilient and resourceful. They bring their lived experience to our classrooms, labs and project courses. Many students are the first in their families to attend college, many are immigrants, many are self-financing their education, and some are all of the above. The combination of lived experience and experiential learning through our hands-on curriculum is powerful. Our students are well known for their smooth transitions to the workplace and graduate school, and our alumni stand out in their success.

With the growth of our research enterprise, our faculty and students are contributing increasingly to knowledge generation and innovation. Challenges such as climate change and health inequity are best addressed by teams that include those most directly impacted. Emerging technologies such as artificial intelligence are best developed by teams that also include those who would directly benefit by the use of these technologies. Now, more than ever before, we have the right engineers, at the right place, at the right time.



**“Our students are well known for their smooth transitions to the workplace and graduate school...”**

Sincerely,

**Dean Sheryl Ehrman**

*Don Beall Dean of Engineering,  
Charles W. Davidson College of Engineering  
at San José State University*



# In This Issue

- 4** College News
- 5** A New Way to Approach ByPass Surgery
- 6** Trailblazers of Engineering
- 8** Behind the Scenes of COE
- 10** New Rocket Technology
- 11** Black Engineer Week Recap
- 12** Balancing Engineering and Athletics
- 12** Cube3 Satellite
- 13** Events
- 14** Alumni Notes
- 15** In Memoriam



5



6



8



10

## NSF AWARDS

Congratulations to Assistant Professor **Kaikai Liu** and Associate Professor **Wencen Wu** from Computer Engineering!

Recently awarded a National Science Foundation (NSF) grant to be utilized in the area of artificial intelligence (AI). The AI research would ultimately decrease the number of accidents in intersections.

Today, 40 percent of all traffic accidents occur at intersections.

The grant is part of the NSF's new investment of over \$37 million aimed at the development of intelligent, resilient, and reliable next-generation – or NextG – networks. Their research will focus on the NSF's RINGS project, which is short for Resilient and Intelligent Next-Generation Systems. SJSU is working alongside MIT, Princeton, UCLA, Yale, Apple, Google, Intel, Microsoft and Nokia on this research.



Congratulations to Assistant Professor **Farzan Kazemifar** and **Crystal Han**

from Mechanical Engineering, and

**Anil Kumar** from Industrial and Systems Engineering! They recently received \$1.4 million in federal grant funding from the U.S. Department of Energy (DOE) Advanced Manufacturing Program.

The funding is part of the DOE's allocation of \$7 million in funding from the Biden Administration's Bipartisan Infrastructure Law to expand the Industrial Assessment Center (IAC) program, described in a DOE press release as "a cohort of colleges and universities across the country that help small and medium-sized manufacturers save energy, improve productivity, and reduce waste by providing no-cost technical assessments." The award will enable participating faculty and students to play a substantive technical role in Silicon Valley's green energy arena.



Congratulations to **Dr. Amirkulova** for receiving her new Guidry Family Faculty Teaching Fellow appointment! With her new appointment, she plans to engage students' learning in the areas of conducting sound and vibration measurements, and hands-on experiences using simulations. Dr. Amirkulova plans to develop laboratory instructional materials and implement hands-on activities for ME149: Engineering Acoustics and ME231: Machine Learning and Optimization in Mechanical Engineering courses. The module implemented using the state-of-the-art BK Connect and COMSOL MultiPhysics software will provide world-class education and hands-on experiences enabling students to become leaders in Silicon Valley and beyond.

Exposure and knowing how to use these tools, prepare students to be professional learners, provide better job opportunities and contribute to student success. These tools are widely used in industry worldwide, e.g. Apple, NASA, Toyota, and Airbus use these tools to build their products. The module and tools developed will be shared between faculty in the CoE and Audiology department and local companies such as Jabil, Isuniye, etc.



