Spring 2024

engineering

at San José State

Space
The New Frontier of Discovery

Seasoned and New SJSU Alumni at Lockheed Martin

Blood Flow and Clot Formation in Space

Women at the Forefront of Space Exploration

The Spring semester is a busy one, with events such as the Women in Engineering and the Bay Area Biomedical Device conferences along with the College of Engineering Showcase. The Dean's Career Conversations, Silicon Valley Leadership Symposium and the Interdisciplinary Speaker Series events underpin our commitment to engagement with students. As a university sitting in the heart of Silicon Valley, San José State University plays an important part in making this high tech region one of the most innovative areas in the world. With our comprehensive curriculum, extensive range of engineering disciplines, and emphasis on hands-on learning, SJSU prepares students to thrive in the tech-driven marketplace. The university's strategic location provides access to internships and networking opportunities with leading tech companies and research centers such as NASA.

"The College of Engineering is a hub for research and innovation."

Each year SJSU sends over 1,800 engineers into the workforce, providing more engineers to Silicon Valley than any other university. Our students are creative, resilient and resourceful. They bring their lived experience to our classrooms, labs and project courses. We are constantly demonstrating that the College of Engineering is not only an educational institutional destination, but also a hub for research and innovation.

With technology making leaps and bounds each day in advanced space systems, artificial intelligence, cybersecurity, the growth of renewable energy and the continuing rise of electrical vehicles, we are constantly evolving to prepare students to meet the challenges in the workforce. Now more than ever the world needs engineers who are not only well grounded in theory, but also engineers who can put their ideas into action. I hope you enjoy the articles in our magazine and look for opportunities to connect with us.

Sincerely,

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

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

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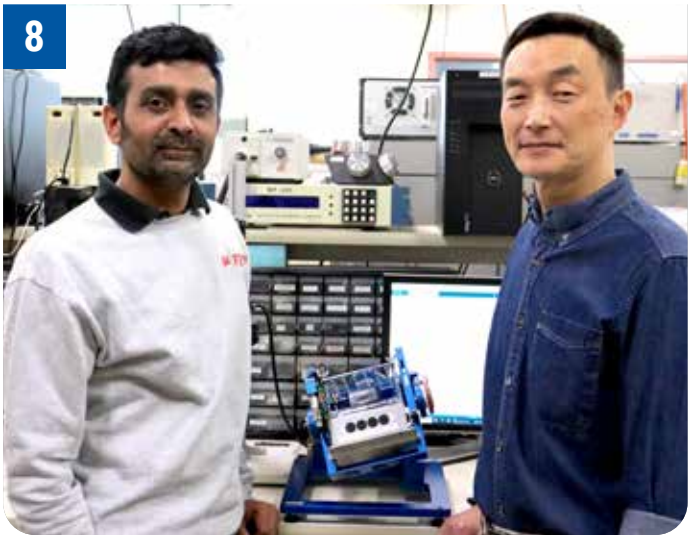
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Congratulations to Dr. Anand Ramasubramanian and Dr. John Lee for getting their research published in the journal Science Advances. Their research focused on creating a mechanics-based model to serve as a framework for predicting and comprehending the nonlinear elastic behavior of blood clots and other active biopolymer networks.

The work was a collaborative effort with student authors Myra Awan and Terrence Cheng from SJSU, and investigators Andrei Zakharov, Kinjal Dasbiswas and Arvind Gopinath of UC Merced.

Congratulations to Dr. Jorjeta Jetcheva, Assistant Professor of Computer Engineering at SJSU and her colleagues: Professors Carlos Rojas (CMPE), Yolanda Wiggins (Sociology and Interdisciplinary Social Sciences), Bill Andreopoulos (CS) and Brianne Guttmann (Physics). The team received a $2.5 million NSF S-STEM grant.

The team received guidance from Barbara Sasso from the Research Development team, and lots of help with the complex submission process from Najuma Keels of the Research Foundation team .

$1.5 million will be used for scholarships for 20 low-income students for up to 5 years (close to a full ride), and $1 million will be used for summer enrichment programs (one for the summer when students are rising seniors and one for the summer when students are about to start at SJSU), focusing on programming, math, physics and artificial intelligence, and academic year research opportunities for students. The program is specifically for students in Software Engineering, Computer Engineering and Computer Science majors.

