

Google and Atmel Execs Honored at Engineering Awards Banquet

It was a full house in the Imperial Ballroom at the downtown San José Fairmont Hotel last April when the College of Engineering recognized two of its outstanding alumni for their achievements in the field of engineering—**Omid Kordestani** (B.S. EE '84), senior vice president of Global Sales and Business Development at Google, and **Gust Perlegos** (B.S. EE '69), co-founder and executive vice president of Atmel Corporation (see page 4).

Since 1980, the College has honored outstanding engineers, business executives and educators for their achievements and contributions to the practice of engineering at an annual awards banquet. In addition to

Kordestani and Perlegos, this year's banquet, the College's 25th, recognized 56 previous winners.

"This is a very special night," said Dean Belle Wei to the some 500 dinner guests. "Special, because gathered here are the key contributors to the College of Engineering—friends from industry, our alumni, our students, our faculty and our staff. Tonight is also special because this year marks the 25th anniversary of the engineering awards banquet.

"Our alumni have built a reputation for having a strong work ethic and solid knowledge and skills in engineering," continued Wei. "Today, they are our

ambassadors, linking the College with industry. They are our benefactors, providing our students and faculty with many opportunities. We are honored to call them our own, and grateful for the many ways in which they support the College."

The dinner was supported in part by the generous sponsorship of Platinum Sponsors Atmel, Cisco Systems, Hewlett-Packard, Lockheed Martin, Philips, and Rockwell Collins; Gold Sponsors Applied Materials and Marvell; and Silver Sponsors IBM, Intel, Lam Research and Novellus. ■



The College recognized alumni, faculty, staff and students at the 2005 Engineering Awards Banquet. Shown (L to R) SJSU President Don Kassing, Google's Omid Kordestani, ISE bachelor's graduate Christine dela Cruz, Dean Belle Wei, SJSU Associate Professor Nicole DeJong Okamoto, Administrative Support Coordinator Kate Shelton, CmpE bachelor's graduate Linda Nguyen, Atmel's Gust Perlegos and SJSU Professor Jacob Tsao.

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Message from the Dean



Dear Friends of the College,

As we assembled the news for this issue of the newsletter, we were of course looking for stories that would show you—our alumni and friends—our progress on the many initiatives the College has underway. What struck me in reviewing the stories, was the extraordinary ways in which our efforts are interconnected—the

ways in which we have successfully created a learning community that brings together our faculty, staff, students, alumni, friends and industry partners to create the best possible education for our young people.

Last June, I returned from Asia with the second group of students participating in the Global Technology Initiative Study Tour. Practically speaking, we visited 18 companies, two universities and two of Asia's most well-known cultural sites in two weeks. And we enjoyed being personally hosted by industry leaders and academic colleagues. But what it all added up to was a unique opportunity for our students to see a competitive global economy in action. More specifically, our students saw in a concrete and compelling way that there is significant design and development work going on in China and Taiwan—besides manufacturing.

They also learned that there is a critical link between a country's global competitiveness and the size of its market. And finally, they learned, that as hard as they are working on their studies and jobs in the U.S., they may have to work harder to stay competitive.

On the home front, we have been building relationships with our Silicon Valley industry partners who support us in student scholarships, laboratory and curricular development, as well as faculty projects. Also valuable are industry faculty who bring the real world into our classrooms every day.

Lastly, we continue to recognize our alumni for their achievements, and our faculty and students for their commitment to innovation, learning and service to the College. To see a mechanical engineering design project finding its way to the production line in China may be the best testimony to the success of our collective efforts (see page 3).

As always, I am grateful to all of you who have helped to create and support our community of learning so generously and in so many ways. You have been and will continue to be critical to the College's success.