Congratulations to Assistant Professor **Stas Tiomkin** from Computer Engineering for receiving the Quantum Corporation Faculty Teaching

Fellow Award! He plans to use the award to help design an interdisciplinary platform for teaching engineering students. The platform will include elements of artificial intelligence, network, and hardware devices. The goal is to introduce students to the design of Perception-Action Cycle in real robotic systems with sensors, actuators, and 'brain', which is a prototype of many intelligent systems.

His professional interests include automatic speech recognition, artificial intelligence, text-to-speech synthesis, language modeling, speech processing and enhancement, human-machine collaboration, robotics, structured deep learning, and information theory granting him extensive experience in academia and the industry.





# A New Way to Approach Bypass Surgery

## **PATRICK JURNEY, ASSISTANT PROFESSOR AT**

SJSU College of Engineering teaches courses in the foundation of biomedical engineering, transport phenomena, conservation and equations.

Professor Journey's background began in mechanical engineering, fluid dynamics and nanoparticle transport, but after a decade he found himself wanting to do work more closely related to the medical field. He eventually moved into the biomaterial space, designing biomaterials that better integrate with the human body and could be used to help treat patients.

In 2017, Professor Journey started his postdoc at Oklahoma State University where he was able to bring his understanding of biomaterial, how it interacts with the cells in the body and come up with solutions that are designed to prevent the need to use a pharmacological approach to patient treatment. Taking this approach, Professor Journey and his team saw an opportunity to look at alternative treatments or replacement materials for coronary bypass surgery rather than harvesting

an artery from the lower extremities of the body. Professor Journey and his team of graduate (Orion Capuyon, Christian Leycam, and Gabriela Acevedo Munares) and undergraduate (Ammar Babiker, Juliette Noyer) students are engineering biomaterials to integrate into the cardiovascular system at the cellular level.

“Arteries are vessels in the body that supply all nutrients to the heart,” said Professor Journey. “When these vessels get blocked it becomes more difficult to continue to supply valuable nutrients to the heart. This is the number one cause that requires the need for bypass surgery.” About 300,000 people receive coronary bypass surgery every year in the United States.

Understanding the effects of biomaterial characteristics on the behavior of human cells allows for the engineering of better replacement tissues. The hope is to design next-generation vascular grafts that seamlessly integrate with the patient's existing vasculature over time, making them last longer and perform better.

# TRAILBLAZERS OF ENGINEERING

For more than 75 years SJSU's College of Engineering has been home to some of the most inspiring engineers in the nation. From trailblazers who have broken down barriers to those paving the way for future generations, these women are empowering others through their work in STEM fields. They are setting the example that anyone can pursue a successful career in engineering, no matter their background or gender identity.

1949



### ADA LOU REED DUACSEK

SJSU's first female graduate with an Aviation degree. She learned to fly a plane before she learned how to drive a car. She served in the Navy and volunteered over 5,000 hours for the Navy Marine Corps Relief Society after she retired.

1954



### JEAN CROOK

Lockheed Martin / NASA

The first female engineer graduated from SJSU, Jean Crook grew up in a tent, on an oil field in Texas and then eventually moved to San José. After graduating from SJSU, she had a challenging time finding a job as an engineer in a male-dominated field. During interviews for engineering positions, Jean was often asked if she would like to be a secretary instead. Jean's perseverance ultimately prevailed and her hard work landed her a position at Lockheed Missiles and Space Company. During the early years of the space program, Jean contributed to several projects including Project Mercury, the first human space flight program.

1965



### JANE EVANS

The first female to graduate with an Electrical Engineering degree and was the first female member of the SJSU chapter of Tau Beta Pi. After graduation she joined Hewlett-Packard, where she worked in extremely high-tech areas until she retired in 1990. Jane devoted considerable energy to promoting SJSU and young female engineers through her leadership roles with the Institute of Electronics and Electrical Engineers (IEEE) and Society of Women Engineers (SWE). "My great joy and delight is the work that I do with young women," she said "to encourage them to study engineering and encourage them in their careers in engineering."

