



Happy New Year!

新年快樂



Welcome CAP Executive Board



 **UCSD
Jacobs** | **School of
Engineering**

February 3, 2011

CAP Leadership 2010 - 2011



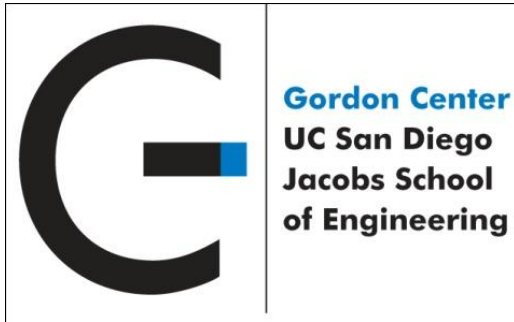
CAP Chairman:
Danny Brown, Ph.D.
VP Technology Development,
Cymer



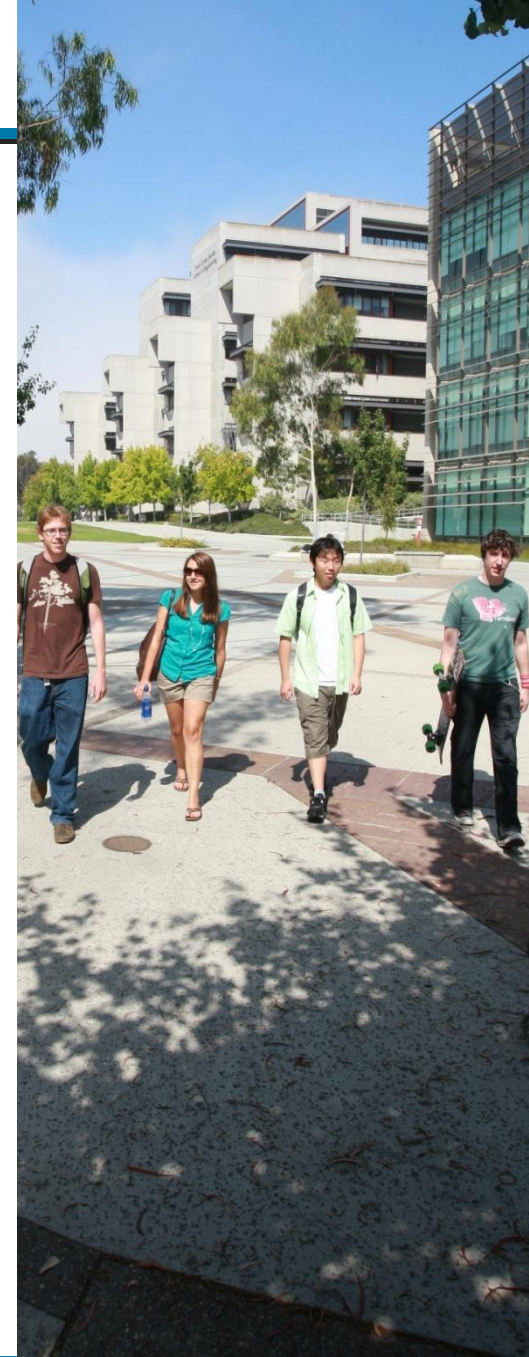
CAP Vice Chairman:
Anton Monk, Ph.D. UCSD '94
Co-founder & VP Technology
Entropic Communications

Welcome Distinguished Students

Jacobs School Scholars and Fellows



Gordon Leadership Scholars and Fellows



Welcome Jacobs School Student Organization Leaders

Triton Engineering Student Council (TESC)

Society of Civil and Structural Engineers (SCSE)

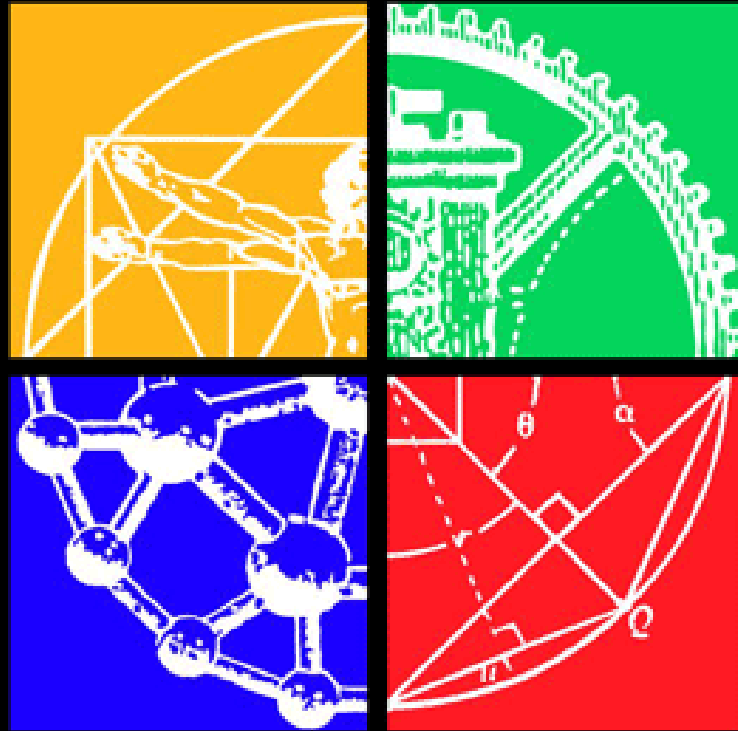
American Institute of Aeronautics and Astronauts (AIAA)