Congratulations to Dr. Crystal M. Han and SJSU alumnus Duc Tran for being part of a research team who got their work on Ribosome Profiling published in the journal Nature. Dr. Han and Duc Tran collaborated with Dr. Can Cenik of the Cenik Lab in the Department of Molecular Biosciences at University of Texas at Austin.

Traditionally, ribosome profiling, which reveals the who, what, why and how of protein synthesis, requires multiple steps and can lead to a substantial loss of input material. The result is that only a small fraction of Messenger Ribonucleic Acid or mRNAs is captured, limiting the ability to detect the translation landscape in cell populations and makes it challenging to calculate ribosome occupancy at individual codons (amino acids represented by a three-nucleotide sequence). These codons start, hold and stop the protein translation process. Think of this process, in very simplistic terms, like public transportation: A passenger enters the train, stays on and then exits at their destination.

To overcome the constraint of traditional ribosome profiling, the team developed a method that leverages the principles of microfluidic on-chip isotachophoresis or ITP for isolation of ribosome protected fragments (RPFs) from an input sample as low as a single cell. Microfluidic devices present a versatile platform with advantages, such as speed of analysis and the minimum requirement of samples. In medical diagnostics, microfluidic systems have proven to be extremely beneficial in screening for personalized drug development and controlled drug release for patients.

Madison Forseth Summer Internship at Ball Aerospace

Inspiring Women in STEM Who Have Their Eyes Set on the Stars

IN THE SUMMER OF 2023, MADISON FORSETH, currently a senior studying Aerospace Engineering at San José State University, received the Brooke Owens Fellowship. The fellowship was created to honor the legacy of space industry pioneer and accomplished pilot, Dawn Brooke Owens. The fellowship gives undergraduate women and gender minorities who aspire to explore the sky and stars the mentorship, industry experience, and inspiration they need to launch their careers. Brookies, as the fellows are known, are enabled to shake up the aerospace industry to give humanity the many benefits found in the groundbreaking innovations of tomorrow.

Madison Forseth

The fellowship provided Madison with a summer internship at Ball Aerospace located in Broomfield, Colorado. According to Madison, the experience at Ball paired with her fellowship activities, changed her life forever. "I feel more than ever before that the key to the brightest future for humanity is sustained exploration and habitation of space," said Madison. When arriving at Ball Aerospace, Madison had no knowledge of space electronics, but finished the internship having completed a complicated series of diagrams describing the interfaces of spacecraft components. This was done in half the time the company gave her to do this work. Madison also got involved in working with Model-Based Systems Engineering, which is a digital method of designing systems that is becoming increasingly in-demand in the aerospace industry.

She was able to attend a fellowship summit in D.C. where she was shown the heart of the aerospace industry along with meeting executives and rising stars that are leading the world in future space exploration. "The technologies we will create to survive in space will change everyone's lives for the better, both here on Earth and among the stars, and I want to be there to help make that happen," added Madison.

Madison ended her internship making life-long friends that care just as much as she does about enabling humans to explore this incredible universe. Keep rocking the aerospace industry, Madison!

A Tale of Two Engineers


Mark Pasquale

MARK PASQUALE, a 1984 graduate of San José State University (SJSU) College of Engineering (CoE), has stayed connected to his alma mater for 40 years. With a Mechanical Engineering degree, he has enjoyed a long career in the Space business area at Lockheed Martin, a globally recognized aerospace company, and is now the vice president/general manager at the company. Despite a busy schedule, Mark prioritizes giving back, serving on multiple advisory boards, coordinating scholarships, and participating in CoE events. He's honored in the Silicon Valley Engineering Council Hall of Fame and as an SJSU Engineering Distinguished Alumni.

As a child, Mark was surrounded by technical wonders due to his father being a mechanic who took on tasks like building his own drill press. Mark's decision to go to SJSU was a strategic one: the university was affordable, had a desirable proximity to home, and had a nationally ranked bowling team. But his educational journey was not free of challenges. His father was skeptical about the value of going to college versus the potential earnings of pursuing a trade.

Mark's initial aspiration upon graduating was to build innovative inventions. However, a pivotal moment occurred during Professor Myronuk's thermodynamic lab, where he learned the importance of breaking down complex problems and solving simple ones—a mindset he carried throughout his extensive career.

As a student, Mark had his sights set on Lockheed Martin. During a CoE open house, the company was present, and Mark patiently waited to talk to a company recruiter with a mechanical engineering background. His interest and knowledge of the company ultimately secured him an interview the next day. He was chosen over more qualified candidates, which he views as an intersection of opportunity and preparation.