1978

### THE SOCIETY OF WOMEN ENGINEERS (SWE)

was established at SJSU to empower women to reach their fullest potential as engineers and leaders. Now 200 members strong, they are tackling the STEM gender gap through professional development, community building, and STEM outreach. SWE members organize and run the WOW That's Engineering 2-day conference for high school students and SWE++ a 10-week computer science program for middle school girls.

1987





### SJSU CHAPTER OF WOMEN IN AVIATION

promotes relationships with the aviation industry, mentors students seeking aviation-related careers, promotes women in the aviation industry, and outreach to younger generations.



### BETA UPSILON CHAPTER OF ALPHA OMEGA EPSILON

Established at SJSU as a professional and social sorority for women in engineering and technical science majors. We promote friendship, leadership, and professionalism to all members of our organization, to our community, and our professions.

2007

2002

### BELLE WEI

The first female dean at SJSU at a time when only 4% of deans were female across the country. Her advice to the next generation of female engineers is: "Don't be naive about barriers, but focus on possibilities. Engineers have the mindset of solving problems with a can-do attitude. Roll up your sleeves and solve the problems."



### BELLE WEI

The first female Electrical Engineering professor, 40 years after the program was established. Her research specialties included: arithmetic circuits, data compression units, and routing blocks.

2015



2017

photo credit: © David Schmitz Photography

### SILICON VALLEY WOMEN IN ENGINEERING (WIE) CONFERENCE

Established with the support of the Mark and Carolyn Guidry Women in Engineering Program fund, this annual conference hosts 450 women from 35 campuses around the state. Students interact with women engineering leaders and all women involved have a really transformative experience.

# Behind the Scenes of COE

## *Patrick Joice and Roger Jue: The Human Engines Supporting Engineering*

### **PATRICK JOICE AND ROGER JUE HAVE WORKED**

for the College of Engineering for over a decade building, calibrating, and keeping existing systems going. If you are a recent alumni, current student, faculty or staff member, chances are highly likely that you have crossed paths with them at the College of Engineering.

Patrick Joice grew up on a ranch located in South San José. “At an early age I learned how to fix things and the ranch is also where I got some of my initial welding experience,” said Patrick. After high school Patrick joined the military where he went into the navy and expanded his welding skills working on ships. After the Navy he took a position at a sheet metal business building prototypes prior to taking a position at SJSU in the Civil and Environmental Engineering department.

Roger Jue is also a local Bay Area native who was born and raised in Oakland, CA and after finishing high school became a local ironworker. Roger then attended and graduated from SJSU College of Engineering ('08, B.S. Industrial Studies). A few years after graduating from SJSU, he started working for the College of Engineering.



In a recent tour with Patrick and Roger in tow, they provided a crash course in water flow test, dam run off control and concrete engineering. Engineering 141 - Senior projects and wind tunnel testing.

### **The Lost Waterways of Engineering 141**

Looking at the inside of engineering lab 141, you might never guess that there are water canals underneath the floor. These water canals have not been used in years, but used to pump water throughout the labs on the first floor. The water supply enabled friction apparatus pumps with 4 different tanks for testing fluid dynamic flow and velocity of materials. The waterways exit lab 141 into a huge underground reservoir located under the courtyard and then continues to what is now, non-functioning, pumping equipment in the same area. All of the older water testing machines were removed from the labs to create space and to make room for more modern equipment.



### **Cement Canoes That Do Not Sink**

In the courtyard of the College of Engineering there are cement canoes that were used to compete in water races. But in looking at these cement constructed boats, you have to wonder, how? When the floating capabilities of the canoes were questioned, Patrick and Roger pointed out that mixed along with the cement are what appeared to be tiny, foam pellets that made the cement material lighter and gave it a buoyancy property.

### **Secret Pathway Between Labs**

If you used lab 141 in the past and you blinked, you probably missed the fact that there is a door that leads directly to engineering lab 135. Upon opening

the door you enter a closet with another door that immediately has you appearing in the Automatic Control Systems Laboratory, lab 135. The layer of dust on the floor was evidence that this pathway has not been used in years.