 UCSD
Jacobs | **TESC**

**Enspire | DECaf |
Junkyard Derby**

Jack Kevin Ly
Aerospace Eng '11
jkly@ucsd.edu
tesc.ucsd.edu/eweek



ENGINEERS WEEK² 2011

February 14 - 25

enpire

2011

- Largest outreach event of the year!
- Price Center
- 400 middle school students
- 175 volunteers
- Lab / campus tours
- Student org fair
- Creativity competition

Wednesday, February 16, 2011

PC West Ballrooms

8:00am-3:00pm





DECaf

Disciplines of Engineering Career Fair

9:30am - 3:00pm

February 18, 2011

Price Center West

tesc.ucsd.edu/decaf



Don't Drive Drunk... Drive JUNK!



Sponsor:



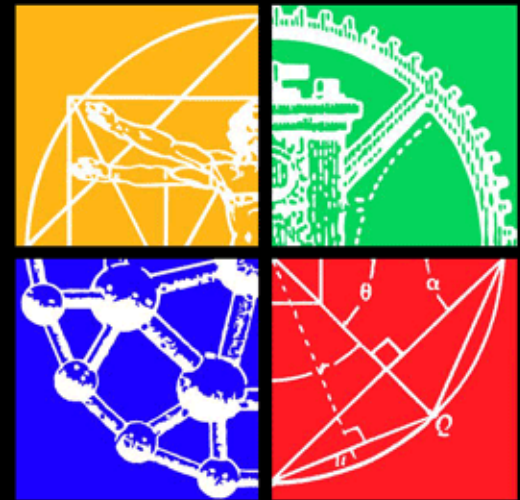
5-6-11...DeLorean anyone?

TESC invites YOU:

Series of E-Week community building events

- **Enspire** - Introduce middle school'ers to engineering!
- **Lab Expo** - Come check out incredible research!
- **DECaF** - Disciplines of Engineering Career Fair
- **suPRise Activity iN weekK 8**
- **E-Games** - Engineering Olympics!
- **TESC's Got Talent**
- **Impulse** - Engineering Semi-Formal

tesc.ucsd.edu/eweek



**ENGINEERS
WEEK® 2011**
February 14 - 25

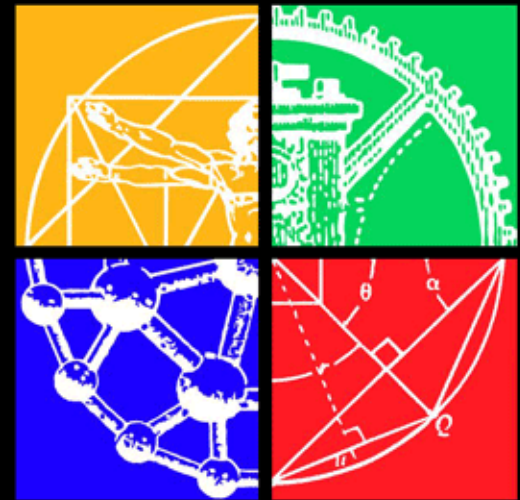


TESC prep:

Prepping Engineering Talent to meet you at **DECaF**

- Dress for Success
- Resume Marathon
- Approaching Employers at Networking Events
- Mock Interviews
- Mock Interviews Reception (RSVP Only)
- Mastering the Engineering Interview

tesc.ucsd.edu/eweek



**ENGINEERS
WEEK® 2011**
February 14 - 25



Corporate Affiliates Program Board Meeting

Winter 2011



SCSE

The Society of Civil and Structural Engineers

Vivian Li
TESC Representative

Jeniene Knight
VP, Finance

Pacific South West Conference 2011

California State University, Los Angeles





UCSD Seismic Outreach Program



700+ Middle school kids and 60+ volunteers



A FUNDRAISING EVENT HOSTED BY
UCSD SOCIETY OF CIVIL AND STRUCTURAL ENGINEERS
SDSU AMERICAN SOCIETY OF CIVIL ENGINEERING

FRIDAY, FEBRUARY 11TH, 2011
AT HYATT REGENCY LA JOLLA
FROM 8 PM-11 PM

A SOCIAL EVENT FOR
STUDENTS AND
PROFESSIONALS

A NIGHT OF CASINO
GAMES, MUSIC, DRINKS,
RAFFLES, PRIZES,
AND...FUN!