Mark has found amazing opportunities at Lockheed Martin, including international travel to work on satellite systems. He played a key role in establishing secure communication technology for covert scenarios that helped the Navy war fighters avoid enemy detection. This project hit close to home because of his family's military background. His dad fought in WWII and his brother was in the Navy Reserve during the Vietnam War. Additionally, commercial satellites he supported launched on the Atlas and Delta rockets from Cape Canaveral, Florida, the French Ariane rocket from French Guiana, and the Russian Proton rocket from Baikonur Cosmodrome in Kazakhstan.

Mark's advice to students, recent graduates and alumni is to not let the prestige of other institutions overshadow the capabilities of an SJSU engineering degree. "With a SJSU degree you can compete with anyone in the world," he said. He advocates constant passion over money, emphasizing that financial success will follow. Mark's journey serves as an inspiration to aspiring engineers, showcasing the transformative power of dedication, resilience, and a devotion to your craft.

Two Generations of College of Engineering Graduates Discuss Their Desire to be Lockheed Martin Employees

Dontario Beverly

Dontario Beverly

DONTARIO BEVERLY is a fall 2023 Mechanical Engineering graduate of SJSU who had his eyes set on one company after finishing school, Lockheed Martin. This was a very short list, but his persistence and focus landed him a job at his company of choice. This transpired when he applied for a position while attending The National Society of Black Engineers (NSBE) convention. This gathering is one the largest student-governed organizations based in the United States. NSBE, founded in 1975, supports and promotes the aspirations of collegiate and pre-collegiate students and technical professionals in engineering and technology. NSBE's SJSU chapter is known as the Black Alliance of Scientist and Engineers, more commonly called BASE.

Soon after applying for a Lockheed Martin position at NSBE, Dontario received an offer from the company. In a way, March interviews bring April job offers! At least, that was the case for Dontario.

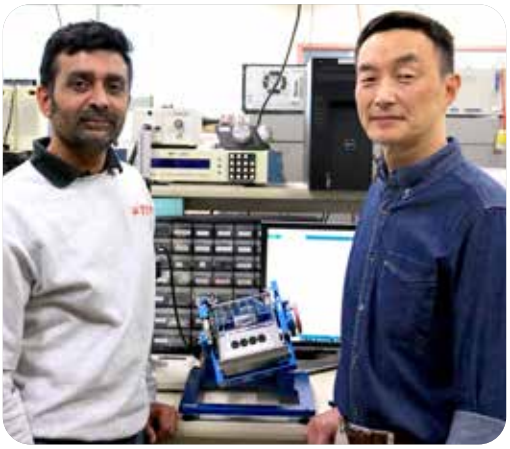
Dontario is a community college transfer student to the engineering program at SJSU. His advice to other students looking to land a job after graduation is, "Start early, put your name out there, attend conferences that will get you in front of potential employers and have your sights set on companies that you have a desire to work for." Dontario also advocates for applying for internships while you are still working on your degree. "I see applying and interviewing for internships as practice," he added. "Having the experience of going through the job application and interview process certainly helped me get the offer from Lockheed Martin. I'm a strong advocate for getting good grades, but even more of a believer in getting on-the-job experience via the internship." Getting out of your comfort zone is another attribute Dontario mentions. "If something sounds interesting to you, but you don't have any experience in it, give it a try. You might be surprised by picking up a skillset that is outside of your major, and will be useful when you go into industry," he adds.

The journey from student to employee can be an emotional one. At times you are going to doubt yourself, you will question yourself, you feel like you should have done better, but you can't let these feelings get in your way. "At these times, you need to lean into your support system and your friends who will understand what you are going through. This support system can get you through these emotionally challenging times," said Dontario.

According to Dontario, Lockheed does a phenomenal job acclimating new employees, especially those of color, to the culture. The company pairs a new employee with a seasoned one, like a 'buddy' system, for eight weeks to get familiar with the environment and the inner workings of it. One of the greatest pieces of advice that Dontario offered as a final reflection was, "Don't just go floating through your career, but be very intentional about it."

Blood Flow and Clot Formation in Space

New insights may protect astronauts



IN ANY INJURY THAT RESULTS IN A HEMORRHAGE, blood vessels contract and small, colorless cells called platelets are released. Platelets release fibrin proteins that tangle together to form a clot to slow down or stop the bleeding, and help heal the wound. However, recent studies may have discovered that blood clots can form due to environmental factors, not just chemical changes.

