SANTA CLARA UNIVERSITY

SCHOOL OF ENGINEERING

43RD ANNUAL SENIOR DESIGN CONFER-ENCE

MAY 9, 2013

2013 SENIOR DESIGN CONFERENCE

Thursday, May 9, 2013
Program Schedule

12:00 p.m.	**Judge's Registration** California Mission Room, Benson Center
12:30 p.m.	**Lunch and State-of-the-School Address** Godfrey Mungal, Dean *School of Engineering* California Mission Room, Benson Center
1:30 p.m.	**Judges' Welcome and Orientation** Godfrey Mungal, Dean *School of Engineering* Kathryn Kale, Executive Director *Alumni Association* Ruth Davis, Associate Dean of Undergraduate Studies *School of Engineering* California Mission Room, Benson Center
2 – 5 p.m.	**Senior Design Presentations** Benson Center, Engineering Center The Harrington Learning Commons and Orradre Library
5 p.m.	**Project Demonstrations** Engineering Quad
5:45 p.m.	**Special Unveiling Event** Engineering Quad
6 p.m.	**Dinner** Locatelli Student Activity Center

Dear Students, Alumni, Community Partners, and Friends,

Welcome to the 43rd Annual Senior Design Conference. We are delighted to have you with us for this display of our students' work.

For more than 100 years, it has been the mission of the School of Engineering to educate thoughtful and responsible leaders and innovators. Today's presentations showcase the mix of hands-on, practical experience and theoretical learning that enables our students to graduate with the knowledge, skills, and vision necessary to make a difference in their communities and in the world.

Through a wide range of capstone projects—everything from creating an improved email sorting system to designing and building an autonomous uninhabited aerial vehicle—our students have spent their senior year using their knowledge for the betterment of society, putting theory into practice, and working collaboratively across disciplines.

As we launch our second century of excellence in engineering education, we are ever more mindful of the community of Bronco engineers who bring distinction to Santa Clara University. We congratulate our seniors for their accomplishment in bringing their projects to fruition and we thank those of you who have contributed to their success and to that of the School of Engineering.

Enjoy the presentations!

Sincerely,

Godfrey Mungal, Dean
School of Engineering

Kathryn Kale '86, Executive Director
Alumni Association

BIOENGINEERING SESSION 1

Learning Commons 133, Viewing and Taping B

Affordable, Self-Contained and Quantitative Microfluidic Device for the Detection of Arsenic Contamination in Groundwater Samples

2:05 – 2:30 p.m.

Kyle Perricone, Mary Reynolds
Advisor: Unyoung (Ashley) Kim

Our electrochemical solution utilizes a three-electrode system with modified carbon-ink electrodes printed onto a disposable substrate to determine trace amounts of arsenic in water. We intend this device to meet the World Health Organization's (WHO's) ASSURED criteria for third-world diagnostic devices.

Amperometric Detection of Bioamines in *Cancer Borealis*, Using Microchip Capillary Electrophoresis Integrated with Micellar Chromatography

2:35 – 3:05 p.m.

Jason Howard, Chrissy Shuh, Ajay Fernandez
Advisors: Unyoung (Ashley) Kim, Steven Suljak, John Birmingham

We designed and fabricated a microfluidic device capable of separating and detecting nanomolar concentrations of bioamines. The device combines capillary electrophoresis, micellar electrokinetic chromatography, and amperometric detection to quantify bioamines in the pericardial cavity of the crab, *Cancer borealis*. The research may enhance scientists' understanding of the human nervous system.

Detection of Waterborne Pathogens

3:15 – 3:40 p.m.

Allison Kamiya
Advisor: Unyoung (Ashley) Kim

We seek to develop a portable device for the developing world powered by cellular phone. Utilizing a biological sensor developed to detect RNA of these waterborne pathogens and mapping the electrical output of this sensor further miniaturizes the device and decreases the power needed to run it.

BIOENGINEERING SESSION 2

Learning Commons 129, Viewing and Taping A

Uniflow

2 – 2:30 p.m.

Sean Foote, Brett Simons, Doug Yoon
Advisor: Gerardo Noriega

The design and creation of a collapsible prostatic stent for use with patients suffering from benign prostatic hyperplasia (enlarged prostate).

