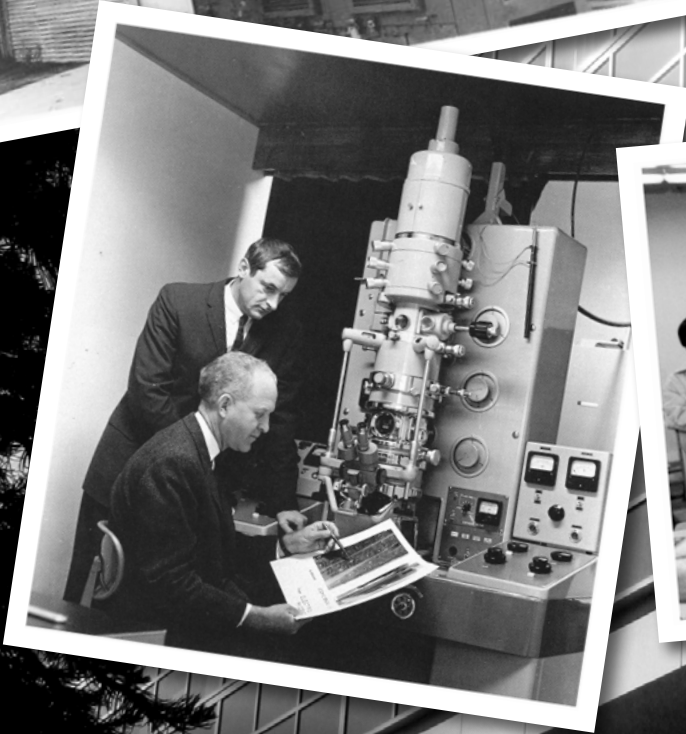


# ENGINEERING AT SAN JOSÉ STATE

CHARLES W. DAVIDSON COLLEGE OF ENGINEERING

*powering Silicon Valley*

ENGINEERING · SJSU · 1946-2016  
**70**  
*years*



**SJSU** SAN JOSÉ STATE  
UNIVERSITY

## DEAN'S MESSAGE

*Greetings,*

When SJSU's Department of Engineering offered its first course in 1946, the department consisted of 200 students, one faculty member, and just one course — "Engineering 1." Students took classes in a temporary lab building.

Today, 70 years later, the Charles W. Davidson College of Engineering is the strongest it's ever been. With 12 engineering disciplines, over 260 faculty and staff members, and our largest enrollment ever — over 7,300 students — we are the premier engineering program in the California State University (CSU) system. Silicon Valley technology firms employ more of our Engineers than those from any other college, and Davidson College of Engineering graduates represent the largest alumni group in companies such as Apple and Cisco. We truly do "power Silicon Valley."

I am incredibly proud of all that we have accomplished in these past 70 years; this edition of the College of Engineering Magazine celebrates many of those achievements. However, I believe we are also just getting started.

In the past year alone, we introduced new flipped and online courses for greater learning flexibility and piloted a freshman cohort program to better engage students from entry through graduation. We continued to pursue our commitment to scholarly activity and research by launching an annual student research competition and supporting our faculty in their research pursuits — leading to more than \$1.7 million in research grant funding. And, we continued to strengthen industry and community partnerships by hosting industry-sponsored student events at local tech companies, and by launching an Alumni Engagement Committee and a Senior Design Project Task Force.

From its earliest days in a makeshift lab building, the Davidson College of Engineering has transformed lives by preparing engineering students and professionals to contribute in a rapidly changing world. In the years ahead, we will carry on this tradition by creating innovative and experiential learning environments for our students, engaging in scholarly activity and relevant research, and strengthening industry and community partnerships. Through these efforts, we will continue to help our students develop the skills and expertise needed to tackle major challenges and make an impact in our world — not just today, but for the next 70 years. I have no doubt our best is yet to come.

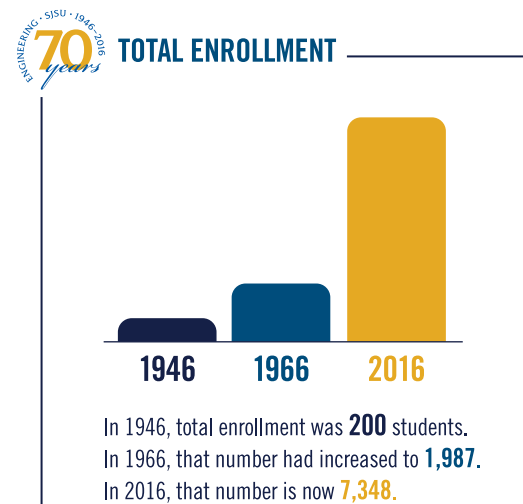
Sincerely,



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



Today, 70 years later, the Charles W. Davidson College of Engineering is the strongest it's ever been.



## IN THIS ISSUE

- 4 New Faculty and Staff
- 5 Spartan Racing: Celebrating Success, Looking Toward the Future
- 6 Student Accomplishments
- 7 Entrepreneurship: Graduate Scholarship Inspires Innovation and Entrepreneurship
- 8 Feature Story: In the Heart of the Valley
- 15 Strategic Plan Updates
- 16 Spring 2016 Events
- 16 Faculty Accomplishments
- 17 Innovative Learning: New Program Brings Innovation to the Community
- 18 Innovative Learning: Flipping Classrooms to Further STEM Careers
- 19 Scholarly Research: Strengthening Our Bay Area Bridges
- 19 Scholarly Research: Engineering a Smarter Car
- 20 Industry & Community Partnerships: Building Bridges Through Faculty Projects
- 20 Industry & Community Partnerships: Dr. Weider Yu Helps IBM Achieve Its Goals
- 21 Fundraising: A Generous Gift Ensures the Next Generation Can Follow Their Passions
- 22 Alumni News
- 23 Retiring Faculty

Cover photos (left to right): Surplus Quonset hut serves as engineering building; Dean Gunderson and colleague with electron microscope; CE Professor Thalia Anagnos and CE113 students working with Tinius Olsen material testing machine; ME Professor Winncy Du and students with prototype.



5



6



7



8



19



21

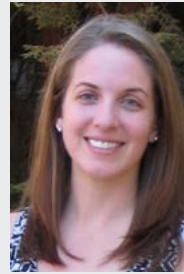


“The classroom has been my sanctuary for many years — the place where I find my soul’s equilibrium. The group of students I have the privilege to work with are some of the most intelligent, generous, kind, funny, and out-of-the-box thinkers I have ever met...”

— **PEGGY BOYLAN-ASHRAF**  
Assistant Professor, Aerospace Engineering

“I feel incredibly lucky to have found a job doing what I love most, particularly at a school where teaching is so valued and the students are so passionate...”

— **KATHRYN GOSSELIN**  
Assistant Professor, Mechanical Engineering



“Having the opportunity to interact with great students who have the drive to make a change and develop the new technologies of the future has been extremely gratifying and reinvigorating.”

— **PEDRO SANTACRUZ**  
Assistant Professor, Electrical Engineering

“I joined the SJSU community because I wanted to foster the next generation of computer architects in Silicon Valley, research interesting topics with leading industry and research experts, and enjoy the nice weather in California.”

— **HYERAN JEON**  
Assistant Professor, Computer Engineering



“I am looking forward to educating and working with SJSU students and collaborating with industry and government to develop new ideas and technologies that help us improve energy sustainability in the transportation, data, and power grid infrastructures.”

— **SAEID BASHASH**  
Assistant Professor, Mechanical Engineering

## NEW FACULTY AND STAFF

**SAEID BASHASH**, Assistant Professor  
Mechanical Engineering

**PEGGY BOYLAN-ASHRAF**, Assistant Professor  
Aerospace Engineering

**LISA FRANCESCA**, Communications Specialist  
Dean’s Office

**SELA GAGLIA**, Off-Campus Program Specialist  
College of Engineering

**KATHRYN GOSSELIN**, Assistant Professor  
Mechanical Engineering

**QUYEN GRANT**, Administrative Support Coordinator  
Computer Engineering

**MINA GUIRGUIS**, System Analyst  
Engineering Computer Systems

**LAURA HURT**, Graduate Student Success Coordinator  
College of Engineering

**HYERAN JEON**, Assistant Professor  
Computer Engineering

**YOUNGSOO KIM**, Assistant Professor  
Electrical Engineering

**ANIL KUMAR**, Assistant Professor  
Industrial & Systems Engineering

**AUDREY LEONG**, Technical Staff  
Electrical Engineering

**KAIKAI LIU**, Assistant Professor  
Computer Engineering

**MELISSA MATHEWS**, Administrative Support Coordinator  
Computer Engineering

**JONATHAN RYE**, Equipment Technician 1

**LIAT ROSENFELD**, Assistant Professor  
Chemical Engineering

**PEDRO SANTACRUZ**, Assistant Professor  
Electrical Engineering

## SPARTAN RACING

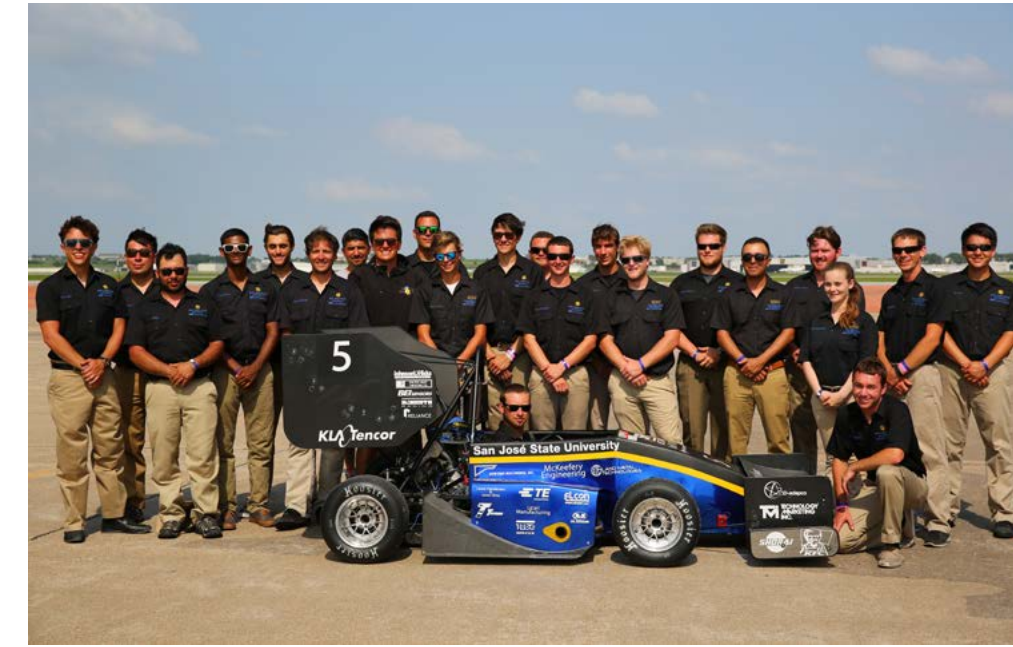
# Celebrating Success, Looking Toward the Future