In 2019, Dr. Karina Marshall-Goebel co-authored a case study about blood flow and clotting among crew members during their mission on the International Space Station. The study was published in JAMA Network Open and revealed that an astronaut developed an unexpected venous blood clot while in space. NASA did not have a treatment plan at the time and defaulted to giving the astronaut blood thinners as a course of action. The astronaut was able to complete the 6-month mission and land safely back on Earth, and after two weeks the blood clot was gone.

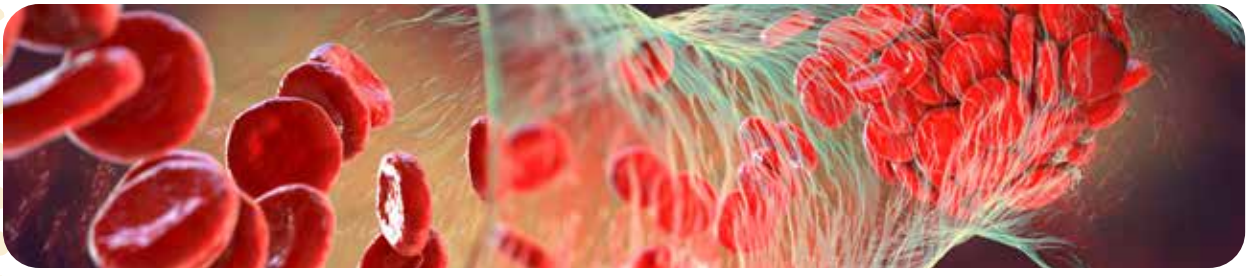
Not only did the astronaut not fit the demographic for developing clots, but the placement of the blood in their neck was unusual. Because of the microgravity environment, the astronaut's blood pressure had moved upward, which at times interfered with the astronaut's vision.

In a zero gravity environment the normal flow of blood is interrupted, causing blood vessels in the astronauts' necks to expand. The result of this interruption produces swelling of the neck and face.

Dr. Anand K. Ramasubramanian, Chemical & Materials department chair, and Dr. John Lee, a Mechanical Engineering professor at San José State University, are conducting experimental studies that culture cells under continuous flow on a random positioning machine, or RPM. The RPM simulates microgravity by continually scrambling the orientation of the experimental test apparatus such that it has no net direction with respect to gravity. Under microscope imaging, initial observations suggest that the structural fibers inside of cells appear to take a different arrangement in microgravity compared to normal gravity.

By creating an irregular pattern, cells started to separate from one another, causing a non-continuous flow pattern which separated the mesh between them, which in turn caused the cells not to move as fluently or tightly-knit as they should. The fluid around the cells was being pulled in various directions, resulting in spreading the cells apart without changing any of their cellular structures.

Through this study, Dr. Ramasubramanian and Dr. Lee's findings may help space researchers better understand risks and consider how to build a better spaceship that can protect astronauts from forming blood clots in space.



It's Your Space!

The SJSU College of Engineering Makerspace Gets a Facelift and Comeback

THE COLLEGE OF ENGINEERING (COE) at San José State University (SJSU) has always prided itself on providing students with the hands-on learning that makes graduates more desirable to global technology companies. While not a new concept, makerspace areas have become a hot topic in education that are designed to challenge students to create and learn through hands-on, personalized, experiential experiences.

The makerspace area at the COE offers an immersive, hands-on experience dedicated to helping students by providing tools for 3-D printing, machining, woodworking, welding, plastics, rapid prototyping and much more!

This space is resurfacing at SJSU COE after being closed for the past 4 years due to Covid. Mike Parker, the engineering shop's lead, and his team have spent the better part of a year acquiring new equipment and making the area more engaging to students. When entering the area students can go to stations for 3-D printing, soldering with filtration systems for fumes, a spray painting booth, welding, resin or epoxy works, assembly tables and supplies that are free for students to use. Of course, safety is always the number one priority, which is why the space is always supervised during student use.

In contrast, the area has a fallout of plastic waste because of things like failed 3-D projects, packaging material, poly lactic acid (made from corn or potatoes) pieces and empty filament spools, to name a few. However, Mike's hope is to be able to obtain equipment that can take the plastic waste and turn them into usable pellets or filament spools that students can utilize to create 3-D printed parts for projects they are working on. With material recycling equipment, students could create their own blends of filament with various colors offering new options for prototyping.