Bipolar RF Arthroscopic Device

2:35 – 3:05 p.m.

Joshua Bninski, Leslie Gremp, Liseth Rodriguez, Victoria Vargas
Advisor: Paul Davison

Clogging of tissue in the aspiration tube is a common problem for any arthroscopic device. Our project aims to work with

ConMed Linvatec© to research and analyze the causes of this failure mechanism in their device, then redesign components to reduce failure rates.

Analyzing Surface Protein Expression and Internalization

3:15 – 3:40 p.m.

William Truong, Josergio Zaragoza
Advisor: Zhiwen (Jonathan) Zhang

Currently, there is a large demand for the development of screening methods for targeting disease-specific receptor pathways to aid in the advancement of drug discovery. Our project aims to develop and optimize internalization assays for screening G protein-coupled receptors (GPCR) in the prostanoid and metabotropic glutamate family.

The trM2H System: An Innovative Approach to Detecting Protein-Protein Interactions

3:55 – 4:20 p.m.

Paulina Perezalonso, Elyse Shimomura
Advisor: Zhiwen (Jonathan) Zhang

The tetracycline repressor-based mammalian two-hybrid system (trM2H) acts as a biosensor that detects the interaction between two proteins and provides valuable analysis about their binding affinities. We will be using the trM2H system to quantify the relationship between two proteins disputed as cancer biomarkers.

Generation of Human Induced Pluripotent Stem Cells (iPSCs) Using Episomal Plasmids

4:30 – 4:55 p.m.

Dane Tomseth, Robert West
Advisor: Zhiwen (Jonathan) Zhang

The process of generating human iPSCs is currently technically demanding, and the reprogramming efficiency of integration-free iPSCs is impractically low. To increase the reprogramming efficiency, we cloned GFP and puromycin resistance into the episomal vectors.

CIVIL ENGINEERING SESSION 1

Bannan Engineering 326

Bamboo Gravity Load-Bearing System

2 – 2:30 p.m.

Alexandra Jabuka-Godwin, Alessi Sia,
David Sippel, Daniel Tzintzun
Advisors: Mark Aschheim, Tonya Nilsson

The aim was to develop gravity load-bearing members made from bamboo to be used in the 2013 SCU Solar Decathlon entry. Our group designed, built, and tested I-joists and gravity walls to determine if the strength of the bamboo was adequate to carry the required loading in the house.

Design and Development of Engineered Bamboo Shear Walls

2:35 – 3 p.m.

Davin Chan, David Steenson
Advisors: Mark Aschheim, Tonya Nilsson

We have aimed to develop a bamboo shear wall that will replace the standard timber shear wall in this year's Solar Decathlon house and begin to pave the way for developing an accepted set of codes and standards for bamboo construction in the U.S., providing a more sustainable alternative.

Radiant House – Structural Design

3:15 – 3:40 p.m.

Mey-Ling Leon, Katherine McKenzie
Advisors: Mark Aschheim, Tonya Nilsson

Santa Clara University's 2013 Radiant House uses structural engineering as a crucial element in showing new methods of sustainable development and design looked for in the U.S. Department of Energy's Solar Decathlon competition.

An Approach to Light-Frame Natural Disaster Relief Housing

3:55 – 4:25 p.m.

Katherine Busch, Megan Cronan, Hayley Dickson, Anne Walkingshaw
Advisors: Reynaud Serrette, Sukhmander Singh

Proposed is a sustainable approach to a geotechnical and structural design of a single-family home for a community in the Northern Philippines. The solution studies the integration of a completely bamboo structure into an innovative foundation design. Flood, wind, and seismic loads were considered in the implementation of the solution.

CIVIL ENGINEERING SESSION 2

Bannan Engineering 325

Caltrain Bridge and Commercial Structure

2:05 – 2:30 p.m.

Guadalupe Gonzalez, Anthony Navarrette
Advisor: Reynaud Serrette

The steel design of three tower structures connecting east and west sides of the Caltrain railway and three commercial buildings adjacent to Coleman Avenue.