*For the first time in history*, the San José State University Spartan Racing team took first-place overall at last year’s Formula SAE (Society of Automotive Engineers\*) in Lincoln, Nebraska. It was also the first time a California-based team has won the competition since it began 35 years ago. With 80 teams from around the world competing for the gold, winning was no easy task.

The victory in Nebraska was a resounding comeback after a disappointing motor failure at the previous race in Michigan, four weeks prior. Undeterred by this setback, the team rallied together to disassemble the car to find and fix the source of the breakdown. Back on the track once again in Nebraska, their perseverance paid off. “People were just ecstatic to be part of something so successful,” team manager Michael Jarrett recalls. “We always strive to be one of the top teams, but we never expected to walk away with ... first place.”

Since Spartan Racing joined Formula SAE, it has created a racing powerhouse through dedication and the ability to learn fast. “There’s a lot of decisions, sacrifices, and just hard work,” Jarrett explains. “We encourage trying out new things, so the people who are designing parts are also learning how to reach out to sponsors, give presentations, manufacture the parts, and work with other designers so that their parts get integrated properly. You don’t necessarily need to walk in knowing everything. It’s more about how much you’re willing to put in, and how willing you are to take the first steps to learn.”

While the racing team’s approximately 40 members are predominately mechanical engineering students, the team also includes aspiring aerospace, electrical, and computer engineers. There are also business and photography minors participating. This diversity is integral to the club’s success — building a racecar requires a strong, multidisciplinary skillset. Outside of their regular class schedule, these ambitious and passionate students design,



SPARTAN RACING’S SUCCESS IN 2015:

1<sup>st</sup> in California

3<sup>rd</sup> in the US

14<sup>th</sup> worldwide (of 515 teams)

fund, manufacture, test, and race a formula-style racecar – all in less than a year.

Emboldened by their success, the team is now looking to up the ante: this year, Spartan Racing is planning to compete for the first time in Europe, where motor sports are known to be even more ambitious.

If you are interested in learning more about Spartan Racing, please contact Spartan Racing at [sjsuformulasae@gmail.com](mailto:sjsuformulasae@gmail.com).

\*Spartan Racing is the student chapter of SAE International at San José State University. SAE International (Society of Automotive Engineers, International) is a professional organization composed of over 138,000 engineers primarily in the automotive and aerospace industries. SAE International is tasked with developing design and production standards for these industries based on the professional input of its members.



## ENTREPRENEURSHIP

# Graduate Scholarship Inspires Innovation and Entrepreneurship

In 2004, **Jacob Tsao**, industrial and systems engineering professor at the College of Engineering, developed a two-week study tour to China and Taiwan for students to learn first-hand about globalization, the global race toward innovation, and how the United States can lead the charge.

With this experience in mind, in 2014, Tsao and his colleague Dr. Ahmed Hambaba, associate dean for graduate and extended studies, put together a proposal for the Silicon Valley Innovation & Entrepreneurship Scholarships (SVIES) Program. In February of 2015, the College of Engineering was awarded a \$600,000 grant from the National Science Foundation to implement the program.

Every year through 2019, the program will award 15 scholarships of \$10,000 or \$8,000, depending on financial needs, to academically talented graduate students with citizenship or permanent residency. These scholars will form a learning community designed to study and gain an understanding of the successes and failures of Silicon Valley entrepreneurs and their technological innovations.

“A goal of SVIES is for engineering educators to learn how to encourage innovation effectively. Program components will be implemented and compared to identify more effective methods of innovation education,” says Tsao, who is leading the program. A key feature of SVIES is the direct access students will have to mentorship by local innovators and entrepreneurs.

“This grant is the first and largest graduate scholarship program of its kind for our college, strengthening our national graduate education standing. It also brings the unique Silicon Valley innovation and entrepreneurship experience closer to our graduate students,” says Professor Essam Marouf, associate dean for research at the College of Engineering. As the demand for engineering innovation in Silicon Valley and on a global scale continues to grow, Professors Tsao and Hambaba are determined to ensure College of Engineering graduates are best equipped to make a difference.



The study tour bridged the gap between the academic need to teach innovation and the constraints of the curriculum. “There just wasn’t enough time in our curriculum to delve into innovation as a societal need and prepare our students well enough to meet that challenge,” Tsao says.

## STUDENT ACCOMPLISHMENTS

**ANGEL GONZALEZ** (Mechanical Engineering, '17) won the Outstanding Academic and Service Leadership award from the CSU Louis Stokes Alliance for Minority Participation Program.

Under the direction of **PROFESSOR GLYNN FALCON**, aviation students **DAVID DELACRUZ** ('15), **EDUARDO CORONEL** ('15), and **KARL MADRONA** ('15) took third place in the Airport Environmental Interactions Challenge category of the ACRP Design Competition with their design, “Harvesting Energy from Biodegradable Waste.”

For the first time, the **SJSU ROBOTICS CLUB** was one of eight teams selected to participate in the initial round of the RASC-AL Robo-Ops competition, a planetary rover robotics engineering competition sponsored by NASA. Students created a small-scale robotic Mars rover to be tested on a field that simulates the planet’s various terrains.

Under the direction of **PROFESSOR BURFORD “BUFF” FURMAN**, engineering students built a prototype of a solar powered, gondola-type pod that rides along a steel track suspended in air. The car, dubbed the “Spartan Superway,” received an Editor’s Choice blue ribbon from the judges at Maker Faire Bay Area 2015.

Biomedical engineering students **KEVIN BENCINI** ('16), **IAN QUALLS** ('19), **CYNTHIA OUANDJI** ('16), **SHREEJIT PADMANABHAN** ('18), and **ANESH TILWANI** ('15), were honored as “Most Creative” at the UC Davis Biomedical Make-A-Thon for inventing a pen that can deliver a biopsy sample from bat wings with just a click of a button.

**AMANDA SHARPE**, **JOHN HERNANDEZ** (Electrical Engineering, '17) and **KARL BRADLEY SACLOLO** (Aerospace Engineering, '16) took home first place at the Intel Rapid Prototype Competition for their prototype K8 (pronounced “Kate”), a robot that teaches young girls basic programming skills.

**MELISSA ORTIZ** (Computer Engineering, '17) won the 2015 California State University Trustees’ Award for Outstanding Achievement. This award is the top honor at Cal State University, given to students who demonstrate superior academic performance, personal accomplishments, community service, and financial need.

The **SJSU PRECISION FLIGHT TEAM** placed second regionally and qualified for the SAFECON National Championship. **ZACHARY SHAFFER** (Aviation, '16) and **CHLOE RAYMER** (Aviation, '15) placed first in “Crew Resource Management.” Aviation students **HAO WEN** ('16), **ISAAC NJUGUNA** ('16), **TREVOR CARLSON** ('16), **JAN GALANG** ('16), **TYLER HERNANDEZ** ('16), **KURT ROWE** ('18), **QIAO (JOEL) GU** ('19), and **ALEX LEE** (Aerospace Engineering, '16) also placed.

Students **SHIVANI AURORA** (Digital Media Art '18), **NAVJOT BOLA** (Software Engineering, '18), **LADIMER ELYEH** (Software Engineering, '19), and **JON ANDREW HERNANDEZ** (Computer Engineering, '21) won first place at the Intel Edison Challenge for their creation of product prototypes using the new Intel Edison Board.

The **SJSU CONCRETE CANOE TEAM**, lead by civil engineering students **BRADFORD SILVA** ('17), **HUY YOUNG** ('15), **NOLAN FISHER** ('15), and **BIANCA GUZMAN** ('16), placed 6th in the National Concrete Canoe Championship race last spring.

Industrial & Systems Engineering students **MIKE DANG** ('14), **REBECCA MANTECON** ('15), **SANDEEP KANNAN** ('15), and **PARK SRIVIPATTANA** ('14) placed second at the 2015 Society for Health Systems FlexSim Healthcare Model Building Competition.