"Having the ability to recycle plastic materials will allow for printing 3-D parts on large format printers," said Mike. "Not only does the recycling process make more material available to students, but it also supports the university's goal for sustainability and reducing waste on campus." "For senior projects, research efforts, and engineering clubs, this will also enhance the hand-on experience at the COE," he added.

When you think about the MakerSpace area, reflect on student advancement that is earth friendly and environmentally responsible. The space is open to all students on Fridays from 10am to 4pm, and the rest of the week by appointment.

Mike Parker

Engineering Diversity Conference and Club Fair Recap

Celebrating Inclusion, Vibrant Communities and Creativity at the College of Engineering

CONFERENCE ON ENGINEERING DIVERSITY

On Saturday, October 7, 2023, students, staff, faculty, and guests gathered to discuss how the professional engineering community could create a more diverse environment. Our host, Ashraf Habibullah, certainly created an exciting environment for this well-attended event. Dean Sheryl Ehrman kicked off the event with a welcome, followed by a keynote address from Ashraf Habibulah. The keynote was followed by breakout sessions presented by representatives from Computer & Structures Inc., Datasophical, Inquis Medical, LinkedIn, Lockheed Martin, NXP, PG&E, VMware, SJSU Career Center, SPARTUP, TDK, and Uber.

Maria Hartin-Swart from Lockheed Martin addressed the audience during lunch. This was followed by diversity discussions with Applied Materials, NXP, PG&E, Pure Storage, Qualcomm, and Student Orgs & Resources. The day concluded with a networking reception for attending students and companies. Thanks to the sponsors, speakers, and organizers for making this event a great success! See you at the 2024 CED event!

CLUB FAIR FALL 2023

The Fall 2023 SJSU Engineering Club Fair held on September 13 was a vibrant event showcasing various engineering clubs at San José State University. Students had the opportunity to explore a wide range of engineering disciplines, from aviation to environmental engineering. Club members presented their projects, shared their passion for engineering, and recruited new members. It was an excellent networking and community involvement opportunity for students interested in engineering, and provided a glimpse into the diverse and innovative engineering community at SJSU.

Engineering Students Tackling the Stress of a Challenging Major

IF YOU HAVE EVER WATCHED A RUGBY MATCH, you might have noticed that it is a pretty brutal sport. The players don't wear any padding, unlike their counterparts playing American football. The sport has been predominantly a male one until about 1962, when the first female rugby team emerged in England. Narrowing in on the sport here at San José State University, two female engineering students, Daisy Candido and Emily Paredes, have tackled the challenge of participating in this activity.

These ladies have taken the sport head on, not just to break the mold of what a rugby player looks like, but also shedding new light on how engineering students should be perceived outside the classroom.

Daisy and Emily were looking for more of a contact sport like basketball or volleyball. Daisy Candido, a third year civil engineering major, chose rugby because she wanted to be more active.

Emily Paredes, a second year electrical engineering major and minor in deaf education, chose the sport for the aggression of the game and to help keep her stress level down. "It took about a year for them to recruit me, but now I'm proud to be a rugby player and an engineer," said Emily.

Both athletes get a sense of community and see the sport as a good close to their academic day. Emily is a first string team member who plays loose-head prop, which means that she is always the first line of defense in a scrum. "As soon as you step onto the field after a long day of classes, it changes you as a person," Emily said. "You don't have to get a 4.0 grade point average with rugby, you just play!"

Emily Paredes and Daisy Candido

A Record Number Spartans Named Mountain West Scholar-Athletes

For the second consecutive year, a school-record number of San José State University student-athletes received a 2022-23 Mountain West Scholar-Athlete Award, as 91 Spartans are honored for their performances in the classroom during their athletic career.

The MW Scholar-Athlete Award is one of the highest academic honors bestowed by the conference. To be eligible for the award this year, student-athletes must have completed at least two semesters at the institution and have a 3.5 or better cumulative grade point average while being a member of an intercollegiate team.

The Spartan student-athletes represent 15 sports, including four teams with double-digit honorees led by football at 12, women's soccer with 11 and swimming and diving and women's track and field with 10 each.