Between the two of them, Patrick and Roger have accumulated almost 3 decades of service to the College of Engineering. Their hard work has created an environment that has enabled student success through making equipment and facilities functional, and has allowed students to complete significant projects towards earning their degrees.

***Between the two of them, Patrick and Roger have accumulated almost 3 decades of service to the College of Engineering.***



# Tip of the SPEAR Spartan Engineering Club Pursues New Rocket Technology

*A More Efficient Means for Future Space Exploration*

## AT THE INTERSECTION OF SPACE EXPLORATION

and rocket technology there is a need to switch from decades old solid rockets that waste fuel, to developing liquid bi-propellant rocket engines that can regulate the amount of propellant being used to increase the travel distance and payload. This will increasingly become more important as space agencies focus on future missions to mars or ones beyond our solar system.

The Spartan Engineering in Advanced Rocketry (SPEAR) club at San José State University is currently working on designing a regeneratively cooled state-of-the-art liquid bi-propellant rocket engine with a nominal thrust of 1,100 pound-force or 5 kilonewton that is expected to carry more weight. The intention is to utilize a 3D metal printer to create the necessary parts of the rocket which will consist of an optimized combustion chamber, nozzle, regenerative cooling jacket, and an injector.

“In essence you take a can, load it up with fuel and it takes off, which has very little control over combustion while a rocket is in flight.”, said Tanav Ohal, President of the SPEAR club. “But with the new liquid bi-propellant technology you are able to throttle it, control how much power you put into the engine, and are better able to manage turning the engine on and off.”

Engineering colleges across the country are racing to develop this new technology, but it doesn't stop there. SPEAR members involved in this project will be well equipped with designing, building and testing, all which can be applied to industry after graduation.



“We are aiming to complete an engine static fire by the end of this calendar year,” Tanav added. “To launch a liquid rocket up to 10 km or a little over 6 miles in space will require developing a combined propellant system/vehicle structure and a liquid rocket engine optimized for flight conditions.”

The SPEAR club is currently receiving funds through the SJSU College of Engineering which support building rocket test stands, 3D printing injectors, and engines. The grant received from the college helps support a community of students working to advance rocket science. Additional support could be used to purchase raw materials, manufacturing services, or advanced components for high performance applications.

After the year 2000, space industry leaders such as NASA, SpaceX, and Rocket Lab switched to newer technology. Developing and designing rocket engines is not a course you can take in college. Working on the bi-propellant rocket project through the SPEAR club, students gain important technical knowledge they can bring to industry, make worthwhile contributions, and provide innovative solutions to the space industry. Advanced rocket engine systems will move the needle for space exploration that will benefit mankind.

# Black Engineer Week

*Closing the Digital Divide in Silicon Valley and Beyond*

## BLACK ENGINEER WEEK (BEW)

aims to bring African American Engineers to the forefront and foster connections amongst the engineering community. Historically, African American engineers have been under-represented in Silicon Valley, one of the richest areas in the world.

To this end, BEW focuses on increasing the number of African American engineers in Silicon Valley by connecting engineering students with professionals in an effort to cultivate relationships, foster internship opportunities, and provide pathways to become engineers.

In June of 2022, BEW event organizers held the 2nd annual, multi-day gathering to encourage the objectives mentioned above. Some of the events that were held included: A speed networking event at LinkedIn, a golf event followed by presentations from African American individuals representing universities around



the nation, and onsite meetings hosted by prominent Silicon Valley companies.

At the heart of the event stands Assistant Professor Folarin Erogbogbo from the SJSU College of Engineering Biomedical department. Professor Erogbogbo believes BEW is significant because it initiates and broadens the social network of both experienced engineers and those just getting started in their careers. BEW also stimulates learning, hiring, and

mentorship opportunities through meaningful activities at the event and beyond.