DONATIONS:
\$15 - STUDENTS
\$20 - OTHERS
(100% TAX-DEDUCIBLE)

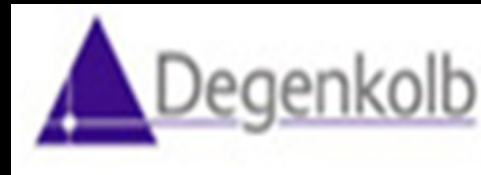
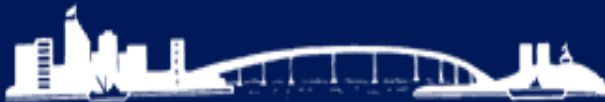
For more information please contact:
Sarah Fung (UCSD SCSE Fundraising Coordinator) syfung@ucsd.edu
Jenlene Knight (UCSD SCSE VP President) jlknight@ucsd.edu
Sean Sudol (SDSU ASCE Funding Chair) seansudol@yahoo.com

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ASCE SAN DIEGO
SECTION



Welcome Distinguished Student Leader



Jason Hale, Chair, MAE '12
jthale@ucsd.edu

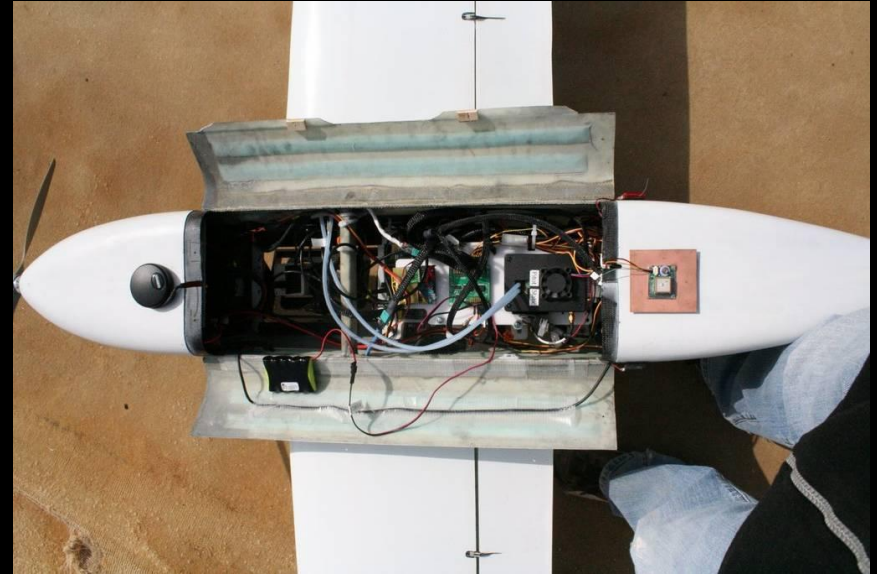
Activities

- Miramar Air Show
- Flight Test Engineering
- SR-71 History
- Naval Centennial of Aviation
- Northrop Grumman Tour



Project Highlights

- AUVSI – 5th/20 teams
- Autopilot Optical Target Search & ID



- Design-Build-Fly - 20th/68 teams
- RC piloted specific mission design



Sponsors

NORTHROP GRUMMAN

UCSD
Jacobs

TESC



BMS
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**NEUMOTORS**

**HITEC**  
**MULTIPLEX**



**GENERAL ATOMICS**

# Contact Information



**Jason Hale, Chair, [jthale@ucsd.edu](mailto:jthale@ucsd.edu)**

**Andrew Swingle, AUVSI Project Manager, [aswingle@ucsd.edu](mailto:aswingle@ucsd.edu)**

**Denise Choi, Vice Chair, Microgravity – [choi.denise@gmail.com](mailto:choi.denise@gmail.com)**

**Matt Smallcomb, Design-Build-Fly PM – [msmallco@ucsd.edu](mailto:msmallco@ucsd.edu)**

**Kevin Yuen, California Flight Museum Restoration – [klyuen@ucsd.edu](mailto:klyuen@ucsd.edu)**

**Website: [aiaa.ucsd.edu](http://aiaa.ucsd.edu)**

## New CAP Member:



**Randy Jones, President and Chief Executive Officer  
Magma Mission Technologies Group**

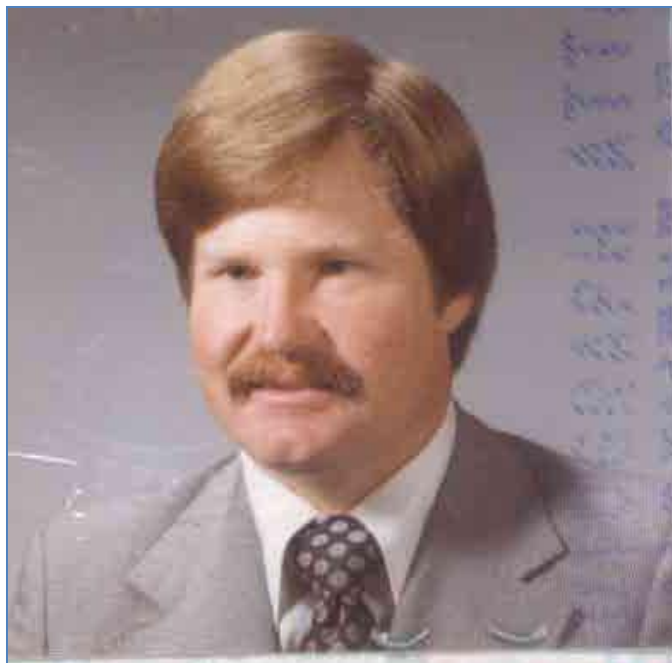


# Dean's Report

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## **Dean Frieder Seible Jacobs School of Engineering**