Steel Bridge Team 2013

2:35 – 3:05 p.m.

James Behel, Silvia Garcia, Reyn Kimura, Scott Nowak
Advisor: Reynaud Serrette

Our team's project is Santa Clara's 2013 entry in the annual National Student ASCE Steel Bridge Competition at MidPac. MidPac is being co-hosted by Santa Clara University and San Jose State University. Our team's goal this year was to place in the top five at MidPac—a feat not accomplished by Santa Clara University for more than a decade.

Ghana Footbridge Project

3:15 – 3:40 p.m.

Kevin Leatham, Justin Mogannam
Advisors: Mark Aschheim, Sukhmander Singh

Our project features the design of a footbridge for a small village in the Upper East Region of Ghana. The footbridge will allow villagers to cross a river that floods every wet season. The bridge will provide safe access to schools and an increase in local business.

CIVIL ENGINEERING SESSION 3

Bannan Engineering 105

Lightweight Concrete Roof Tile Design

2:05 – 2:30 p.m.

Kristee Ogata, Jamie Wallis
Advisor: Tonya Nilsson

This project seeks to improve the cool roof tile that was designed last year. The lightweight concrete roof tile aims to emit more of the sun's radiation, causing the structure to be cooler, lowering energy consumption, and reducing the Urban Heat Island (UHI) effect.

Mixed-Use, Low-Rise Design in Downtown San Jose

2:35 – 3:05 p.m.

Satej Desai, Marina Howard, Michaela Nava
Advisors: Reynaud Serrette, Sukhmander Singh

This project incorporates cold-formed steel and precast concrete into the design of an apartment structure and parking garage. The proposed building will house both commercial and residential space. The team will focus on creating a full structural design with the aid of a Revit model.

Freeway Junction Interchange Design: I-880 Southbound and I-280 North/Southbound

3:15 – 3:45 p.m.

Eduardo Cruz, Amanda Kaku, Kimberly Tejeda-Lankford
Advisors: Henry Servin, Sukhmander Singh

This freeway corridor has seen increased traffic flow over the years and a proper solution is needed. This project required the consideration of interdisciplinary methods within civil engineering such as structural design, geotechnical analysis, water resources management, and transportation engineering in hopes of bringing travelers a more pleasant commute.

COMPUTER SCIENCE AND ENGINEERING SESSION 1

Sullivan Engineering 605

Personal Computer Linked Server Network

2:05 – 2:30 p.m.

Brian Verduzco
Advisor: Yi Fang

This project involves a linked system of servers running off of personal computers to enhance the capabilities of hosting a personal webserver.

Eventify

2:35 – 3:05 p.m.

Bryson Lam, Jeff Matsunaga, Matt Tu
Advisor: Jo Anne Holliday

An event planning app for Android phones.

TOPS: Faster, More Efficient Server

3:15 – 3:45 p.m.

Jackson Beachwood, Alec Furtado, Ben Rooke, Devin Wakefield
Advisor: Ahmed Amer

This project aims to create a new framework for website development geared toward dynamic Web applications.

Kosmos: A Virtual 3D Universe
3:55 – 4:20 p.m.

John Judnich
Advisor: Nam Ling

Kosmos is an interactive game and simulation presenting a vast, high-resolution, virtual 3D universe. In addition to implementing state-of-the-art 3D graphics technology, we introduce several new cutting-edge algorithms invented for Kosmos, including efficiency improvements two to four times faster than previous approaches.

The Blue Plug
4:30 – 4:55 p.m.

Loquen Jones, Sahil Verma
Advisor: Ahmed Amer

This project involves a mobile interface plus central unit that communicates with multiple households to designate when electronics run, for the purpose of reducing peak energy usage.

COMPUTER SCIENCE AND ENGINEERING SESSION 2

Sullivan Engineering 618

Dewey: Social Media for Social Good
2:05 – 2:30 p.m.

Sophia Boettcher
Advisors: Ahmed Amer, Nam Ling

Dewey is a social mobile app designed to (1) increase transparency of charities to the public and (2) incentivize being a good samaritan within communities. Users are encouraged to post local causes in order to draw awareness, donations, volunteers, etc. Points are awarded for participation in meaningful ways.