“To whom much is given, much is required, are words that stayed with me since being an undergraduate,” said Professor Folarin Erogbogbo. “Black Engineer Week is about bringing people together and creating a sense of community.”

SJSU College of Engineering, Braven, BASE and the University Career Center were all supporters of the event. There were also Silicon Valley companies that sponsored the event which included: Jabil, LinkedIn, Lucid, and Synopsys to name a few.

The next BEW event will be held from June 17 through June 24, 2023.

**“Black Engineer Week is about bringing people together and creating a sense of community.”**

—Professor Folarin Erogbogbo

## Balancing Engineering and Athletics

It can be challenging to find equilibrium between academics and athletics at the college level. This is a conundrum that students at the Charles W. Davidson College of Engineering don't mind taking on.

Shoutout to engineering student athletes **Karizma Bergesen, Caroline Bowman, Ela Freiman, Matheu Johnson, Malia Luna, Reagan Mathieson, and Juliette Noyer** for being recognized as All-Mountain West Honorees! To earn Academic All-Mountain West recognition, a student-athlete must complete at least one semester, maintain a 3.00 or better cumulative GPA, and participate in at least 50 percent of the contests for the season. Sports recognized include men's and women's cross country, football, women's soccer and women's volleyball. 85 Spartans were named Mountain West honorees.



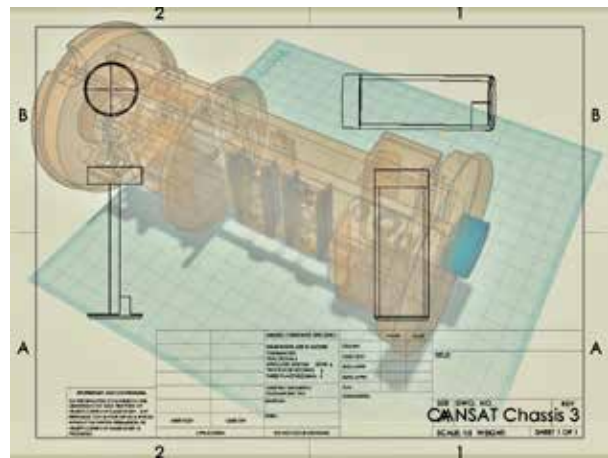
## Miniature Satellites with Massive Benefits

A can sized satellite (CANSAT) or 7UP-SAT is a satellite that fits in a can sized cylinder and is equipped with sensors and data communication systems that are launched on a rocket for data collection.

For SJSU CUBE3 engineering student club, their CANSAT project started out with a simple cutout of a cardboard roll and sensors, but now the team has entered the National CAN-SATELLITE competition where they will launch their project as part of a payload.

The team tapped into the College of Engineering fund to order satellite parts and actively produce components to test. The CUBE3 satellite includes complex systems and advanced sensors.

CANSATs have many humanitarian, environmental, and commercial applications. Their modest size and weight drastically reduce launch costs by allowing them to hitch a ride into orbit alongside larger payloads without increasing fuel costs. These miniature sized explorers are accelerating the growth of the small satellite industry, increasing access to space, and expanding low-Earth orbit research.



“There are many aerospace engineering students who are interested in the CANSAT field, but don't know where to start, so the club enables them to gain foundational knowledge,” said Carter Edmund, President, CUBE3 club. “Having a sense of community lies at the core of the club, allowing individuals with different interests to work together.”

The ingenuity of a CANSAT is that it's accessible, efficient, and a great way to research space at a low cost. It has applications that gather environmental and atmospheric composition data. The CANSAT has an array of communication systems and various sensors in place that broadcast via radio waves.



## Silicon Valley Leaders Symposium

Thursdays at noon | ENG 189 and Zoom

Industry and technology leaders talk about business and technology trends. It also features prominent leaders who discuss broader societal and political issues.

## Dean's Career Conversations

Days and times vary | ENG 494 and Zoom

Dean Sheryl Ehrman and select students enjoy conversation with alumni and other mentors from a variety of engineering fields.