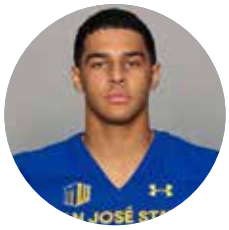
We're giving a special shout out to our engineering athletes who are resilient enough to combine the rigorous pursuit of one of the toughest majors, but still have the energy and drive to pursue extracurricular endeavors.

Cross country athlete and Biomedical Engineering student, **Juliette Noyer**, Football athletes **John Norwood**, Aviation and Technology, and **Caleb Womack**, Mechanical Engineering students. Women's soccer athlete, and Industrial and Systems and Engineering student, **Karissa Ruble**. Men's Track and Field athlete, and Industrial and Systems and Engineering student, **Cameron Tarver**.

Full story and complete list of 2022-23 honorees: **bit.ly/3IRD81J**


Juliette Noyer


John Norwood


Caleb Womack


Karissa Ruble


Cameron Tarver

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Silicon Valley Leaders Symposium

Thursdays at noon | ENG 285

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

DCC Fall Speakers

Days and times vary | ENG 494

Dean Sheryl Ehrman and 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.

10th Annual Women in Engineering Conference

Saturday, March 16, 2024 | 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.
2024.siliconvalleywie.org

Engineering Showcase & Celebration

Thursday, April 2024 | Diaz Compean Student Union Ballroom

The Engineering Showcase and Celebration is our annual event where alumni and industry friends engage with the next generation of engineering talent, innovation, research, and design. Thank you to the generous support from the Beall Family Foundation, San José Water, and Salas O'Brien for helping to make this event possible. Please mark your calendar to join us for the 2024 Showcase and Celebration.

Black Engineer Week Conference

June 21 - 28, 2024

This week-long conference is for elevating diverse voices and empowering creative solutions for a better future. The conference included golf, hiking, lunch and learn sessions, interactive tech mixers and more. For more information contact engineering-comm@sjsu.edu.

Alumni Notes

Eulises Valdovinos

Eulises Valdovinos, a 2016 Industrial & Systems Engineering graduate from San José State University (SJSU) and M.S. in Analytics from Georgia Tech, who currently works for Pure Storage as a Business Intelligence Developer, is a believer in giving back and one of the founding members of the Conference for Engineering Diversity (CED). Born in Modesto, California in the Central Valley area, Eulises moved around quite a bit as a child. His family started out in California then moved to Minnesota (he was not a fan of the winter months), then Florida, then back to California and finally ended up in Mexico for the remainder of his childhood up to 6th grade. His parents, who are originally from Mexico, advised him to go back to the United States to continue his education when he was 12 years old. Eulises moved in with brother, who was still living in the Central Valley area, to finish middle school and high school.

Eulises didn't have any educational aspirations beyond high school. In his junior year of high school, a guidance counselor asked him why he wasn't thinking about college. Soon after this conversation, Eulises found himself filling out college applications. The thought of choosing engineering as a major, was just a matter of luck for him. A substitute teacher, who knew Eulises excelled in math and science, had him thinking about engineering. He would be the first in his family to pursue a college degree, followed later by his younger brother and now his nieces and nephew as well.

When asked why SJSU was a higher education destination, "I didn't want to go to a school where I would be the only brown kid," Eulises said. "When I looked at the demographic breakdown of SJSU I noticed that 15 percent of the student population was Hispanic, which was higher than the other four schools I applied to, I knew this is where I needed to be," he added.

During Eulises' freshman year, he became involved with the MESA Engineering Program (MEP). "I made a lot of long time friends and connections through MEP and still stay in touch with many of them," Eulises said. MEP helped Eulises land internships and ultimately a couple of job offers through connections the organization had with partnering companies. Seeing how the connections through MEP made it easier for him to get internships and job offers, he wanted to do something beyond the organization. In 2016, Eulises and others from the Black Alliance of Scientists and Engineers, the Society for Scientists and Engineers, and the Society of Women Engineers soon created CED to open up the same opportunities to other engineering students at SJSU.

When CED first started the goal was to have 100 attendees. Since then, this soon grew and in 2023, attendance was well over 500.

When asked what advice Eulises would give current students he said, " Find that passion that can motivate you to keep you going, and remind yourself of it constantly."

We want to hear your news!

We love promoting your achievements.
Keep the news coming! **http://bit.ly/alumnotes**

AWARD OF DISTINCTION NOMINATION

Do you know a fellow SJSU Engineering alumnus or alumna who has achieved superior professional accomplishments and/or has demonstrated outstanding citizenship through significant community or professional service? The Engineering Award of Distinction is presented during our annual Showcase and Celebration. Scan the QR Code to nominate them for the 2024 Engineering Award of Distinction.