**Have you seen this man?**

# Congratulations and Thank You Dave Esbeck!

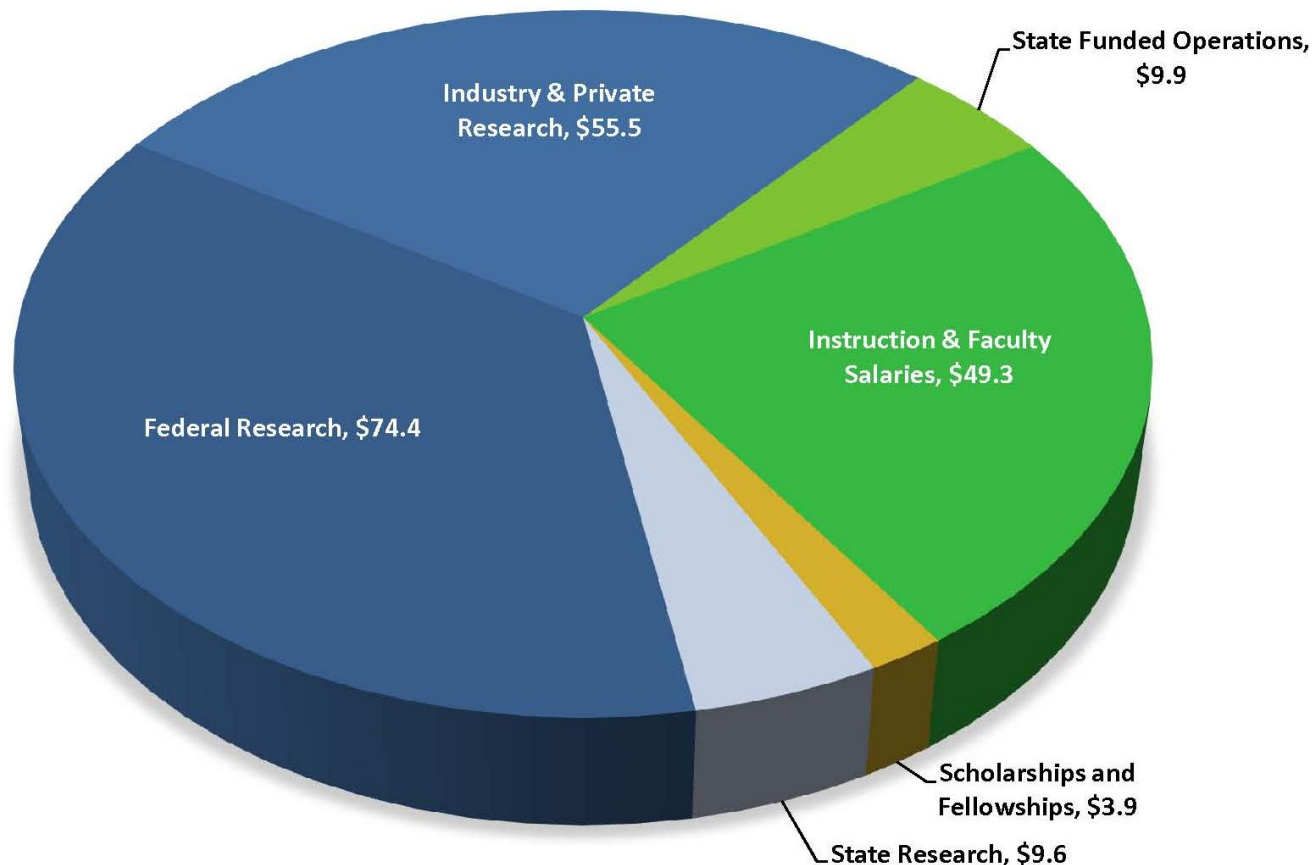


- Over 15 years of dedication as CAP Executive and leadership service as two term Chairman and Vice Chairman
- 15 CAP Executive cruises aboard the 'Spirit of Solar'
- 27 Years of Service at Solar Turbines
- 42 Years of Experience in the turbomachinery industry