Swordfish – Relationship-Based Email Client
2:35 – 3:10 p.m.

Jim Brock, Rahul Krishnakumar, Alan Ruiz, Karoly Somogyvari, Graham Turbyne
Advisor: Ahmed Amer

Swordfish is a fresh approach to how your email inbox is sorted. Current email inboxes are sorted by the time a message is received, which leads to clutter and inefficiency. Swordfish aims to fix this by sorting your inbox based on relationships between the sender and receiver of the message.

myLife
3:15 – 3:40 p.m.

Lauren Furumoto, Will Truettner
Advisor: Rani Mikkilineni

An API-driven Web application built for Santa Clara University law students, faculty, and staff to bring together the various Web services used by the University. Offering convenience and ease of use, myLife is the one-stop destination for news, email, events, classes, meetings, and more.

ShoutBoard
3:55 – 4:25 p.m.

Evan Havlisch, Ketan Kumar, Tovin Thomas
Advisor: Ahmed Amer

ShoutBoard is a new kind of social network that places an emphasis on location. It enables people to interact with those who are nearest them. Users will post messages via their smartphones, which will be seen by other users in the vicinity. There will be an iPhone application and website.

COMPUTER SCIENCE AND ENGINEERING SESSION 3

Sullivan Engineering 602

Mobile Forum for Education

2:05 – 2:30 p.m.

Suzanne Lien, Alexandria Shearer
Advisor: Silvia Figueira

This project involves a mobile application for youth in emerging markets that allows a central party to distribute educational information.

Dynamic Poverty Heat Map

2:35 – 3:05 p.m.

Jonathan Ahumada, Jasmine Farias, Kurt Jurgens
Advisor: Silvia Figueira

Working alongside HP and Fundación Paraguaya, we will be creating a Web application that will visually display data gathered in terms of graphs and a dynamic heat map. The sole purpose is to facilitate the distinction between the areas of most need, and thus be able to allocate resources efficiently.

Nanosatellite – Communications and Data Handling (CDH)

3:15 – 3:45 p.m.

Jake Hedlund, Michael Ruiz, Zachary Singh
Advisor: Christopher Kitts

The CDH subsystem controls the 3U CubeSat nanosatellite and interfaces with all other subsystems, including the Active Attitude Control System, ground communications, and any specified payload. It also monitors the health of the satellite and disables malfunctioning components.

MUVE

3:55 – 4:25 p.m.

Elysia Chu, Victoria Hall, Maya Hough, Urvashi Reddy
Advisor: Silvia Figueira

MUVE strives to promote education and provide jobs in partnership with Anudip, a nonprofit foundation that trains and employs women from India. Some of these women will convert printed text into digital files through our Web tool. Our online system provides access to books, especially for those with limited resources.

ELECTRICAL ENGINEERING SESSION 1

Learning Commons, Training and Instruction 203

Visible Light Communication and Data Transfer via Modulation

2:05 – 2:30 p.m.

Derrick Breska, Brian Gallagher-Howard
Advisor: Sarah Kate Wilson

This project involves using a modulated light signal as a substitute for current Wi-Fi technology.

Energy Made in Uganda
2:35 – 3 p.m.

Jaqueline Barbosa, Kirsten Petersen
Advisor: Shoba Krishan

In partnership with a community-based organization in Mpigi, Uganda, this project aims to frugally design the electronics for a standalone Solar Home System. To increase technical capacity on a local-scale and avoid market spoilage, this system is designed to be manufactured and serviced by community members using technologies available in-country.

IMPATT Optimization Using Synopsys ADX Tool
3:15 – 3:45 p.m.

William Liu Guo, Robert Francis Guyol, Chang Youn Yoo
Advisor: Talal Al Attar

Designing millimeter wave transmitters requires many factors to be taken into consideration such as size, performance, and process. Currently there is no standard design process. After completely modeling IMPATT diode behavior, ADX, an equation-based optimizer, starts with an unsized diode and gives dimensions based on our required specifications.

Electronic Drum Gloves
3:55 – 4:20 p.m.