TOMMY S. MAYFIELD

'73 BS Industrial and Systems Engineering

Tommy S. Mayfield went to work for Lockheed Martin after graduating from San Jose State University with a BS in Industrial and Systems Engineering. Upon retirement from Lockheed Tommy and his wife moved to Fallbrook, CA to be near their daughters and grandchildren. He enjoyed over 20 years of a peaceful retirement where he tended his citrus orchard and worked in his large workshop of tools.

DAN STOWELL

'66 BS Aeronautical Operations

Dan Laurence Stowell was born on September 29, 1945. Dan grew up in San Mateo, graduated from Hillsdale High School, and went on to San Jose State University to earn his BS degree in Aeronautical Engineering. He worked at United Airlines for 35 years, and also volunteered as an economics teacher at Crocker Middle School, and San Mateo High School. He coached 18 of his daughters soccer teams, and never missed a single sporting event. He was an avid cyclist, a gold master bridge player, and had so many wonderful bridge, golf and tennis buddies.

HARVEY SCHNEIDER

'72 MS Industrial and Systems Engineering

Harvey Scheider was born in Boston, Massachusetts and graduated from San Jose State University with an MS in Civil Engineering. Harvey served in the United States Marines and then embarked on a successful career contributing to various projects at Lawrence Livermore Laboratory in California, Turner Construction, Johns Manville, Barton Malow Construction and Albert Kahn Associates.

In addition to his professional accomplishments, Harvey cherished his role as a devoted husband and loving father to his four children.

ANTHONY PETERSON

Known to his family as Tony, Anthony Peterson had a deep love for aviation from a young age. In his formative years, Tony was a gifted artist and athlete, excelling in baseball, football, and track and field. Later in life, he explored interests such as scuba diving, photography, and even poetry. He was a man of many interests and talents.

Tony attended John F. Kennedy High School in Richmond, California. As a high school student with full parental support, he enrolled in a private pilot ground school. Flying reminded him that all things were possible and made him a better student in school. Tony obtained his private pilot license at the age of 17.

He attended San Jose State University majoring in aviation. He also served three years in the United States Marine Corps (USMC) Officers Program as a reservist. Following his military service, he obtained his commercial pilot license and continued to pursue his passion for flying. Tony had to fight against racism and discrimination in the cockpit.

Tony relocated to Seattle, Washington, and was actively involved in the community. He served as a math and science substitute teacher in Seattle Public Schools. Tony's childhood friend, Lt. Colonel Edward Drummond, a Tuskegee Airmen Pilot, would serve as a bridge to having a close relationship with the Tuskegee Airmen.

In 2012, Ty, as he was known by many, founded the Pacific West Aerospace Academy. This non-profit organization opened up opportunities in aviation and aerospace careers to at-risk and underprivileged youth, primarily in low-income communities. He believed in showcasing the multitude of career paths available beyond airlines and the military.

SHERMAN ZELL

'65 MS, Electrical Engineering

Sherman Zell was born in Brooklyn, New York in 1937 and his formative years were greatly influenced by the Boy Scouts, an organization that he would support throughout his life by participation and deed. Sherman graduated from Brooklyn Technical High School, received a BS from Indiana Institute of Technology summa cum laude, and an MS in Electrical Engineering from San Jose State University.

His professional career began at IBM where he was heavily involved in the development of the first PC. In 1974 he made his mark in real estate, founding Zell Associates, Incorporated in his garage. Sherman grew the company into a successful real estate and property management firm, now run by his son. Sherman was the very definition of a man on the move. Through his last days he was an avid skier, ATV enthusiast, scuba diver, and world-traveler who visited all seven continents. He had a lifelong enjoyment of model trains and was a founder of the Bay Area Garden Railway Society.

SJSU SAN JOSÉ STATE UNIVERSITY
CHARLES W. DAVIDSON COLLEGE OF ENGINEERING
ONE WASHINGTON SQUARE
SAN JOSÉ, CA 95192-0080

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.

HAPPENING SUMMER 2024...

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

Flight competition
Precision Flight Team will compete in the SAFECON National competition
Oshkosh, WI

Spartan racing
Electric Vehicle Competition
Brooklyn, MI