## 70 years ENGINEERING - SJSU - 1946-2016 MOST POPULAR UNDERGRADUATE FIELDS OF STUDY

1954 **PRODUCTION ENGINEERING**

2015 **MECHANICAL ENGINEERING**

## 70 years ENGINEERING - SJSU - 1946-2016 UNDERGRADUATE MAJORS

In 1964, there were seven engineering majors:

**Chemical** **Industrial**  
**Civil** **Mechanical**  
**Electrical** **Materials Science**  
**General**

In 2016, there are 13 engineering majors:

**Aerospace** **Civil** **Industrial Technology**  
**Aviation** **Computer** **Industrial and Systems**  
**Biomedical** **Electrical** **Materials**  
**Chemical** **General** **Mechanical**  
**Software**

## FEATURE

# In the Heart of the Valley

## THE CHARLES W. DAVIDSON COLLEGE OF ENGINEERING CELEBRATES 70 YEARS

*In the late 1970s, when Dr. Jay Pinson was dean of the College of Engineering, he attended a tech industry event when he overheard a conversation. Much to his consternation, he heard an executive from Hewlett-Packard confide to a colleague that he'd never hire an engineering graduate from San José State University.*

*Pinson took that comment as a personal challenge. He paid a visit to HP Human Resources and asked what percentage of their employees had degrees from SJSU Engineering. Their research quickly showed upwards of 30%.*

*With that in mind, Pinson set out to overhaul the image of the school and to nurture it into as large and influential an institution as possible. "The guy who put us on the map was Jay Pinson," says Dr. Michael Jennings, professor of chemical engineering, who arrived at SJSU in 1980. "You can't give enough credit to Jay."*

*Jennings is right, but Pinson was also able to accomplish all that he did by building on the strong foundation laid by others who came before him.*

### QUONSET HUTS IN A BUCOLIC VALLEY

Established in 1946, what is now the Charles W. Davidson College of Engineering is one of the five oldest public engineering programs in the state. It began its transition from a tiny department to a prestigious college when Professor Ralph Smith set about to expand the faculty to more than just himself.

Over the next ten years, Smith attracted several brilliant young professors to the school. In 1953, the Engineering and Aviation Quonset huts were vacated for an actual Engineering building, and by 1957, enrollment had expanded to 1,120 from the original 200 in 1946.

Perhaps because so many faculty members were veterans of WW II, a distinct camaraderie developed. As Professor George Sicular discovered when he arrived in 1954, soon after attending

regular picnics and dinners hosted by Smith and his wife Louise, "I found the atmosphere here was one of family."

Norman Gunderson, serving as the first dean of the College from 1956 to 1970, helped establish the College's professionally recognized engineering program. At that time, NASA was firmly established at Moffett Field, and aerospace companies started moving into the Valley. Demand for engineers climbed, and Gunderson oversaw the expansion of many key academic programs, and grew the relationship between the College and the aerospace industry. New aeronautics and engineering buildings were constructed and, largely due to industry donations, the College enjoyed state-of-the-art lab facilities. Some of the instrumentation obtained was quite rare at an undergraduate level.

### AN EMPHASIS ON REAL-WORLD EXPERIENCES

The College's goal was always to educate engineers across a range of careers that fall between the research-and-design engineering emphasized at large university programs, and the technical training stressed at the junior college level. The curriculum's evolution was shaped by ongoing consultation with the tech and aerospace industries.

"When I started here, the average student was in their late twenties, they were working at least 20 hours a week, and many were supporting families," says Jennings.

"The percentages have been high on the students who've worked part time in order to get through," says Dr. James Freeman,

professor emeritus of electrical engineering who served as chairman of the Electrical Engineering Department

in the 1980s and the early 2000s, and was also the College's associate dean of academic affairs from 1989 to 1994. "And many were the first generation in their families to go to college."

"The education I received was as good, if not better, than what students were getting at more prestigious universities," says Robert Guzzetta, the retired Vice President, Engineering and Water Quality of California Water Service Company who earned an undergraduate degree in Civil Engineering in 1977, and a Masters in 1984.

"At Cal Water I had the opportunity to hire many SJSU engineering graduates," continues Guzzetta, who has been an active alumnus. "I always found they had a much more practical educational background than students from other universities — they could go into their field right away and be productive. Undergraduate students were learning things like surveying, when other universities dropped courses like that from the curriculum."

### THE BIGGEST SECRET IN SILICON VALLEY

By 1978, when Dr. Pinson became dean, the College's population was close to 3,000. In the early 1980s he vowed to expand the capacity to 5,000 students, soon commissioning plans for a new \$39 million building that would be the largest capital project ever undertaken in the history of the California State University (CSU) system.

"When I came in the early 1980s, the school was impacted, meaning that we were supposed to take the top third of graduating classes in California," explains Freeman. "But we were only accepting less than half of the qualified students that applied because our space was limited."

"We put together a plan to increase the space to 300,000 square feet," Freeman continues. "Jay took it to the chancellor's office, and it was approved, but we were about one hundredth on the waiting list for new construction — which meant five to six years before starting."

"Jay went back to our industry advisory board, and they said, 'What if we raise a third of the money, what would the chancellor's office



### ADA-LOU REED DUACSEK (BS

Aviation, '49) has never been afraid to rebel. An outdoorsman's daughter in rural Northern California, she learned how to hunt, fish, and swim early. In her adolescence she grew fascinated with aviation, considering Amelia Earhart a personal heroine.

Despite her parents wanting her to pursue a more "appropriate" career, Duacsek worked several jobs to afford tuition at SJSU (then \$7 per semester) in order to learn aviation. After high school she worked at Alameda's Naval Air Station, re-joining her high school classmates at SJSU a few years later.

In 1949 and just after World War II, Duacsek graduated from the Aviation Program before serving in the 3rd class of Naval officers, alongside only 25 other women. She reported for duty and as the Korean War began, was charged with recalling Naval squadrons and issuing troop orders for active duty. Post-war, she served as a congressional liaison in DC, received her degree in Meteorology from the Naval Post-Graduate Aerology School, trained in weather and amphibious surf forecasting, and served on several Naval bases.

Of the SJSU Aviation Department, Duacsek remembers a pleasant, almost sisterly camaraderie with the male students, many of whom looked out for her — even helping her to class when she injured her back.

**"Explore all your options! Don't stay on the straight and narrow path because it may not lead you to your true passion. And knock on every door until it opens."**



### After graduating from the College of Engineering, CHARLES W. DAVIDSON

(BS Civil Engineering, '57) pursued a career that would place him at the forefront of both the business and engineering fields.. Since then, Davidson has worn the hat of both an entrepreneur and civil engineer, managing five thriving companies, each of

which he founded during his impressive career. Davidson appreciates the well-grounded, well-balanced, and affordable education he received at SJSU. Among his most memorable moments are the interactions with his former students, along with several of the well-established blue chip professors in the Civil Engineering department. Today, Davidson is still hard at work running his multiple businesses, and is dedicated to leaving an enduring legacy at the College of Engineering. In 2007, his gift of \$15 million was the largest gift in the University's history and allowed the then-newly-renamed Charles W. Davidson College of Engineering to continue supporting student success and faculty excellence for years to come.

**"You've got to have lots of drive. You've got to have fire in the belly."**

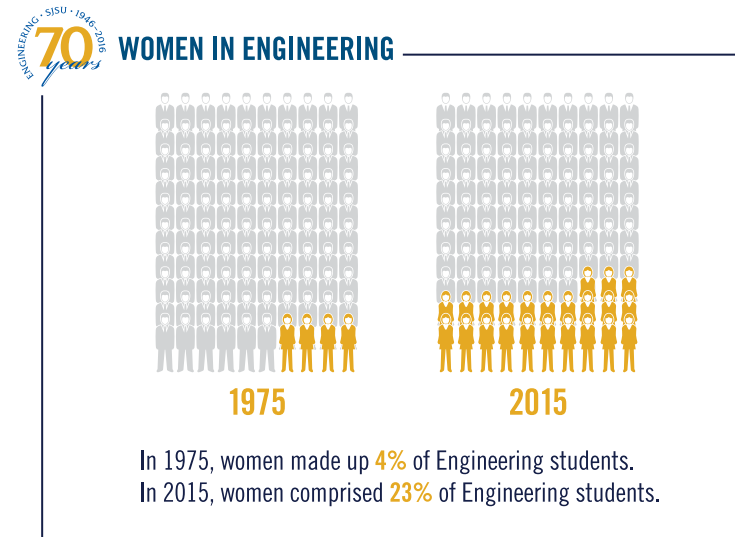
say?" Well, the chancellor's office said "If you can do that, you're first on the list." According to Freeman, almost every engineering company in the valley joined in, with many of the College's alumni in management positions at HP, IBM, Rockwell, Lockheed and other companies leading the charge.

"When we moved in, we probably had the best equipment of any lab in the U.S.," says Freeman. "We had over \$17 million in cash and equipment donated from IBM, HP, Intel, DEC...all new equipment, and new software as well — Cadence software, and Synopsys software for designing the chips. After that, we could double our enrollment."

Of Pinson, Jennings says, "If you had a reasonable idea and you had a plan to carry it out, he never asked how you were planning to get the money. He just went out and got the money. By the time he was done, companies saw San José State as a major source of talent."

### WOMEN MOVE THE COLLEGE FORWARD

In 1975, only 4% of SJSU Engineering students were women. That number has grown to over 23%, and many of the current faculty are women, too. Dr. Belle Wei was



one of the pioneers, becoming the first female professor in the Electrical Engineering Department in 1987, its first female chairperson in 1998, and the first female dean of the College in 2002.

Wei presided over the Electrical Engineering Department during the heyday of the dot-com boom in 1998. "There were a lot of start-up companies and opportunities for students and professors, but the cost of living and high salaries offered by industry could be a deterrent to attracting talented faculty to the College," Wei explains.