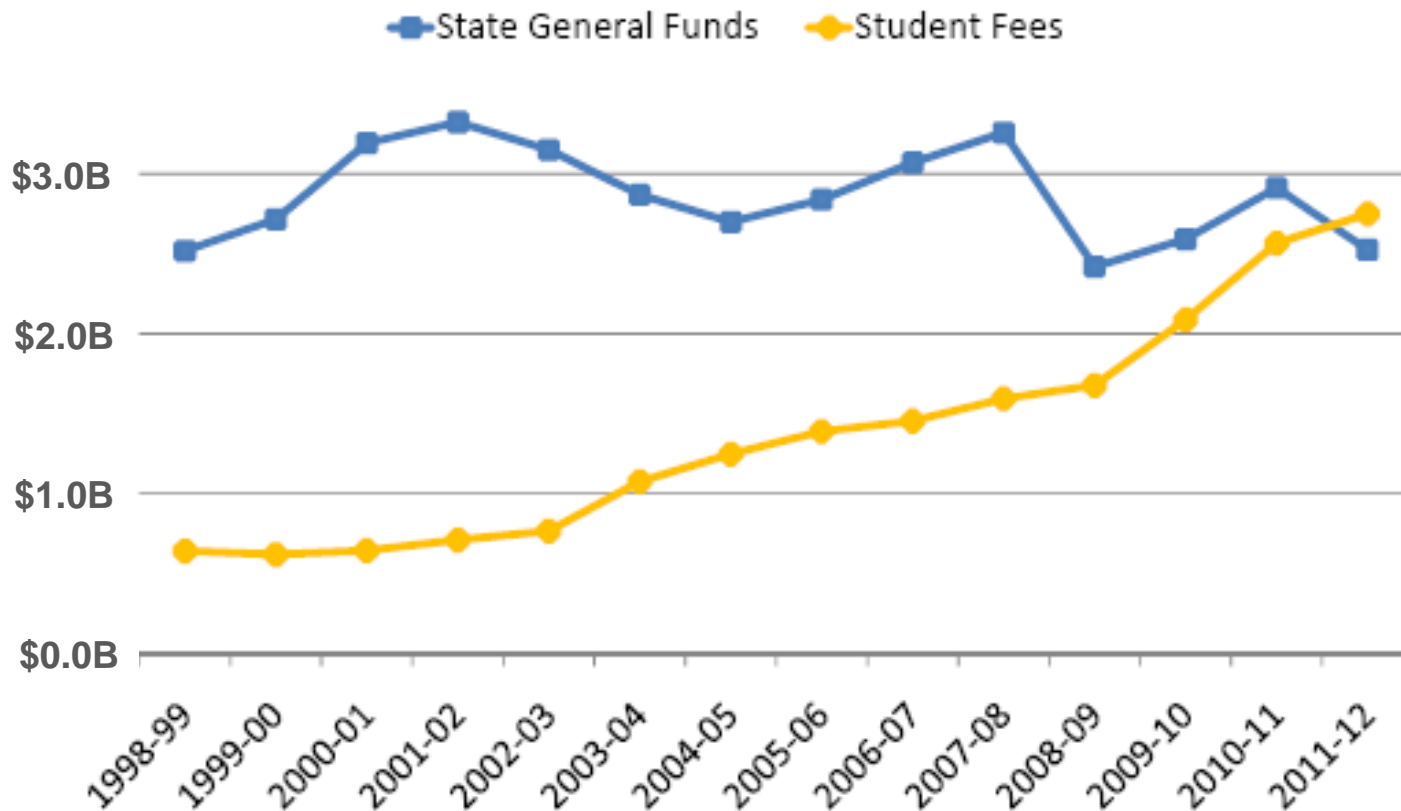
# Budget Outlook: Research Expenditures Up, State Funding Cuts Continue

Jacobs School 09/10 Expenditures  
\$203M



# What The Budget Means: more cuts

## State Funds and Student Fees



Fee revenue figures include financial aid, but exclude nonresident tuition

# Jacobs School **IDEA** Engineering Student Center

- Promote **I**nclusion, **D**iversity, **E**xcellence, and **A**dvancement
- Foster growth of diverse innovative technology leaders for today's global society.

## Three main divisions:

- Outreach and Recruitment
- Professional Development and Retention
- Research Support





# **Meet the IDEA Center Team:** Jacobs School Center for Inclusion, Diversity, Excellence, and Advancement



**Terrance Mayes**  
Director



**Gennie Miranda**  
Assistant Director/Retention Programs



**Melinda Beyerle**  
Student Life Coordinator



**Aisha Hollins**  
Outreach & Recruitment Coordinator

# Faculty Recruitment :



## 6 Active Faculty Recruitments

- 2 School-wide searches for Excellence and Diversity
  - 180+ applicants
- 4 Departmental:
  - Bioengineering
  - Mechanical and Aerospace Engineering
  - Structural Engineering
  - LSOE in Computer Science