Sincerely,

Belle Wei
Dean, College of Engineering

Pilot Error Reports Subject of Winning Thesis

Gaston Cangiano (M.S. Human Factors and Linguistics '05) was one of two master's candidates

whose work was recognized by University President Don Kassing at SJSU's commencement ceremony last May. The focus of Cangiano's thesis was the analysis of pilot-reported data in free-text fields in the NASA Aviation Safety Reporting System database.

Current analysis tools rely on key words and key phrases. Cangiano, whose project was supported by a NASA



Aviation Safety and Modeling Grant under the direction of Professor Kevin Corker, designed a computer program that analyzed the free-text content based on its syntax. Cangiano is looking forward to collaborating with engineers at the Pacific Northwest Regional Laboratory this summer in Richland, Wash., to determine how the more traditional key word/key phrase

analysis can be complemented by his syntactical analysis. He is also entering a Ph.D. program in cognitive science at the University of California-San

Diego with an eye on a career in commercial research and development.

Cangiano, who was born and raised in Argentina, received his bachelor's degree from the University of Massachusetts-Amherst and was employed as a Silicon Valley software engineer from 1995 until 2001 when he entered the master's program at SJSU. ■

Students' Innovation Headed for Production in China

When it comes to sports equipment, Ken Liao, president of Titan Pro, a San José-based sports equipment manufacturer, has a keen eye for good ideas. That's why when he read about the College of Engineering student-designed and built Moto-Case motorized scooter, he decided to have a look for himself. Now in its third prototype, the scooter, an ME 154 student project, is headed for the production line in China.

Ideal for commuters and short trips, the Moto-Case is a lightweight, battery-operated scooter that folds into a 13" x 18" briefcase.

"We wanted to do something that was fun and memorable," says Jason Treadwell (B.S. ME '05), who test-drove the scooter from his home to the Capitol Expressway Light Rail Station en route to campus two or three times a week this past spring. "Where I really got the reaction," says Treadwell, "was when I got to the station or off the train and was folding the scooter into or out of the briefcase. That's when people would stop and say, 'That's really cool. Where did you get that?'"

Treadwell's team members on the project were Michael Holmes (B.S. ME '05) and Reed Musselman, now a senior in mechanical engineering.

"It was a very ambitious project," says Professor of Mechanical Engineering Raymond Yee. "The students had to come up with the idea, design it on paper, analyze the design and fabricate a prototype—all in four months."

Treadwell, Holmes and Musselman started out with the goal of building the smallest possible go-kart. From there, they moved the idea forward until they came up with the two-wheeled scooter design.

"The students had to come up with the idea, design it on paper, analyze the design and fabricate a prototype—all in four months."

—Raymond Yee
Professor, Mechanical Engineering

"When we found out that the DMV allowed two-wheel electric vehicles in the bike lanes, we accidentally stumbled on something people could actually use," says Holmes. Together, the team of designers worked its way up from two-dimensional sketches to actually manufacturing a prototype in Treadwell's father's home machine shop. The original prototype was operated by a small gas engine and weighed 29 pounds.

To reduce the weight and improve the scooter's portability, in the second prototype, the student designers switched to a battery-operated engine and lighter materials for the briefcase. "It was about five times the work we had to do for the class," says Treadwell, "but we just kept on challenging ourselves."

"The thing I like most about the scooter is how compact it is," says Liao, who is considering marketing the scooter internationally. "This is the first time I've worked with students. After this experience I would certainly consider looking at more student projects."

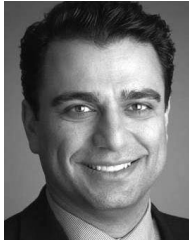
The Moto-Case design was awarded the People's Choice Award at the Silicon Valley Center for Entrepreneurship Neat Ideas Fair last fall, and first place in the ASME (American Society of Mechanical Engineers) Region IX Student Design Competition in Sacramento. Treadwell and Holmes expect to present the design at the national ASME competition next November. ■



(L to R) ME students Jason Treadwell, Michael Holmes and Reed Musselman on campus with first Moto-Case prototype.