### DISTINGUISHED ALUMNI

**Riyad AbuZayyad**  
Mechanical Engineering, '61  
President, Rolm Corp – IBM\*

**Phillip Allen**  
Electrical Engineering, '62  
Professor, Georgia Institute of Technology\*

**Joseph Andrade Jr.**  
Materials Engineering, '65  
Dean of Engineering, University of Utah

**Anthony Banta**  
Aeronautics, '70  
Vice President of Worldwide Operations, Cisco Systems\*

**Donald Beall**  
Metallurgical Engineering, '60  
President and CEO, Rockwell International\*

**Robert Bigler**  
Mechanical Engineering, '87  
Co-Founder and CEO, Equalia

**Douglas Carnaham**  
Electrical Engineering, '65  
Vice President and General Manager, Hewlett-Packard Company\*

**Chia-Juch Chang**  
Civil Engineering, '76  
CEO, China Steel Corporation\*

**Randall German**  
Materials Science, '68  
Professor of Engineering, San Diego State University\*

**Carolyn Guidry**  
Computer Engineering, '79  
President and Founder, Mark & Carolyn Guidry Foundation\*

**Omid Kordestani**  
Electrical Engineering, '84  
Executive Chairman, Twitter

**Helmut Krawinkler**  
Civil Engineering, '67  
Professor Emeritus, Stanford University\*

**James Leckie**  
Civil Engineering, '64  
Professor, Stanford University

**Arthur Money**  
Mechanical Engineering, '65  
President, ESL/TRW\*

**William Nix**  
Materials Engineering, '59  
Professor, Stanford University

**Punita Pandit Bigler**  
Mechanical Engineering, '87  
Co-Founder and Director of Operations, Equalia\*

**Joseph Parisi**  
Mechanical Engineering, '65  
Founder and President, Therma Corporation

**Julie Sattler**  
Aeronautical Engineering, '83  
Vice President of Engineering, Lockheed Martin Space Systems Co.

**Charles Swall**  
Industrial Engineering, '65  
President, IBM – Systems Technology Division\*

**Roger Werne**  
Civil Engineering, '67  
Deputy Director of Industrial Partnerships, Lawrence Livermore National Laboratory

\*most recently known role

## The student body is more diverse than ever — 70% of students are an ethnic minority — and of the ten new instructors Hsu recently hired, half of them are women.

To remove those obstacles, Wei worked with the industry to set up endowment funds to supplement the salaries of incoming professors. Those salaries were generally tied to the professors' summer work and made their life in the Silicon Valley more financially manageable.

Wei led the school in connecting with Asia, establishing the Global Technology Initiative to send top students to study in Asian countries. Says Wei, "This program changes the thinking of the students — they learn firsthand that they're entering a global marketplace and need a global education."

Wei also oversaw the establishment of an interdisciplinary biomedical engineering program in 2007 that now has nearly 400 students. In addition, Engineering Pathways

to Success, a K-12 Science, Technology, Engineering and Math (STEM) program was launched in 2008. Presently, it provides engineering curriculum to over 200 middle and high schools in the Bay Area.

By the time she left the dean position in 2012, Dr. Wei had quadrupled the college endowment. In 2007, the College was the recipient of the largest private individual gift in CSU history — \$15 million — by Bay Area real estate magnate and philanthropist Charles W. Davidson, a 1957 Civil Engineering graduate.

### POWERING INTO THE 21ST CENTURY

Dr. Andrew Hsu, dean since 2013, is leading the Charles W. Davidson College of Engineering into the future. Since Hsu's arrival, the student population has grown from 4,000 to 7,000. International student enrollment has more than doubled. The student body is more diverse than ever — 70% of students are an ethnic minority — and of the ten new instructors Hsu recently hired, half of them are women.

"We have a shared personnel model where faculty are appointed as industry chairs that are 50% funded by industry," Hsu says. "We're focusing on industrial research and applied research. Along those lines, we've also established two new Centers of Excellence."

Hsu would like to see more initiatives such as The California Water Service Company Industry Chair, endowed by Cal Water in 2014 to enable its technical staff to work collaboratively with students on current issues facing the water industry.

"It allows academics to see what the real world goes through," says Guzzetta, noting that the

(continued on page 14)



**DAVID BROWN** (BS Mechanical Engineering, '68) believes that career success stems from following one's passions, a willingness to change directions if necessary, and not being overwhelmingly concerned with achieving specific goals. One would do well to heed his advice. After

attending SJSU due to its proximity to his hometown, tuition affordability, and the small class sizes as compared to some other Bay-area options, Brown found his home at SJSU in the labs. With a strong foundation in physics, dynamics, and material science, Brown went on to found Quantum Corporation in 1980. More than 35 years later, Quantum Corporation is still a thriving company and Brown is happily exploring new interests, hobbies, and time with his family after retiring as President in 1992 and later, in 2004, from the company's Board of Directors.

**"Follow your passion when seeking a career path. Don't be afraid of changing direction if that's what it takes to find that passion."**



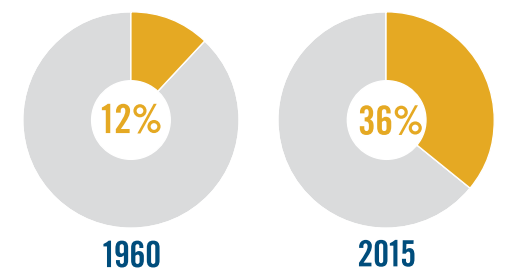
When her husband's career required **ROBIN CHING** (BS Chemical Engineering, '77) to relocate from Washington to California, Ching was determined to continue pursuing her education at a nearby university with a strong chemical engineering department. Ching found that, and more, during her

time at SJSU. She fondly recalls the time spent with her chemical engineering classmates and professors. One of Ching's final classes at SJSU was a plant design class, where she worked closely with a small team to design a chemical plant from start to finish. Ching is appreciative when she recalls how closely her plant design experience at SJSU actually modeled a real engineering development team. She credits that experience, along with the deep technical background and analytical skills she gained from attending SJSU, for her impressive 25-year career at Hewlett-Packard.

**"Be curious and never stop learning."**

### 70 years GRADUATE STUDENTS

In 1960, graduate students accounted for 12% of total enrollment. In 2015, graduate students account for 36%.



**1930s**

Thomas Leonard starts an **Aeronautics program** in the basement of the old science building on campus



**1946**

In its first year, 200 students enroll in the Engineering department. They take classes in a 40' x 80' **temporary laboratory building**.

**1954**

**Engineering building** completed

**1961**

First M.S. degrees, in **Electrical Engineering**, are conferred

**1963**

**First classes** held in Engineering Building

**1971**

**Dr. James E. Roberts** appointed dean

**1972**

The Flying Twenty become the Pacific Coast **Intercollegiate Flying Champions**

**1979**

**Dr. Jay D. Pinson** appointed dean

**1985/86**

College embarks on a \$38 million renovation and expansion program, called **Project 88**. Construction begins on new College of Engineering building

**2002**

Don Beall makes first-ever endowed deanship gift, **endows the Don Beall Dean of Engineering**

**2007**

Charles W. Davidson makes **largest private individual gift** in history of SJSU

**2011**

**Biomedical Engineering Program** established

**2013**

**Andrew Hsu** appointed dean

1930

1935

1940

1945

1950

1955

1960

1965

1970

1975

1980

1985

1990

1995

2000

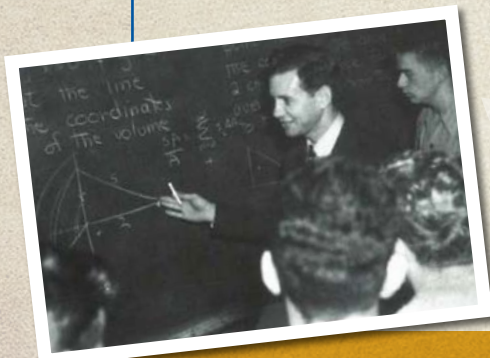
2005

2010

2015

**1945**

Engineering program established at San José State University, **Dr. Ralph J. Smith** department head.



**1948**

First two B.S. in **Engineering degrees** conferred

**1956**

**Norman O. Gunderson** appointed first dean of College of Engineering



**1958**

**Mechanical Engineering Program** established

**1963**

Civil Engineering receives the College's **first sponsored research project** from the U.S. Department of Defense

**1975**

Student chapter of **Society of Women Engineers** is founded



**1995**

**Donald E. Kirk** appointed dean

**1988**

Present-day **Engineering building** is completed

**2002**

**Belle Wei** appointed dean of engineering, becoming the first Asian woman to hold the dean position at SJSU

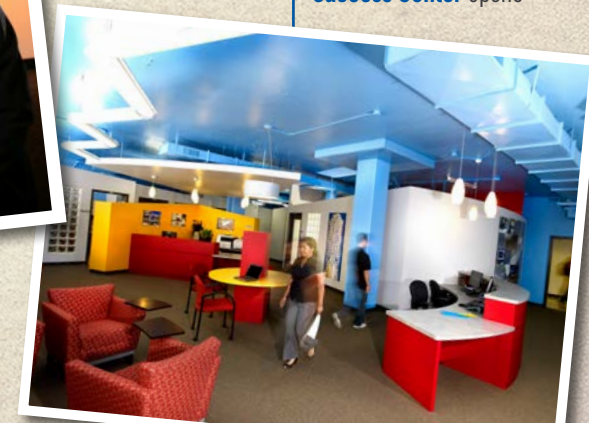


**2004**

M.S. in **Software Engineering** established

**2009**

**Engineering Student Success Center** opens



**2015**

**Engineering enrollment reaches 7,300**, making the College one of the largest engineering programs in California

# MILESTONES

issues studied include system operational efficiencies and the flushing of water systems. “This is all very important during a drought. It will allow the industry to publish useful information, and gives the graduate students insight into the sort of problems they will actually face once they leave the school.”

### THE SPIRIT LIVES ON . . .

The Charles W. Davidson College of Engineering’s commitment to a practical education and rigorous academics is the same today as it was 70 years ago.