# Wireless Health Innovation Challenge

**Accelerate commercialization of wireless technologies  
to improve healthcare delivery.**



**Open to Faculty/Researchers at universities and research institutes  
throughout Southern California**

## **Presentations to External Review Panel: February 1-2**

3 Projects will be selected to receive commercialization  
assistance/seed funding

## **45 Proposals Submitted**

2 Caltech

3 UC Riverside

4 USC

5 UC Irvine

2 UC Santa Barbara

5 Scripps Institute, Salk

10 UC LA

13 UC San Diego

1 San Diego State Univ

## **Sponsors**



## **Program Partners**





# Wireless Health Innovation Challenge Finalists

| Project title                                                                                                                             | Institution affiliation(s)           |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Handheld, low-cost integrated CMOS sensor for the detection of biomolecules                                                               | Caltech                              |
| Smart Phone Application for Malaria Diagnostics                                                                                           | Caltech                              |
| Wireless lab-on-a-chip apparatus for implantable cardiac devices                                                                          | UCI                                  |
| Microscopy on a Cell-phone as a Diagnostic Tool                                                                                           | UCLA                                 |
| Evaluation of auxiliary haptic feedback on gait and activities of daily living for persons with lower-limb sensory deficit or loss        | UCLA                                 |
| Rapid Pathogenic Bacterial-Sensing and Identification Technology Using Cell Phones                                                        | UCR                                  |
| Wireless Assessment of Traumatic Brain Injury via Bioelectronic Information Processing                                                    | UCSD                                 |
| Ultra-High Photosensitivity Wireless Nanowire Arrays for Retinal Prosthesis                                                               | UCSD                                 |
| A wireless brain-computer interface for motor rehabilitation                                                                              | UCSD                                 |
| Wireless Drug Delivery System for Remote Chronic Pain Management                                                                          | USC                                  |
| Integrated wireless health monitoring of metabolic and physiological parameters in the Field Under Severe Power and Bandwidth Constraints | USC, Children's Hospital Los Angeles |

# ***SMART CITY SAN DIEGO –***






## **Five key electric vehicle initiatives**



1. Utilize smart technology to enable rapid electric vehicle growth while ensuring safe, reliable and efficient power delivery for consumers.
2. Streamline home and public charging deployment processes.
3. Research and demonstrate systems to power electric vehicles through clean, renewable energy sources, such as solar.
4. Deliver economic growth for San Diego.
5. Study consumer behavior to better understand their decisions and identify additional electric vehicle initiatives.



# Master of Advanced Studies:

|                                                                                 |                                                          |                    |
|---------------------------------------------------------------------------------|----------------------------------------------------------|--------------------|
|  | <b>Medical Device Engineering*</b>                       | <b>MAE<br/>BE</b>  |
|  | <b>Structural Health Monitoring*</b>                     | <b>SE<br/>ECE</b>  |
|  | <b>Embedded Systems Engineering*</b>                     | <b>CSE<br/>ECE</b> |
|  | <b>Architecture-Based Enterprise Systems Engineering</b> | <b>CSE<br/>MAE</b> |
|  | <b>Simulation-Based Engineering*</b>                     | <b>SE<br/>MAE</b>  |

- Learning at the intersection of traditional engineering disciplines
- Electives chosen from any of the MAS programs
- Business and entrepreneurship

\* UC approval pending



# Distinguished Faculty Presentation

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**Professor Yuri Bazilevs**  
**Structural Engineering**  
**UC San Diego**  
**Questions: [jbazilevs@ucsd.edu](mailto:jbazilevs@ucsd.edu)**



**“Applications of Simulation-Based Engineering”**

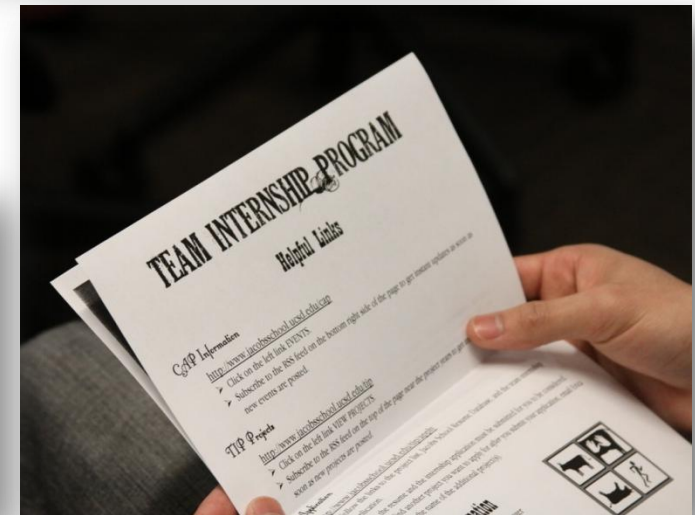
# CAP Business

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## **Anne O'Donnell Director, Corporate Affiliates Program (CAP)**

## *Gearing up for Summer 2011*





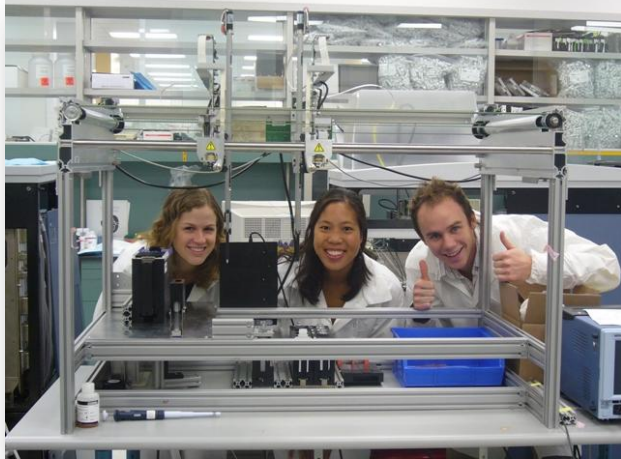
*January 28, 2011*

- **120+ students filled the room**
- **Panel of past TIP interns sharing their experiences**
- **Students are ready to work for you!**