## Interdisciplinary Speaker Series

Fridays at 3pm | via Zoom

Dean Sheryl Ehrman has invited interdisciplinary researchers from academia, government laboratories, and industry to give seminars and to connect with our students and faculty.



## Green Talk Speaker Series

Wednesdays at noon | via Zoom

Practicing engineers, scientists, and technical experts deliver up-to-date briefings on how engineers deal with environmental issues.

## 8th Annual Women in Engineering Conference

Saturday, March 18, 2023 | Diaz Compean Student Union Ballroom

Inspiring the next generation of women innovators by creating a learning community of students, professors, and industry professionals in Silicon Valley and beyond. (2023.siliconvalleywie.org)

## Engineering Showcase & Celebration

Thursday, April 13th, 2023 | Diaz Compean Student Union Ballroom

Celebrate student innovation, research and design. We have flipped the format of our traditional sit-down engineering awards banquet into an interactive experience. Our guests will explore projects, engage and see how students are igniting a brighter future for all of us.

## Black Engineer Week Conference

June 18-24, 2023 | Tech Museum and various other locations

This week-long conference about elevating diverse voices and empowering creative solutions for a better future. The conference will include golf, hiking, lunch and learn sessions, interactive tech mixers, and more. For more information contact: [engineering-comm@sjsu.edu](mailto:engineering-comm@sjsu.edu).

# Alumni Notes

## PAUL TRIO

'08 MBA, '08 MS Systems Engineering, '01 BS Electrical Engineering



Congratulations to Paul Trio for his recent promotion to Director of the SEMI International Standards program! He has worked for SEMI for over twenty years and will lead the global SEMI Standards staff in managing the industry committees, task force and group meetings, and creating SEMI Standards.

## JON CACCIOTTI

40 under 40 Silicon Valley Biz Journal



Congratulations to Alumnus Jon Cacciotti, '09 BS in Civil Engineering on making the 2022 Silicon Valley Biz Journal's 40 under 40 list. The list honors young Silicon Valley Leaders for their achievements.

Jon is in his fifth year as a principal at HMH Engineers in San José, and brings to his role a passion for changing how people interact with public infrastructure.

As noted in the SVBJ 40 under 40 write up, "In addition to standard performance metrics, I try to apply a user-experience perspective to the built environment," Jon Cacciotti said. "I also have a knack for bringing multi-agency projects together with common goals and partnering." Jon adds, "when he's not at work, Jon loves to travel. He has a goal of hitting all seven continents before the age of 40."

Jon attributes his success to his encouraging and supportive parents for helping him chart his path, his longtime mentor Bill Wagner, and his team at HMH.

## JENIL THAKKER

'19, BS in Computer Software Engineering

Congratulations to Jenil Thakker for founding and leading Coinvise, a no-code platform for tokenized Web3 communities. Coinvise has raised \$2.65M from investors such as Volt Capital, IDEO CoLab Ventures, and more. Jenil says "creating trust, offering validated features and helping creators grow their audience into robust communities have helped Coinvise emerge as a proven product."

## JEFF MORANG

'07, MS in Human Factors and Ergonomics



...In addition to being an active member of the Human Factors and Ergonomics Society, he is on the Association for the Advancement of Medical Instrumentation HFE committee, a contributing author to ANSI/AAMI HE75 and the book "Applied Human Factors in Medical Device Design".

## STEVE BARLOW

'87, BS in Electrical Engineering



Congratulations to Steve Barlow on being appointed the CEO of Lumileds. Steve brings over 30 years of experience in the semiconductor and LED lighting industries and several decades at Lumileds, having most recently served as the President of Lumileds' Automotive Business Unit and prior to that as President of the Lighting Solutions Business Unit. He first joined the Company in 2003 to help build its LED automotive, camera flash, display, and lighting businesses as head of sales and marketing. He previously held management and sales roles at Hewlett Packard, Cree, and Intematix Corporation.