“Granted, now we get students after they’ve had four semesters of calculus, two semesters of physics and chemistry, but in their dedication, they haven’t changed at all since I’ve been here,” says Jennings. “We get students with a whole lot of potential, and the College provides the spark.”

“The main thing that’s changed is now the students have data for design at their fingertips,” he continues. “Now what they can accomplish in a three-unit class is much different than what they could accomplish in the past.”

Guzzetta sums it up with a story about the College’s participation in the American Society of Civil Engineer’s Regional Concrete Canoe Competition, where student teams design, build and then race a concrete canoe.

“I was there because my daughter was on the team — we’re among quite a few multi-generational families in SJSU civil engineering,” he explains. “In the very first race, their boat had a structural failure. I stood back and watched these kids — they had worked on it for months, and if they didn’t fix it, they’d be done. Well, they sat there and talked and came up with a solution, and in the end they took second place. That made them eligible for the national competition for the first time in many years.”

“It was an invaluable experience, something you can’t just learn in a classroom,” Guzzetta concludes. “That’s really the beauty of this school. It’s a place where learning is practical, hands-on and very applicable to a quickly changing world.”

70 YEARS OF ENGINEERING @ SJSU - 1946-2016  
**MOST POPULAR GRADUATE DEGREE**

1960 **ELECTRICAL ENGINEERING**

2015 **SOFTWARE ENGINEERING**

## ALUMNI SPOTLIGHT



**PAUL HICKMAN**, (BS Electrical Engineering, '85) an attorney at the firm Technology & Intellectual Property Strategies Group PC d/b/a TIPS Group, credits his career success to the strong technical foundation he received at SJSU. After applying to SJSU, in part because of its strong reputation for

training Silicon Valley engineers, Hickman received his Bachelor’s degree in Electrical Engineering. Foregoing the typical Engineering path after graduation, Hickman instead pursued a law career and became a successful Patent Attorney. Over the years, Hickman used his Engineering background to prepare and prosecute high-tech patent applications for such companies as Apple, Sun Microsystems, and Hewlett-Packard. When asked to recall his fondest memory of SJSU, Hickman cites designing and building his senior project — a solar-powered ventilation system for parked cars.



As a senior, **RAGHIB HUSSAIN** (MS Computer Engineering, '97) culminated his academic experience by collaborating with his classmates and industry experts on his final thesis. While challenging, the experience reinforced that which Hussain knew all along — SJSU offered a strong

academic program and a wealth of industry connections. During his time as a student, Hussain worked in the heart of Silicon Valley while taking classes. In doing so, he was able to gain exposure to the industry early on and apply his academic lessons to his daily work. As the founder and current CTO of Cavium, a fabless semiconductor company, Hussain advises his fellow alumni and current students to focus and approach each task one step at a time in order to attain seemingly unattainable goals.



A recent graduate, **SETHA YIM** (MS Material Engineering, '08) is a Product Development Engineer at TE Connectivity, where she designs new connectors for Databus products. After earning her Bachelor’s degree at UC San Diego, Yim chose to pursue her Master’s at SJSU

because of the smaller class sizes, hands-on learning opportunities, and the chance to build relationships with professors and connect with the material in a tangible way. She credits Dr. Emily Allen, her materials engineering professor, for cultivating her passion for material science. Yim advises new graduates to take the time to figure out their chosen career path, be patient, and allow extracurricular and professional experiences to guide you.

“The possibilities are endless.”

## STRATEGIC PLAN UPDATES



✓ Secured CSU VISTA staff position to support service-learning curriculum

✓ Established three showcase labs for student, faculty, and industry use and collaboration

✓ Established funding to assist faculty and staff in professional development opportunities

✓ Piloted freshman cohort program to engage students from entry through graduation

✓ Redesigned College of Engineering website to feature more engaging, dynamic content

✓ Received more than \$1.7 million in research grant funding

✓ Established Student Research Scholars program

✓ Establishing two Centers of Excellence to promote scholarship and research

✓ Launched annual student research competition

✓ Enhanced Faculty Research Incentive Program to support research excellence

✓ Established three Corporate Chair Professorship positions to promote industry-supported joint endeavors

✓ Hosted industry-sponsored student events at Intel, Cisco, LAM, and Juniper Networks

✓ Hosted 1,500 Engineering students at TechTalks and Information Sessions featuring guest speakers from leading tech companies

✓ Funded Silicon Valley Innovation and Entrepreneurship scholarships to support graduate student work

✓ Launched Alumni Engagement Committee and Senior Design Project Task Force



## SPRING 2016 EVENTS

### NETWORKING SUCCESS FROM THE EXECUTIVE SUITE

Wednesday, March 9 | 4:30–6 p.m.  
Student Union Ballroom  
[sjsualumni.com/sss](http://sjsualumni.com/sss)

Don't miss this unique opportunity to strengthen your networking skills and gain insight from industry professionals! Master the art of networking with a panel presentation by local executives, then attend an exclusive networking reception with alumni representing a variety of companies, including Tech CU, Netflix, Yahoo, GoPro, and more.

### 2016 SILICON VALLEY WOMEN IN ENGINEERING CONFERENCE: ENGINEERING FOR HUMANITY

Saturday, March 12 | 8:30 a.m. – 7 p.m.  
[engineering.sjsu.edu/power-wie-conference](http://engineering.sjsu.edu/power-wie-conference)



Come together with hundreds of female Engineers as we discuss how

to inspire the next generation of female innovators to develop technologies for the service of humanity. This interactive conference will include panel discussions, keynote speakers and round table discussions.

### ENGINEERING TODAY: THE SKILLS AND QUALITIES NEEDED TO SUCCEED

Wednesday, March 23 | 6–8 p.m.  
[bit.ly/2016AlumniCareerPanel](http://bit.ly/2016AlumniCareerPanel)

Alumni are invited to join us for a networking reception and panel discussion. Catch up with former classmates, make new connections, and hear from accomplished alumni and industry professionals about the skills and qualities needed to compete in today's global market.

### SILICON VALLEY LEADERS SYMPOSIUM

February – May 2016 | Thursdays, 12–1 p.m.  
[engineering.sjsu.edu](http://engineering.sjsu.edu)



The Symposium hosts industry and technology leaders to talk about business and technology trends. It also features prominent leaders who discuss broader societal and political issues that shape our life and society.

## FACULTY ACCOMPLISHMENTS

### DR. AHMED HAMBABA, ASSOCIATE DEAN OF GRADUATE & EXTENDED STUDIES,

has received a \$40,000 IBM Faculty Award for his work in innovative design. Dr. Hambaba will collaborate closely with IBM to foster curriculum growth at the College of Engineering. In addition, IBM also funded Louis Freund, professor of industrial and systems engineering, for his work on the “Innovation Center for T-Shaped Graduates.”

### DR. BURFORD “BUFF” FURMAN, PROFESSOR OF MECHANICAL ENGINEERING,

presented “Innovating ATN with Students,” a discussion of innovating the technology of automated transit and personal rapid transit - better know as “podcars” — at the PodCar City 2015 International Conference.

### MAGDALINI EIRINAKI, ASSOCIATE PROFESSOR OF COMPUTER ENGINEERING,

presented her research on HyPER, a flexible, problem-agnostic, and easily extendable hybrid recommender framework. The research was the result of Dr. Eirinaki's collaboration with the Statistical Relational Learning Group (LINQS) at UCSC during her sabbatical, and appeared in the Proceedings of ACM RecSys 2015, in Vienna, Austria. In addition, her findings on improving database query recommendations using matrix factorization were published in the Proceedings of the 2015 IEEE International Conference on Big Data in Santa Clara, while her work on aspect-based opinion mining for personalized recommendations, in collaboration with Harokopio University of Athens, Greece, was published in the Proceedings of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) in Paris, France.

### YOUNGHEE PARK, ASSISTANT PROFESSOR OF COMPUTER ENGINEERING,

will speak on security problems in SDN at the IEEE International Conference on Computing, Networking and Communications (ICNC) in February 2016. In ICNC, she will introduce freeloading, a new misbehavior affecting software-defined networks, where attackers bypass the process of installing flow rules allowing them to manipulate the centralized controller. Park, along with her colleagues, suggests using a watermarking technique, which embeds a secret message into the data payload, allowing for freeloading detection and quicker action against it. At the Network Operations and Management Symposium (NOMS) in April 2016, she will introduce a technique to randomize network addresses against unauthorized access of the packet-forwarding path in SDN, by time-stamping automatic new address generation.

### JERRY GAO, PROFESSOR OF COMPUTER ENGINEERING,

has made incredible research gains on cloud testing, mobile app test automation and services. Gao has introduced new, reusable, scalable, automated-acceptance, testing architecture, usually composed of independently deployable services, or microservices, to support Cloud and Mobile Cloud computing services and applications. The newly introduced concepts of “Mobile Testing as a Service” (MTaaS) and location-based service testing have been widely accepted in both academia and the industry. His research in mobile app testing services, Cloud, and Mobile Cloud automation has been widely cited, and has reshaped the way many applications are developed and implemented.

## INNOVATIVE LEARNING

# New Program Brings Innovation to the Community

*Raymond Baldovino* (Mechanical Engineering, '15) knew something had to be done when he walked into a restroom at the King Public Library one day and saw a homeless man trying to wash himself at the sink. With that, Hygiene for the Homeless, a project with the goal of building mobile washroom facilities for homeless individuals, was born. Hygiene for the Homeless is just one example of a project that was conceptualized and initiated this year through Engineering Programs in Community Service (EPICS), a rigorous service-learning program designed to empower students to solve real-world problems in local communities.