2005 Alumni Award Winners

Omid Kordestani



As the individual responsible for Google's revenue generation efforts, Omid Kordestani leads the company's international sales effort and has

brought Google to profitability in record time. Kordestani has more than a dozen years of high-technology consumer and enterprise experience, including key positions at Internet pioneer Netscape Communications. As Vice President of Business Development and Sales, Kordestani grew Netscape's website revenue from an annual run-rate of \$88 million to more than \$200 million in 18 months.

Kordestani joined Netscape as director of OEM Sales. During his four-year career at that company, he was responsible for establishing major customer relationships with Citibank, AOL, Amazon, Intuit, Travelocity, Intel, @Home, eBay and Excite. Prior to Netscape, Kordestani held positions in marketing, product management, and business development at The 3DO Company, Go Corporation, and Hewlett-Packard.

Kordestani, who was born in Iran, emigrated with his family to the U.S. when he was 14 years old. Kordestani credits SJSU EE professors Michael O'Flynn and Art Davis for influencing his academic and professional achievements. Kordestani also holds an M.B.A. from Stanford University. ■

Gust Perlegos



Since 1985, when he co-founded ATMEL Corporation with his brother George, Gust Perlegos has served as the company's Vice President of Technology and

Product Development. As Executive Vice President and General Manager, he oversees the new developments and operations for the company's nonvolatile memories, microcontrollers, Si-Ge BiCMOS RF, Smart card IC's, and system-on-a-chip VLSI used in such consumer products as digital cameras and wireless networking.

Atmel, headquartered in San José, has 8,000 employees worldwide, with manufacturing facilities in Colorado Springs, the south of France, the north of England, and in Heilbronn, Germany.

It also has numerous design centers in the United States, France, Norway, Finland, Greece and China.

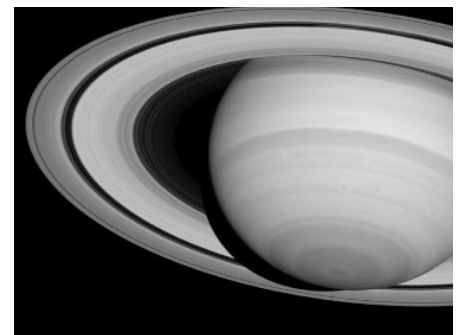
Before co-founding Atmel Corporation, Perlegos held positions at a number of Silicon Valley technology companies, including AMD, Amdahl, Intel, and Seeq Technology. He also served in the U.S. Air Force Reserve from 1970 to 1976.

In addition to his B.S. in electrical engineering from San José State, Perlegos holds an M.S. degree in electrical engineering from Stanford University, and a Ph.D. in electrical engineering from Santa Clara University.

A native of Greece, he came to the U.S. in 1962. He enjoys grape farming and spending time on the Mediterranean Coast. ■

Saturn's Rings "Remarkable to Behold"

Essam Marouf, professor of electrical engineering and member of the NASA Cassini-Huygens radio science team, took center stage last May at NASA's Jet Propulsion Laboratory in Pasadena, where scientists were interpreting radio signals in order to map the structure of Saturn's rings. The observations that scientists were able to make as a result of the team's experiments are at the heart of Cassini's fundamental science objectives—to characterize and understand Saturn and its ring system.



"The structure of those remarkable rings is a sight to behold," says Marouf. "All ring features appear to be populated by a broad range of particle sizes that extend to many meters in diameter at the upper end." Professor Marouf has celebrated the Cassini-Huygens' milestones since 1989 when the mission was first conceived.

For more information on the mission and its experiments, visit <http://saturn.jpl.nasa.gov> and <http://www.nasa.gov/cassini>. ■

Photo: NASA Jet Propulsion Laboratory (NASA-JPL)

College Awards Silicon Valley Engineering Scholarships

Five incoming freshmen and one transfer student were selected as the latest recipients of the College's Silicon Valley Engineering Scholarships. The scholarships were made possible by the generous contributions of nearly a dozen Silicon Valley companies.