# Now accepting projects

**Erica Kosa, TIP Manager**  
**[ekosa@eng.ucsd.edu](mailto:ekosa@eng.ucsd.edu)**





OCT   NOV   DEC   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP

Budget; Devise project

Submit project description

Review resumes

Interview; Hire

Internship

Summer 2011 TIP sponsors so far...



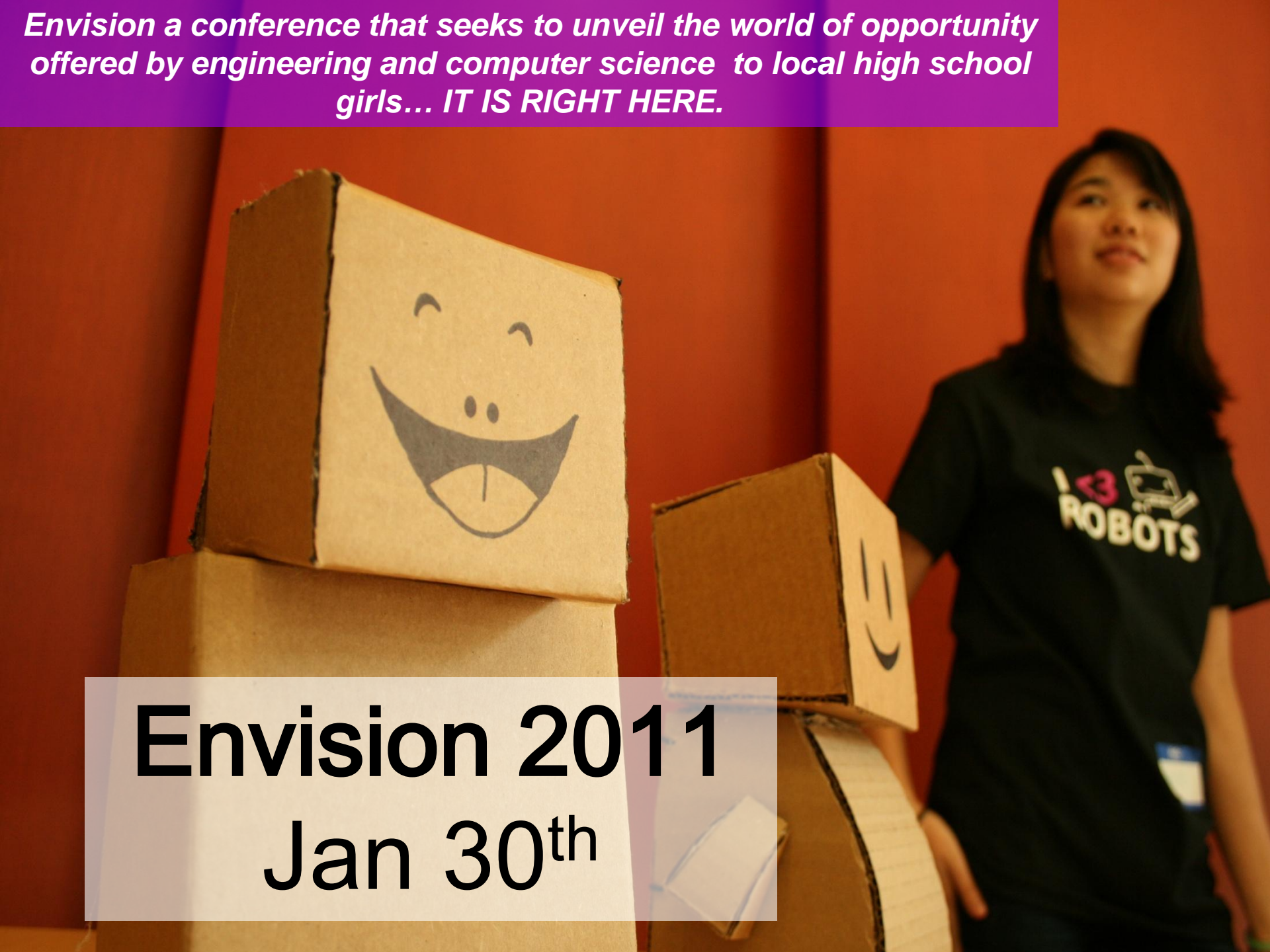
**Laserfiche®**



**ViaSat**

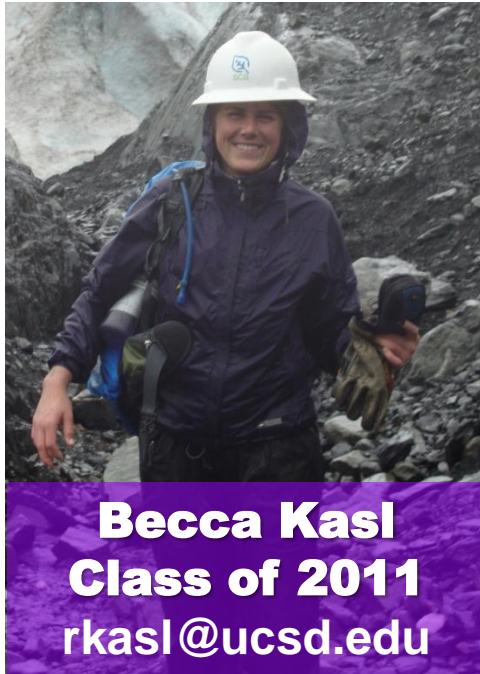


*Envision a conference that seeks to unveil the world of opportunity offered by engineering and computer science to local high school girls... IT IS RIGHT HERE.*

A young woman with dark hair, wearing a black t-shirt with a robot logo and the text "I <3 ROBOTS", stands in the background. In the foreground, there are two robots constructed from cardboard boxes. The robot on the left is taller, with a box head featuring a large, wide, toothy smile and two small eyes. The robot on the right is shorter, with a box head featuring a simple smile and two small eyes. The background is a solid orange wall.

**Envision 2011**  
**Jan 30<sup>th</sup>**

# Growing Numbers



The idea of one UCSD Bioengineering Undergraduate back in January 2010...

- 100+ San Diego County high school girls registered to attend
- 12 Engineering Faculty
- 20+ Graduate and 50+ Undergraduate Volunteers
- Co-hosted by Society of Women Engineers & Computer Science and Engineering Society

## Our Sponsors:



[tesc.ucsd.edu/envision](http://tesc.ucsd.edu/envision)



The curriculum exhibits a cohesive blend of: faculty laboratory tours, robot design projects, website programming, and mentorship by current Jacobs students.





# Jacobs Graduate Student Council 'Innovation Forum'

## *Engineering in Medicine*

February 17th, 2010, 5:30-7pm

Qualcomm Conference Center - Jacobs Hall



### **Molecular Medicine... it starts now!**

Mike Lafferty, VP of Advanced Systems, Life Technologies