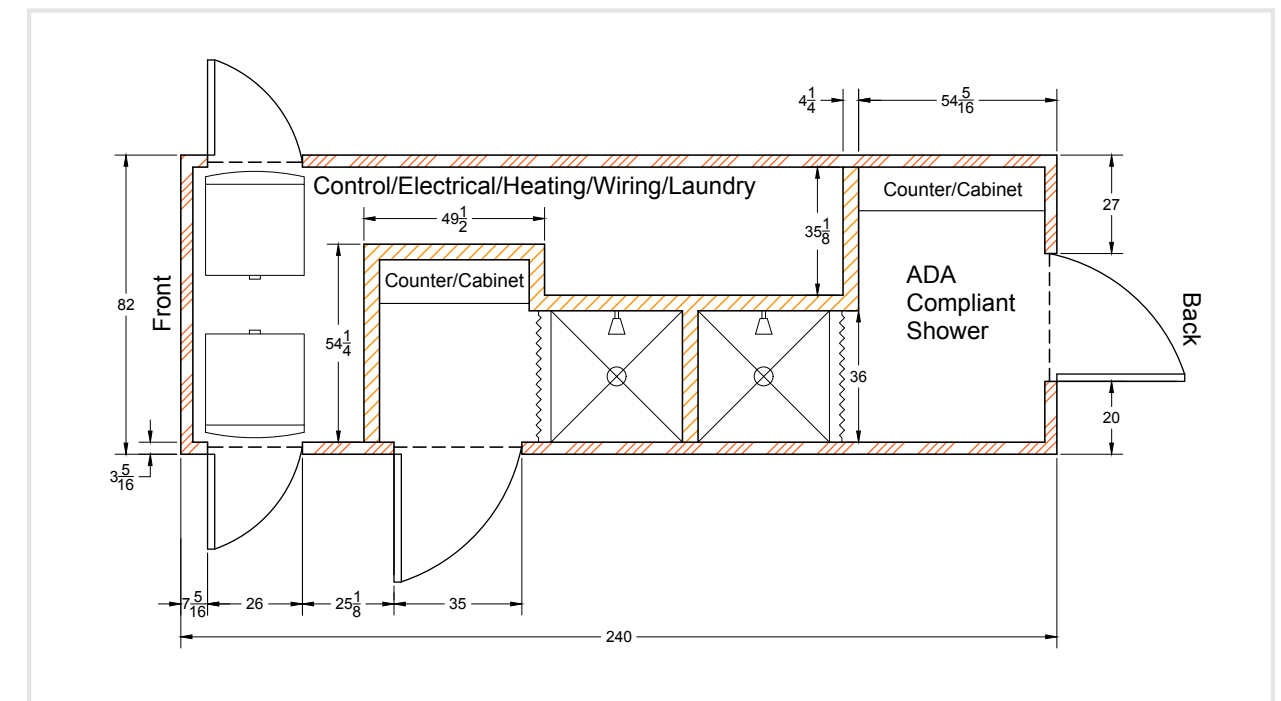
EPICS was established at Purdue University in 1995. Since then, it has been scaled to more than 25 universities and colleges. According to Professor Keith Perry, who facilitates the EPICS program at the College of Engineering, “EPICS is unique as it allows seniors to make a long-term impact on the local community while also acquiring real-world skills like self-management, teamwork, and project management.” With ten students participating this past year, Perry believes the EPICS program will continue to grow.

In the first year of the program, in addition to Hygiene for the Homeless, EPICS students are working on other projects like Study Buddy, which consists of training an Instance of IBM's Watson computer with the goal of becoming an automated tutor for local high school students.

A third team is developing a robotic Electric Vehicle Charger, which will provide a convenient way to charge cars by transmitting electricity wirelessly.

After a productive Fall semester, the Hygiene for the Homeless student group received some initial funding from the Gilroy Compassion Center to purchase a 20-foot shipping container, which they are adapting to become a shower facility with a washer and a dryer. The students are also focused on making the trailer energy efficient; they approached Sunpower, who donated 2 solar panels. The team hopes to obtain sufficient funding to purchase materials and complete their project by May.

Perry understands that his students may be participating in EPICS as part of their course requirements, but it has turned into much more. “A number of students have told me they aren't doing this for the grades anymore,” he says.



# Flipping Classrooms to Further STEM Careers

*Over the past two years*, SJSU, Cal State LA, and Cal Poly Pomona have been working to achieve a paradigm shift in how students approach traditional classrooms and assignments by implementing new models of “active learning.”

Researching the “active learning” approach, Provost Andy Feinstein and Laura Sullivan-Green, professor of civil and environmental engineering, have found that it better supports at-risk students, including underrepresented minorities and women, and results in higher success rates than courses taught in traditional, lecture-based formats.

In an effort to advance this theory at SJSU, Feinstein, Sullivan-Green and their colleague, Professor David Parent (Electrical Engineering), recently received grant funding for a program designed to promote active learning strategies through flipped classrooms in STEM gateway courses. The grant was funded through the U.S. Department of Education’s “First in the World” program, which supports the development, replication, and dissemination of innovative solutions to persistent and widespread challenges for students in postsecondary education.

The SJSU grant brings the flipped classroom pedagogy into lower division courses that are instrumental for STEM careers and have historically displayed low track records of student success — specifically, calculus, physics, computer science, and engineering. The grant focuses on these courses due to their necessity in any STEM field, and strives

to decrease the amount of attrition in STEM majors as students advance through the curriculum.

Sullivan-Green maintains that the flipped classroom pedagogy instills a sense of “lifelong learning” in students by taking the knowledge acquisition portion of learning outside the classroom, and bringing the knowledge application portion inside. Students utilize readings, web tutorials, online videos, and other tools outside of the classroom, allowing them to absorb the material at their own pace, while group classroom time is reserved for exercises and projects. When tackling the more challenging, application-based subjects, students also have access to their peers and instructors for guidance, mentorship, and support.

The flipped classroom model is not yet widespread, because it is currently tailored to each instructor and group of students. After the grant term is complete, core faculty from flipped classrooms will share their experiences in order to develop sustainable course content and classroom templates for other faculty to use. Throughout the process, WestEd, a consulting company that helps academic institutions through innovative research and assessment, will evaluate the program and provide recommendations to increase efficacy.

Professor Sullivan-Green is excited about this bold initiative taking place in both classrooms at SJSU and across California. “We are actively working to find solutions to enhance student learning within the constraints of their unique challenges. We want to support students’ educational goals, help them over initial hurdles, and keep them where they want to be,” she says.

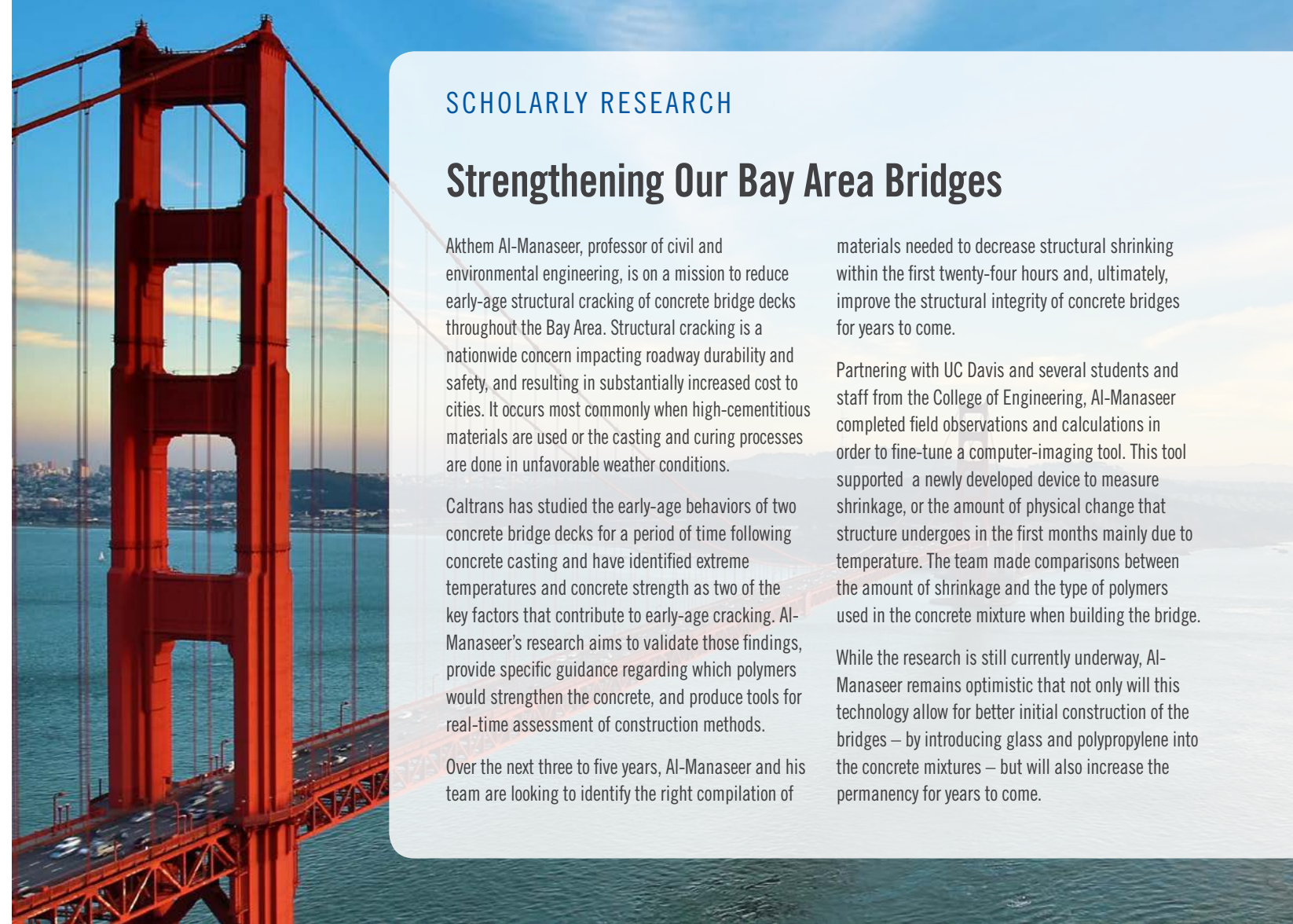
*In an effort to make sure all are recognized for their involvement, the other professors involved in this project are:*

*Math: Marion Campisi, Timothy Hsu, Julie Spitzer  
Physics: Monika Kress, Ranko Heindl  
Computer Science: Chris Tseng*

---

The flipped classroom pedagogy instills a sense of “lifelong learning” in students.