# In Memoriam

## **JOHN F. "JACK" MACDONALD,**

*Electronics Engineering*

Jack MacDonald died peacefully with his wife and daughter at his side. Jack was born in Indiana, Pennsylvania, but grew up in Napa, California. He graduated with a degree in electronics engineering from San José State University. He had a 30-year career in the Navy where he created and installed satellite communications and electronic warfare systems on Navy ships. He was promoted to head Naval Electronic Systems Command in 1985. When he and his wife Lisbeth returned to Napa, Jack was hired as the water district manager. He was instrumental in updating the water storage tanks and ensuring the financial health of the water district. Jack loved to fly airplanes and often flew as far as Seattle with his wife. He also enjoyed riding motorcycles and buying and reselling used cars. He loved music and played his trumpet by ear listening to his favorite jazz musicians. Jack will be remembered for his wit, humor and outgoing personality; he was always smiling and friendly.

## **DAVID ECHHERD,**

*'64 Mechanical Engineering*

Dave Eckert was born in Binghamton, NY and relocated to live in Granada Hills, CA in 1947. He graduated from SJSU in 1964 with a degree in mechanical engineering. After graduating he began his career with General Electric's Atomic Division in San José. David later taught computer literacy at Jessie Beck Elementary School in Reno, NV until his retirement in 1998. He had a reputation as a kind, fair and resolute teacher. He had many former students return to visit him over the years, most saying that he had inspired them to reach for their dreams.

While he was adept at teaching any subject, his primary interests were in outdoor education and California and Nevada History. He shared his love of hiking, fishing, natural history, and early California and Nevada history with anyone young or old who'd go along for the ride. He was also a talented self-taught woodworker and handyman.

## **MOREY GOLDSTEIN,**

*'59 Electrical Engineering*

Morey Goldstein joined the Coast Guard after high school to serve his country during World War II. After the war, Morey started a television repair business, worked as a magnetometer technician, and worked with medical equipment. In 1951, he met Magdalena (Maggie) Gonzales in a geography class at Los Angeles City College. After their son, Robert, was born the family moved to the Bay Area where Morey worked in television repair during the day and studied electrical engineering at San José State at night. After graduation, Morey began a 27-year career with Varian Associates in commercial and military satellite communications equipment. In late 1986, Morey retired to Los Gatos; he and his wife maintained an active travel schedule and Morey found time to play the bassoon in Peninsula Symphony Orchestra.

## **JEAN CROOK,**

*'54 Electrical Engineering*

Jean "Juanita" Crook was born in Kermit, Texas on July 21, 1930 where life was difficult during the great depression. Jean and her family had to live in a tent on the Texas oil fields insofar as money and other resources were tight. Nevertheless, Jean pursued education as a way out of poverty. Jean's family eventually moved to San José. Jean High School in 1948 and wanted to pursue engineering as her career. She attended San José State University where she became the first female to graduate out of engineering program in 1954. Although initially met with reluctance and skepticism, Jean found work with Lockheed Missiles and Space Company where she worked during the early years of the space program. As a professional engineer, she contributed to projects which included Project Mercury.

## **MICHAEL LEVIN,**

*'68 Engineering*

Michael graduated with a BS in Engineering from San José State University in 1966. He was an engineer who was always creating, repairing, and tinkering with machines, computers, and automobiles. Michael went on to work at Phonic Ear for almost 30 years. He finished his career as a Service Engineering Manager at Blentech in Santa Rosa, CA.

RANKED **3RD** IN THE NATION BY U.S. NEWS AND WORLD REPORT **2023**

*Among public engineering programs offering bachelor's and master's degrees, excluding service academies.*

**#1** SAN JOSÉ STATE UNIVERSITY  
**MOST TRANSFORMATIVE UNIVERSITY** —Money magazine

Artificial Intelligence  
Business Analytics  
Cloud Computing  
Enterprise Technology  
Sustainable Energy



Working professionals can earn a master's degree or certificate in under two years!

APPLY BY  
**1**  
JUNE