### **A 3D-enabled Surgical System**

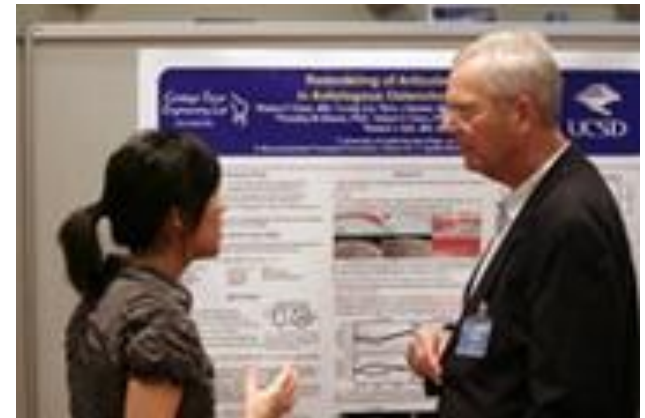
### **Multiscale Modeling of A Red Blood Cell and Its Fluid-Structure Interaction**

### **Spatially Patterned Electrical Stimulation of the Retina for Improved Specificity**

Innovation for Life

Thursday, April 14, 2011  
University of California, San Diego

- 12:30 p.m. Poster Session
- 3:00 p.m. Technical Breakout Sessions
- 5:00 p.m. Plenary Keynote Address by  
Greg Lucier, CEO Life Technologies  
*"Engineering Advances in Medicine"*  
Best Poster Awards
- 6:00 p.m. Networking Reception  
Extended poster viewing








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life  
technologies™

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*"Best access to research at the Jacobs School"*

# Master of Advanced Studies:

|                                                                                 |                                                   |              |
|---------------------------------------------------------------------------------|---------------------------------------------------|--------------|
|  | Medical Device Engineering*                       | MAE<br>BE    |
|  | Structural Health Monitoring*                     | SE<br>ECE    |
|  | Embedded Systems Engineering*                     | CSE<br>ECE   |
|  | Architecture-Based Enterprise Systems Engineering | JSOE<br>RADY |
|  | Simulation-Based Engineering*                     | SE<br>MAE    |

Faculty relying on input  
from CAP partners



# CAP Business:

**Anne O'Donnell, Director**



## Dates to Remember:

**Wed, Feb. 17**

**Jacobs Grad Student Council Innovation  
Forum: *Engineering in Medicine***

**Fri, Feb. 18**

**Disciplines of Engineering Career Fair (DECaF)**

**Thurs, April 14**

**Research Expo 2011**

**Thurs, June 2**

**CAP Executive Board Meeting**

**Thurs, Oct. 6**

**CAP Executive Board Meeting**



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