---



## Strengthening Our Bay Area Bridges

Akthem Al-Manaseer, professor of civil and environmental engineering, is on a mission to reduce early-age structural cracking of concrete bridge decks throughout the Bay Area. Structural cracking is a nationwide concern impacting roadway durability and safety, and resulting in substantially increased cost to cities. It occurs most commonly when high-cementitious materials are used or the casting and curing processes are done in unfavorable weather conditions.

Caltrans has studied the early-age behaviors of two concrete bridge decks for a period of time following concrete casting and have identified extreme temperatures and concrete strength as two of the key factors that contribute to early-age cracking. Al-Manaseer’s research aims to validate those findings, provide specific guidance regarding which polymers would strengthen the concrete, and produce tools for real-time assessment of construction methods.

Over the next three to five years, Al-Manaseer and his team are looking to identify the right compilation of

materials needed to decrease structural shrinking within the first twenty-four hours and, ultimately, improve the structural integrity of concrete bridges for years to come.

Partnering with UC Davis and several students and staff from the College of Engineering, Al-Manaseer completed field observations and calculations in order to fine-tune a computer-imaging tool. This tool supported a newly developed device to measure shrinkage, or the amount of physical change that structure undergoes in the first months mainly due to temperature. The team made comparisons between the amount of shrinkage and the type of polymers used in the concrete mixture when building the bridge.

While the research is still currently underway, Al-Manaseer remains optimistic that not only will this technology allow for better initial construction of the bridges — by introducing glass and polypropylene into the concrete mixtures — but will also increase the permanency for years to come.

## Engineering a Smarter Car

The “iCar”: an autonomous vehicle theoretically capable of sensing and navigating through a variety of environments without human input. “This is the next wave of artificial intelligence” according to Charles Choo, professor of electrical engineering.

Choo, along with Professor of Mathematics, Roger Dodd, designed an algorithm-to-chip technology know as Field Programmable Gate Array chip, or FPGA, which processes image- and video -related artificial intelligence. The FPGA chip is a tangible product of a multi-year, joint research project with the SJSU Mathematics Department, funded by the Volkswagen Group of America Electronics Research Laboratory in Silicon Valley.

Modeling their research methods on medical biometric techniques, Professors Choo and Dodd, along with their students, are using this real-time semiconductor FPGA chip along with a camera to collect “street metrics,” enabling the chip to direct the “iCar” to better react to and navigate the environment. Theoretically, any autonomous vehicle using the chip can utilize the metrics to accurately judge distances between itself and objects around it, such as the roadside curb or other cars, and adjust as necessary.

The significance of the FPGA chip is that it augments global positioning technology (GPS) to create truly autonomous vehicular systems that can better recognize pedestrians, buildings, trees, and car models, under a range of lighting conditions, ultimately leading to a seamless, driverless experience.

Looking forward, the cutting edge technology that fuses together the GPS and FPGA chip will allow driverless cars to be safer, adapt to any environment, road and weather condition, or time of day, and be more responsive — no matter what the circumstance.



## Building Bridges Through Faculty Projects

Ahmed Hambaba, associate dean of graduate and extended studies, spends much of his time creating bridges between academia and industry. One approach is through the establishment of Research & Development (R&D) faculty projects.

R&D faculty projects are typically year-long partnerships in which faculty gain real-world experience through collaboration with companies looking to develop new products or ideas. Since the program's inception, more than fifteen faculty members have worked on projects with companies like Netgear, Cisco, and Intel. Projects range from app development and software defined networking to user interface design and crowd sourced computing.

While working with Nokia to address the challenges associated with future 5G communications systems, Dr. Shahab Ardalan, assistant professor of electrical engineering, found that R&D projects allow him to explore novel ideas while marrying challenges facing industry with his research and expertise. Also, unlike traditional research, where one might wonder if there is an actual real-world application, the R&D projects immediately align faculty research in supporting current industry challenges.



Partnering with industry does not always come naturally to faculty members. Associate Dean Hambaba says, "It can be frustrating work at times, because it pushes faculty out of their comfort zone." But the benefits are worth the challenges. "Faculty and students build strong relationships with industry partners, and companies gain a partner they trust and rely on to help move their business forward."

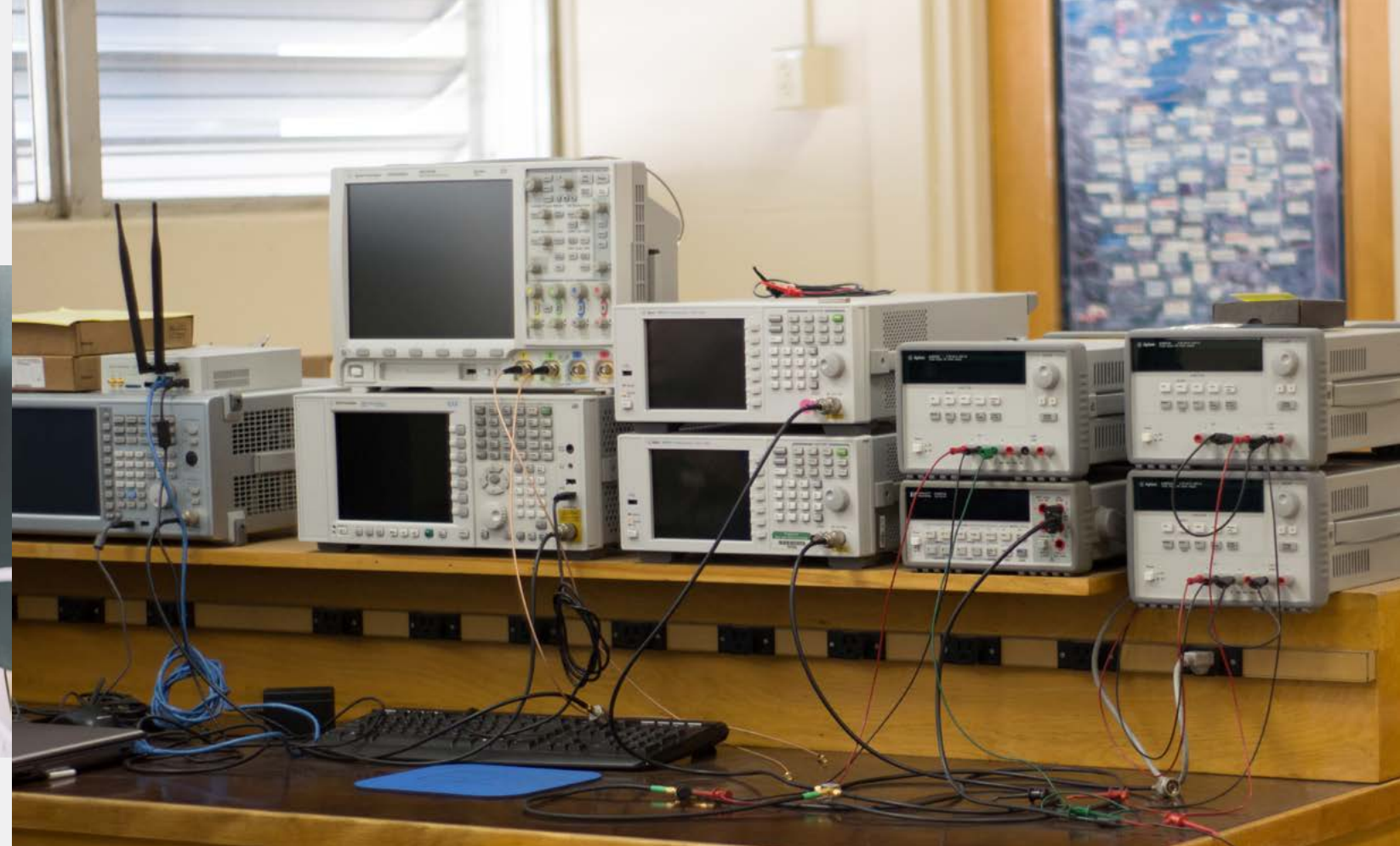
## Dr. Weider Yu Helps IBM Achieve Its Goals

Dr. Weider Yu, professor of computer engineering, has spent over 30 years in the fields of Software and Computer Engineering. He gained experience in coding, design, and systems architecture at one of the industry's top R&D organizations, AT&T Bell Laboratories, before transitioning to academia where he's researched topics like data analytics, mobile software, and wearable technologies. In recent years, he established the first-ever big data course at the College of Engineering.

With his experience in both industry and academia, it is no surprise that IBM selected Dr. Yu as Chair of the IBM Professorship, the third joint appointment between a College of Engineering faculty member and industry. Ahmed Hambaba, associate dean of graduate and extended studies, established the first joint appointment in 2014 and serves as the program's lead architect and facilitator. In his role, Dr. Yu will focus on critical areas of research such as database query optimization, data processing and the future of big data.

Dr. Yu is excited about what this partnership means. He says, "[IBM's] products have sustained and become the mainstream in database processing... and they need to ensure this can be carried forward in the future." Using an academic lens to understand the strengths and weaknesses of IBM technology, Dr. Yu hopes to help the organization achieve its strategic priorities.