Thomas Pham, Tyler Sawyer
Advisor: Sarah Kate Wilson

This project involves implementation of arduinos and pressure sensors to create a glove that will create drum sounds to an output device upon impact.

MECHANICAL ENGINEERING SESSION 1

Learning Commons, Training and Instruction 205

Nanosatellite – Active Attitude Determination and Control
2 – 2:30 p.m

Todd Chun-van Osdol, Elliott Martin, Michael Schlesselmann
Advisors: Christopher Kitts, Robert Marks

The goal of our project is to design a single-axis flywheel mechanism capable of de-spinning a 3U CubeSat Nanosatellite on-orbit.

Nanosatellite – Design, Fabrication, and Systems
2:35 – 3:05 p.m.

C.J. Dorsey, Thomas Hoye, Owen Jacobs, Kadja Klarreich-Giglio
Advisors: Christopher Kitts, Robert Marks

Our goal is to design, manufacture, assemble, and test a 3U CubeSat nanosatellite capable of supporting a generalized payload. Our design method is tailored to undergraduates, therefore making it reproducible at the university level.

M^3 – Phase Change Material in Automated Window Shades
3:15 – 3:45 p.m.

Quin Adler, Jake Gallau, Ali Nash, Alex Zatopa
Advisor: Hohyun Lee

Molten Moon Mechanical (M^3) is working to develop window blinds that will provide daytime shading and extremely high efficiency nighttime heating. To realize this

goal, the team is automating phase change material filled louvers to track the sun during the day and release the collected heat at night.

The SQuAD: Santa Clara Quadrotor Autonomous Drone

3:55 – 4:25 p.m.

Jacob Adams, Peter Baumgartner, Mark Johnson, Mike McCormick
Advisor: Mohammad Ayoubi

The SQuAD team aims to design and build an autonomous quadrotor uninhabited aerial vehicle (UAV) with the intent of assisting law enforcement, emergency services, and military personnel through aerial observation and photography.

MECHANICAL ENGINEERING SESSION 2

Learning Commons 316, St. Clare Room

Thermoelectric Cookstove

2 – 2:30 p.m.

Christine Horman, Matt Lee, Mark Wagner
Advisor: Hohyun Lee

We are developing a cookstove optimized for Nicaraguan communities and cuisine, which will generate power using thermoelectric generators that will increase the fuel efficiency by providing better air circulation during fuel burn. To meet the needs of food vendors, our stove will have the capability to boil, fry, and grill.

Human Powered Vehicle: Frame and Fairing

2:35 – 3:10 p.m.

Colin Austin, Miles Graugnard, Max Herrmannsfeldt, Leif Kjos, Theo Schapp
Advisor: Terry Shoup

Our team will design and build the frame and fairing components of a recumbent tadpole tricycle to compete in 2013 ASME Human Powered Vehicle Challenge.

Human Powered Vehicle: Drivetrain and Energy Storage

3:15 – 3:45 p.m.

Dane Kornasiewicz, Terra Oldham, Tobe Platt, Sean Smith
Advisor: Terry Shoup

Our team will design and build the drivetrain and energy storage components of a recumbent tadpole tricycle to compete in the 2013 ASME Human Powered Vehicle Challenge.

QuikChill

3:55 – 4:25 p.m.

Franz Louies Chua, Brandon Oh'ara, Rachel Reid, Bernadette Tong
Advisor: Hohyun Lee

This project aims to integrate a cooling feature to established water filtration methods. Low-powered thermoelectric modules will be utilized to chill the water as it is filtered. The proposed device presents an alternative to energy-inefficient refrigerator water dispensers and Brita pitchers by providing on-demand cold water at the sink.

2013 SENIOR DESIGN CONFERENCE

INTERDISCIPLINARY SESSION 1

Benson Center, Parlors B and C

Sound Wave Analytic Graphics Application

2:05 – 2:30 p.m.

Rohini Deb, Samantha Pham
Advisors: Silvia Figueira, Yuling Yan

This project involves a mobile application utilizing sound waves to examine the health of vocal folds.

JARVIS: Home Automation

2:35 – 3:05 p.m.