Scholarship awardees include: Marissa Anne Dayton of Livermore High School in Livermore; Harish Ganesan of Lynbrook High School in San José; Diane Frances Hammond of Deer Valley High School in Antioch; John Laporga of Allan Hancock College in Santa Maria; Christopher Earl Martin of Monte Vista Christian High School in Watsonville; and Sean Patrick Masterson of Freedom High School in Oakley.

According to Associate Dean for Undergraduate Studies Ping Hsu, the College received more than 250 appli-

“Setting high expectations is important, but it means nothing if you are not willing to work hard to make your goals a reality.”

—Sean Masterson
Scholarship Recipient

cations and conducted some 100 on-campus interviews in order to identify the award finalists. “We were fortunate to have so many talented applicants from which to choose, and we are eager to have the six students selected

continue their education with us this fall,” says Hsu. “Being able to provide such substantial scholarships to top-notch students interested in engineering careers is an important competitive advantage for the College. We are extraordinarily grateful to those companies whose support has made this possible.”

“Our support of the Silicon Valley Engineering Scholarships is part of a company-wide corporate citizenship initiative,” says John Borghese, VP and general manager of Display Systems for Rockwell Collins in San José. “One of the big issues facing Silicon Valley companies is access to good engineering talent. I think it's up

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ISE Senior Sweeps Service Awards

When Christine dela Cruz (B.S. ISE '05) walked across the stage at the College's annual banquet to receive the Scott T. Axline Memorial Student Award for Excellence in Service, it was the fifth time she had been honored for her contributions to the College and the University.

Dela Cruz, who cut her teeth in student organizations as a freshman at sorority Alpha Phi, remembers the first officer position she held as Director of Sports on Panhellenic. “It was a lot of work, but I loved it,” says the 23-year-old graduate. “It gave me a tremendous amount of confidence.”

It was that confidence and determination that, as a senior, dela Cruz brought to the College's fledgling Society of Women Engineers (SWE). Conceived as an organization to support women in engineering through mentorship and special programs, dela Cruz took her leadership role seriously. The results? Four regional SWE awards, including: recognition from the nation-

al SWE for Highest Net Increase in Membership in 2004 and 2005; the Award for Largest Growth, 2005; and an Honorable Mention for Highest Retention, 2005.



“I took everything I learned in my sorority about recruiting and program management and put it to work for SWE,” says dela Cruz. “In one year

we grew our membership from 20 to 66 members. Some months we had four or five different activities including membership drives, company guest speakers and tours, high school outreach and résumé building.”

“Every time I turned around Christine was heading up another SWE activity,” says Associate Dean for Undergraduate Studies Ping Hsu. “When we reviewed her nomination for the Axline Award, there was just no question that her contributions were worthy.”

“Christine has the ability and willingness to stand up for herself and to say what she is thinking,” says Professor Louis Freund, ISE chair. “But, she is also a very good listener and is willing to consider others' ideas when it comes to addressing particular issues. I think those skills have been important to her successes in her club and committee work, as well as in her team projects as a student in the ISE program.”

SWE was one of eight organizations dela Cruz devoted time to as a senior. Others included the Black Alliance for Science and Engineers and the Gay, Lesbian, Bisexual & Transgender Alliance. In addition to the Axline and SWE awards, in May 2004 dela Cruz received the College's Applied Materials Silicon Valley Engineering Scholarship. She also received the 2005 SJSU Associated Students “A.S. 55 Award.” ■