Dr. Yu is looking forward to what the future holds, for both IBM, and for the College of Engineering. Dr. Yu says, "I will continue to research and create new disciplines in business intelligence and big data to ensure that SJSU, and its graduates, stand at the front edge of those technologies."



## FUNDRAISING

### A Generous Gift Ensures the Next Generation Can Follow Their Passions

On a recent visit to campus, Dan Cheadle (BS '67, MS Electrical Engineering, '70) explored the new Cheadle Radio Frequency (RF) and Communication Lab. Although technology has vastly progressed since his days at SJSU — current students work with advanced software and simulation tools, whereas Cheadle wrote his own simulation programs as a student — he was pleased to see students benefitting from hands-on experience in the state-of-the-art facility.

Cheadle established the RF and Communication lab in part because he knows RF engineering can be intimidating to students. He explains, "[RF engineering] goes beyond what's in the books. This is particularly true for component design such as RF amplifiers or Frequency Mixers. It's a collection of acquired knowledge. It's almost art, in a sense."

After completing his Master's degree in Electrical Engineering, Cheadle started his RF career at Lockheed Missiles & Space Systems.

He moved on to Relcom, which was later acquired by Watkins-Johnson. In 1987 Cheadle started his own company, Cougar Components, which he sold in 2005. Cheadle attributes his success to the opportunities he enjoyed while working in a variety of RF and engineering fields.

Cheadle hopes today's engineering students gain experiences in the Cheadle RF and Communication Lab that encourage them to pursue their passions and bolster their career success. He remembers, "[In 1967,] a supervisor once told me that by picking a job in RF, I would never be out of a job. I have

watched this industry grow and change, and here I am at 74 years old. I still know RF, I'm still passionate, and I'm still working."

**"A supervisor once told me that by picking a job in RF, I would never be out of a job."**

## ALUMNI NEWS



**VISHAV VIR SINGH** (MS Software Engineering, '08) recently joined Google as a Partner Technology Manager for the Google Shopping team, primarily working on the AdWords platform and running products to better enable advertisers and to understand and measure offline attribution for advertisements.



**RUPA KARNAN DEVADOSS** (MS Software Engineering, '10) is a Senior Application Engineer at Nike and is involved in creating consumer-facing web applications for Nike.com. Her most recent project was introducing customizable text on Nike footwear.



**STEVE SCHAUER** (BS Electrical Engineering, '03) has worked in the RFID industry since 2004. While at Applied Materials in 2012, he won the CTO's "ET Excellence Award" for his contributions to the High Performance Parts space and a recyclable, Tantalum-coated process kit. Steve now works with Alien Technology, and has been married for over 10 years with two children.



**CHINTAN PARIKH** (BS Electrical Engineering, '06) currently works at Maxim Integrated as a Senior Business Manager.



**PETER ARNOLD** (BS Electrical Engineering, '07) obtained an MS in Electrical Engineering with a concentration in Computer Architecture from Stanford University in 2011. He lives in Cupertino, California, and has been working at Apple Inc. since 2009.



**DEEP SUTARIA** (MS Electrical Engineering, Networking, '12) currently works at Dell as a Software Engineer. He is passionate about solving problems and contributing toward the betterment of society. He is planning to pursue an MBA further down the road.



**CHIRAG PANCHAL** (BS Civil Engineering, '14) works as an Estimator at Walters & Wolf Precast in Fremont, California. He will be pursuing a graduate program in Civil Engineering at SJSU. Chirag extends his appreciation to the entire SJSU Engineering Department.

**MARILYN LACROIX** (Industrial Technology, '87) currently works at Paradigm Stuart in Quality Assurance. She is based in Florida.



**ANISHA FRANKLIN** (MS Software Engineering, '12) works for eBay as a Software Engineer, where she won the "Star Rookie" award for demonstrating excellence in her work as a new employee. She was also selected to represent eBay at the 2015 Grace Hopper Women in Computing Conference. Anisha is the San José lead for eBay Women in Technology Community.



**FRANK BRONTSEMA** (BS Civil Engineering, '70) graduated in the middle of a nation-wide construction freeze and had to change his focus from Civil to Aerospace Engineering. He began working at the Satellite Test Center where he quickly made valuable contributions. Frank had a satisfying 40-year career and expresses his appreciation for SJSU's engineering professors for their support in his transition to another field.



**ROSS HOWE** (MS Electrical Engineering, '76) has been employed in Massachusetts for the last 38 years. He currently works for a private consulting firm in the nuclear power field that specializes in creating fire compliance strategies for many North American power plants. He will retire next year.



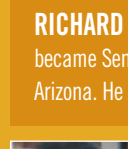
**SHREY MEHTA** (MS Software Engineering, '14) started his professional career with Nook Media as an intern and is now an integral part of the Big Data Analytics team, building the Barnes and Noble Customer 360 Omnichannel Analytics platform. He loves crunching data and extracting actionable insights that help determine critical business decisions.



**TILIA WONG** (BS Civil Engineering, '08) lives in New York City. She completed an MBA at Stanford University and now works in management consulting at McKinsey & Co. She specializes in operations transformations for Industrials companies.



**KEN OLCOTT** (MS Civil Engineering, '92) joined SANDIS in 1997 and since 2005 has served as the firm's President and CEO. Ken also serves as an active design team member on large-scale projects, provides design direction on infrastructure systems, and provides overall project quality assurance for a majority of the firm's Silicon Valley office's projects.



**RICHARD KELLETT** (BS Electrical Engineering, '88) recently became Senior Information Systems Engineer for SAIC in Sierra Vista, Arizona. He retired from civil service in 2014.



**MELANIE LEE** (MS Electrical Engineering, '11) worked as an Electronic and Engineering Technician while achieving her BS degree. She was then promoted to a microwave/RF telecommunications engineer while pursuing her Master's degree. After 15 years of hard work, she decided to retire from her position. Her advice to graduates is: "Know your limit and stick to it."



After a career in mechanical engineering, **JOE GILLICK** (BS Mechanical Engineering, '83) now works in property management. He still keeps up with mechanical engineering developments and enjoys maintaining and repairing mechanical devices.



**SERGON ATTISHA** (BS Civil Engineering, '12; MS Civil Engineering, '15) currently works for Underground Construction as a Project Engineer.



**KEVIN E. FLYNN** (MS Systems & Industrial Engineering, '85) just celebrated his fourth year of having his own patent firm, following a long career working at other, larger law firms. His SJSU work in Industrial & Systems comes in handy in a wide range of projects from medical devices to business method inventions.



**MITESH PATEL** (MS Aerospace Engineering, '11) works as a Design Engineer at Boeing in Philadelphia. He is also pursuing an MBA degree part-time at Villanova University. Mitesh bought his first house in June 2015.



**TAKESHI IBE** (BS Aerospace Engineering, '07) started his career at Mitsubishi Heavy Industries in Japan designing diesel engines and nuclear power plant reactor internals. He is currently an engineer project managing at Nordson.

**IGNACIO "ERNIE" MENDEZ** (BS Electronics Engineering, '56) retired from Lockheed Missiles and Space Company in 1993. Ernie and his wife Emily, a retired probation officer, sailed around the world between 1995 and 2000. They are now sailing from Maine to the Bahamas and enjoying the good life thanks to successful investing and excellent health from commitment to exercise.



**ELISE MOSS** (BS Mechanical Engineering, '03) works at Newsys, a division of Sanmina. She designs prototypes and conceptual models for data storage devices for various Silicon Valley customers. She also holds a CSWP in SolidWorks and teaches the program part-time at Oakland's Laney College. She has published several textbooks on Autodesk and Onshape CAD software.



In September 2015, **MEENA SELVAM** (MS Software Engineering, '07) created the company Integrated Career Services, which works with Silicon Valley hiring managers to find employment for SJSU students and graduates. Meena is currently pursuing her Master's in organizational management.

## RETIRING FACULTY



**MOHAN KIM** (Technology Department) has been with the College of Engineering for the past 30 years. When he retires this fall, he's looking forward to travelling to parts of the world he has yet to visit.



Following his retirement, **MICHAEL JENNINGS** (Biomedical, Chemical, and Materials Engineering) looks forward to spending time with family, serving on nonprofit boards, and practicing technical and litigation consulting. After 30 years with the College of Engineering, he will miss working with students each day and watching them advance in their fields.



After over 30 years at the College of Engineering, **PETER REISCHL** (Electrical Engineering) will miss interacting with and working alongside his students and colleagues, but will happily continue collaborating with some of his former students in the Silicon Valley.



After serving as Department Chair, **GREGORY YOUNG** (Biomedical, Chemical and Materials Engineering) is now transitioning into his merited retirement. He and his students conducted research in the areas of electroless plating, electrolytic deposition of metal films, nanoparticle synthesis and biofuels characterization.



After 35 years at the College of Engineering, **UDO STRASILLA** (Electrical Engineering) will miss helping his bright students pursue their dream career by providing them with hands-on experimentation sessions. Upon entering retirement, he's looking forward to establishing Online Teaching and Remote Labs. This year, Udo will also be opening a permanent exhibition at the Great Aviation Museum in Munich, Germany, the culmination of a life-long joint venture with his brother.

**THANK YOU FOR YOUR SERVICE!**

# BEST COLLEGES

& WORLD REPORT  
**U.S. News**

ENGINEERING PROGRAMS  
2016



## CELEBRATE YOUR PAST, INVEST IN THE FUTURE

Make a gift today and support the next generation of SJSU Charles W. Davidson College of Engineering students.

GIVE NOW BY VISITING  
[bit.ly/givetoengr](http://bit.ly/givetoengr)