Robert Avila, Ian McIvor, Mark Sinclair, Luiza Sinisterra
Advisors: Radhika Grover, Weijia Shang

This project involves developing a control system for the Solar Decathlon House competition with the use of micro-controllers, sensors, and smart, energy-efficient logic.

Omoverhi

3:15 – 3:50 p.m.

Richard Fong, Guillermo Gallardo, Will Jeffrey, Danny Maeda, Gabriel Romero
Advisor: Robert Marks

Low–cost premature infant incubator for implementation in developing countries.

Wireless Impact Detection System (WIDS)

3:55 – 4:20 p.m.

Shawno Auwae, Kyle Terriere
Advisors: Silvia Figueira, Sarah Kate Wilson

This project encompasses designing and implementing a system to record impacts to the head sustained by youth football players. The system consists of an impact detection device mounted in the helmet and an Android application connected via Bluetooth. This project will aid concussion research and alert users to potential problems.

INTERDISCIPLINARY SESSION 2

Benson Center, Williman Room

ICARUS: Portable Aerial Camera System

2 – 2:30 p.m.

Jim Cochran, Jimmy Erskine, Audrey Kocmond, Nick Xydes
Advisor: Christopher Kitts

The ICARUS project aims to develop an affordable, aerial filming device with multiple applications ranging from high school athletics to disaster relief. The system promises to provide a new aerial vantage point and experience.

SCU Formula Electric: Drivetrain and Accumulator

2:35 – 3:05 p.m.

Mark Allison, Kevin Claggett, Stuart Hopson, Dominic Villa
Advisors: Monem Beitelmal, Timothy Healy, Timothy Hight

The SCU Formula Electric is designing and manufacturing a drive train and battery pack for an electric vehicle that maximizes performance and efficiency.

Formula Electric: Accumulator Cooling

3:15 – 3:45 p.m.

Bryan Bidwell, Jackson Smith, Carlos Streegan
Advisors: Monem Beitelmal, Timothy Hight

The SCU Formula Electric is designing and manufacturing the battery pack cooling system for an electric vehicle that maximizes performance and efficiency.

ACES

3:55 – 4:25 p.m.

Cole Prince, Greg Roos, Jennifer Semones, Chase Traficanti
Advisor: Christopher Kitts

Team Autonomously Controlled Electromechanical Systems (ACES) has developed the baseline work for an underwater, multi-robot testbed. More specifically, team ACES has designed an underwater, two-robot system capable of actuating over four degrees of freedom (position and heading).

2013 SENIOR DESIGN CONFERENCE

We wish to thank the following alumni, friends, and industry partners whose participation as judges contributes greatly to the success of the Senior Design Conference.

Frank Abboud '88
Intel Corp.

Jeff Abercrombie '84
Dept. of Transportation

Russ Aleshi '76
IAM-1 Co.

Cathy Avila '86
Avila & Associates Consulting Engineers, Inc.

Ernie Avila '83
Avila & Associates Consulting Engineers, Inc.

Erin Baker '00
Santa Clara Valley Water District

Patrick Beaulieu '92
Autonomic Technologies, Inc.

Matt Bedell '96

Jerome Blaha Jr. '99
Polaris Wireless

Tom Bolich '70

Chris Brady '98
Stanislaus County Department of Public Works

Erik Burd '05
Jet Samurai

Collin Burdick '11
Accenture

Larry Burke '56

Michael Callan '62

Joe Cassetta '79
IBM

Mitchell Chan '90
U.S. Air Force

Joseph Cox '11
ALTERA

Patrick Crosby '79
Crosby Group

Kaleo Cuaresma '05
TEC Accutite

Ross Dakin '07
Upstart

Minh Dao '08
Anritsu Co.

Nayana Dawalbhakta '00
Hewlett-Packard Co.

William Doheny '88, '04
The Medicines Co.

Laura Draxler '88
CodeLab CleanTech

Travis Duncan '12
Rudolph and Sletten

Ryan Escober '07
Lockheed Martin

Sean Falvey '07
XL Construction

Michael Fassett '88, '97
Google, Inc.

Raymond Fassett '92
Condon-Johnson & Associates, Inc.