New Faculty

Sotoudeh Hamedi-Hagh

**Assistant Professor
Electrical Engineering**

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Prof. Hamedi-Hagh joined the faculty of the Department of Electrical Engineering in January 2005. He received his Ph.D. in electrical and computer

engineering from the University of Toronto, Toronto, Ontario, Canada, in 2004. His areas of research are design of RF, analog and mixed-signal integrated circuits and systems for wireless, wireline and optical communications, using CMOS, SiGe and GaAs technologies. While earning his Ph.D., he developed a new phase-shifted transmitter architecture for long range communication systems. During his postdoctoral fellowship, and while studying for an M.A.Sc. degree at the University of Toronto, he also worked on the design of high-speed and high-resolution SiGe and CMOS A/D converters. Hamedi-Hagh has worked on research and development projects in industry and academia ranging from the design of three-dimensional sonar and radar systems to the design of digital modulators and demodulators for wireline data communications. He was the recipient of the best paper award at the 2000 Micronet annual workshop in Aylmer, Quebec, Canada. An article he authored received the best paper award at the 2004 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications in Barcelona, Spain. At San José State, Hamedi-Hagh will help develop the College's Nanoelectronics Research Center where students will have the opportunity to work on state-of-the-art circuits and systems of current interest to Silicon Valley industry. ■

College Joins NSF Cyber Security Team

The College of Engineering has been selected as one of eight institutions across the country to participate in a National Science Foundation research effort focused on improving the reliability of the nation's computer infrastructure to protect against cyber attacks.

TRUST, the Team for Research in Ubiquitous Secure Technology, is funded by a five-year, \$19 million NSF grant as part of its national science and technology centers initiative. TRUST will be led by a team of researchers from UC-Berkeley.

Joining SJSU and UC-Berkeley in the TRUST center are Stanford University, Cornell University, Carnegie Mellon University, Smith College, Mills College and Vanderbilt University.

In addition to detailed research on a wide range of security tools and systems, the center will address social science questions involving economics, public policy, human-computer interfaces and privacy. The TRUST center will also have an education and outreach component to K-12 schools, undergraduate students and institutions serving underrepresented populations.

Sigurd Meldal, SJSU professor and chair of the Department of Computer Engineering, has been named co-director of the project. According to

Meldal, among the strengths that SJSU brought to the table was its experience in curriculum development. "Once discoveries are made and methods created for improving the nation's infrastructure, that information is going to have to be transferred to students and other professionals who will be asked to implement and expand on the discoveries," says Meldal. "That's the only way to ensure that what we

learn can be broadly applied. We have to be sure that the next generation of scientists and engineers are prepared to take

on these problems and continue to design and build workable systems."

"Our participation in such a high profile center is the result of tremendous effort on the part of our faculty to have the College be seen as a place where important research is taking place," says Dean Belle Wei. "This project provides the perfect opportunity for our faculty and students to showcase their talents and at the same time make an important contribution. We are pleased and honored to be a part of it."

More information about the TRUST Center can be found online at <http://trust.eecs.berkeley.edu/> ■



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—Dean Belle Wei

Engineering Scholarships

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to us and companies like us to help sponsor events and activities such as student scholarships that help students get a better understanding of our company and what we do, and ultimately consider working for us.”

“After high school I wanted to become an automobile mechanic, but then I asked, ‘Why work on cars if you can design them?’ Then I decided to go into automotive engineering,” says John Laporga, scholarship recipient.



John Laporga, Silicon Valley Engineering Scholarship recipient, shares his gratitude with fellow students and MESA staff during the 5th Annual MESA Recognition Banquet at Allan Hancock College in Ventura, CA, last May.

The College gratefully acknowledges the support of the Silicon Valley Engineering Scholarships by the following corporations: Applied Materials, Atmel, Cadence, Cisco Systems, Hewlett-Packard, Lam Research, Lockheed Martin, National Semiconductor, Rockwell Collins, Solectron and Xilinx. ■

Industry Leader Sets Pace for Next Generation

Before a packed house in the Engineering Auditorium, Jen-Hsun Huang, CEO, president and co-founder of Nvidia, shared his enthusiasm for the field of engineering and what he anticipates will be the next era of computing—lifestyle technology.