Jim Foley '68

Chris Freitas '84
Santa Clara County-Land Development Engineering

Michael Freitas '70
Freitas + Freitas Engineering and Planning Consultants, Inc.

Prashant Gandhi '05
Intel

John Giddings '91
Telelumen

Jim Gotterba '74
ALZETA Corp.

Richard Grabinski '91
Flatiron

Ryan Harami '08
Meraki, Inc.

Joseph Harkins '76
Lawrence Berkeley National Lab

Victoria Hartjoy '93
Hewlett-Packard Co.

Karl Hennig '04
Baynote, Inc.

Johanna Hernandez '99
Toshiba

Meg Howe '12
Texas Instruments

Scott Hsu '06
National Instruments

Francis Jang '11
SanDisk

Brian Janjic '89
IBM

Donald Johnson '59
Lockheed Martin

Sheila Johnson '84
Lockheed Martin

Ron Kane '83
Lawrence Livermore National Lab

Bren Kern '03
Asante Solutions

Pedram Keyani '00
Facebook

David Kojima '11
Blach Construction Company

Robert Komoto '93
American Products International

Leonard Krakowiak '74
Lockheed Martin

Jeff Krenek '87
Hewlett-Packard Co.

Robert Lathrop '94
Lathrop Engineering, Inc.

Ryan Leary '08
OPower

Christopher Ledesma '12
Boston Scientific

Robert Lee '07
Lockheed Martin

Douglas Leong '90
Netgear

Mike Liu '04
LiuWorks

Avery Lu '95
NXP Semiconductors

Paul Lum '81
University of California, Berkeley

Lawrence Mackel '56
Mackel Associates

Steven Maggipinto '79
U.S. Navy

Mark Maloney '93
Rohde & Schwarz

Brian Mapel '93
BMA Construction Engineers Inc.

Greg Mason '83
L.S. Mason and Associates

Joseph Mastroieni '73
Diocese of San Jose

Anu Maurya '00

Thuya Maw '12
Altex Technologies

Clarence Mayott '11
Linear Technology

Michael McCormack '68
California Energy Commission

Rob McDonald '88
Quantum

Don McIntosh '66
AMD

Anthony Mei '70

Mike Meyer '92
NVIDIA

Giovanni Minelli '06, '11
Naval Postgraduate School

Tony Mirenda '82
Blach Construction Company

Marcus Montanile '12
Asante Solutions

Anthony Murabito '88
Murabito, Hao & Barnes LLP

Shriram Natarajan '02
Persistent Systems

Alec Nicholas '12

Joseph Oloju '11

Herbie Ong '97
Google, Inc.

Lou Pace '83
Abbott Labs

Donald Peoples '75
Peoples Associates Structural Engineers

Tyler Petersen '09
SolarCity

Sergei Pushnof '10
Merchant E-Solutions

John Quilici '77

Kalpith Ramamoorthi '11

Glenn Roberts '71

Steven Rodriggs '85
Lockheed Martin

Bart Rupel '85
Lockheed Martin

Sean Schiff '09
Sportvision

Ryan Schmidt, P.E. '96
Heschong Mahone Group / TRC

Nick Schwartzman '95
Firsthand Capital

Pallavi Sharma '06
Intel

Dick Sherman '61

Carl Simpson '79
Coronis Medical

George Skoda '74, '80

Daniel Stadulis '08
PG&E

Eric Steuben '90
Asante Solutions

David Stubben '73

Elizabeth Sweeny '12
Frugal Innovation Lab

Mark Swoboda '09
Tilera

John Synhorst '77

James Taguchi '11
U.S. Department of the Navy

Noel Tamayo '90
Qcept Technologies

Donald Van Buren '70

Evor Vattuone '68
ESV

Peter Vellios '00
Aerojet

Sunil Verma '02
Mobclix / VELTI

Anshul Vyas '11
TENT Laboratory

Michael A. Wang '93
Macronix

Matthew Ward '03
Guidewire Software

Curtis Wong '10

Mike Woyak '86
Move, Inc.

Peter Woytowitz '93
Novellus Systems, Inc.

Samson Yau '06

Jose Ysaguirre '79
Qualitau Inc.

Santa Clara University

School of Engineering

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