“I wanted to create a digital medium for artistic expression,” said Huang of his interest in starting his own company in early 1993 at the age of 30. “This type of technology reaches everyone. Lifestyle technology is about using technology to build a better lifestyle.”

Under Huang’s leadership, Nvidia has become one of the largest fabless semiconductor companies in the world and a worldwide leader in graphics and digital media processors. Nvidia semiconductors are the technology that drives ultra-realistic gaming, 3-D imagery, and video in PCs. In the last five years, the company has been recognized by numerous business and technology awards, including Fortune’s Fastest Growing Companies (2003), Wired Magazine’s Top 40 (2003), Stanford Business School’s Entrepreneurial Company of the Year (2003), and Fortune’s Best Companies to Work For (2004).

Huang told the crowd of students that a passion for learning, perseverance and an understanding of one’s personal strengths and weaknesses were key factors in achieving one’s goals. For Huang these lessons came at an early age. When Huang was nine years old, his parents sent him and his 10-year-old

brother from Asia, more than 9,000 miles across the Pacific Ocean, to a private school in Oneida, Ky. His parents did not know that the “private school” was a home for troubled kids. “I spent a year and a half with a bunch of juvenile delinquents,” Huang said in a 2000 Business Week interview. “It taught me to be really tough.”

Even though a generation separated Huang from most of the students in the room, his words fell on enthusiastic ears. “Meeting Mr. Huang is like a Mac

user meeting Steve Jobs,” said John Lee, a senior in computer engineering and avid video game player.

“Huang was able to convey the excitement of engineering,” said Sigurd Meldal, chair of computer

engineering. “Being in touch with that passion is what motivates so many of our students to be successful.”

“Mr. Huang is a recognized technology-business leader who was willing to take time from his busy schedule to share with our students his secrets for success and his vision for the future of technology,” said Ahmed Hambaba, associate dean for graduate studies. “Students in the College are in a unique position to be inspired by and learn from Silicon Valley engineer-entrepreneurs like Mr. Huang.”

Mr. Huang’s presentation was part of last Spring’s Silicon Valley Leaders Symposium series. For more information and a schedule of next Fall’s lectures, visit the College website. ■

“I wanted to create a digital medium for artistic expression”

—Jen-Hsun Huang
CEO, president
and co-founder of Nvidia

Professor Brings 'Industry Practice' into Classrooms

Industry Professor Morris Jones has a single objective listed on his personal vita: Share engineering knowledge with students at a graduate level. According to his students, Jones is getting high marks toward achieving that goal.

"There are not many professors like him with such great industry experience," says Jenny X. Chang (M.S. EE '05), who is working on micro-architecture for low-power base-band communications and network applications at Intel. "He teaches us how to solve real problems, not boring equations."



Says Rodger Stamness (B.S. EE '02), third year master's student and member of Intel's Microprocessor Design Group, "His classes went straight to the meat and potatoes, which is what you'd get in a real job. He's super practical."

Jones, a strategic planning architect at Intel, took his first SJSU teaching assignment in 1998 when he covered for an

EE professor on sabbatical. For him, he says, teaching is a lot of fun.

"I work with students on their class work and I am also co-advisor to a number of students on their master's projects," says Jones. "Seeing the students grow and develop and be able to achieve so much gives me a great deal of satisfaction. On a more practical level, if I want to have qualified people to work in industry, I have an obligation to give back."

Jones estimates that altogether he has taught and advised more than 1,000 students since he started teaching master's classes in circuit design seven years ago.

"Professor Jones is up-front and demands a lot of his students," says Stamness. "But that's the way it works when you're on the job. Coming from industry, he's got a wealth of experience that's really helpful."

Before joining Intel in 1996, Jones was a Senior VP and CTO at Chips and Technologies, Inc. He holds bachelor's and master's degrees in engineering from Brigham Young University. ■

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