

# Viasat-1 launch with Proton/Breeze-M from Baikonur



October 19th, 2011

# ***Welcome CAP Executive Board***



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

*February 2, 2012*



# CAP Leadership 2011 - 2012

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



**CAP Vice Chairman:**  
**Rusty Sailors**  
**Chief Project Engineer, Director**  
**BAE Systems**

# Welcome New CAP Members!

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**CliniComp, Intl.**



**Schlumberger**

# Welcome Distinguished Students

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**Triton Engineering Student Council**

**Jacobs Graduate Student Council**

**IDEA Scholars**



# Welcome Jacobs School Student Organization Leaders

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**Justin Huang, CSE'12**

**President  
Triton Engineering Student Council (TESC)**





**Justin Huang**  
President



**Remle Deinla**  
External Outreach Officer



**Eduardo Mateo**  
External FORCE Officer





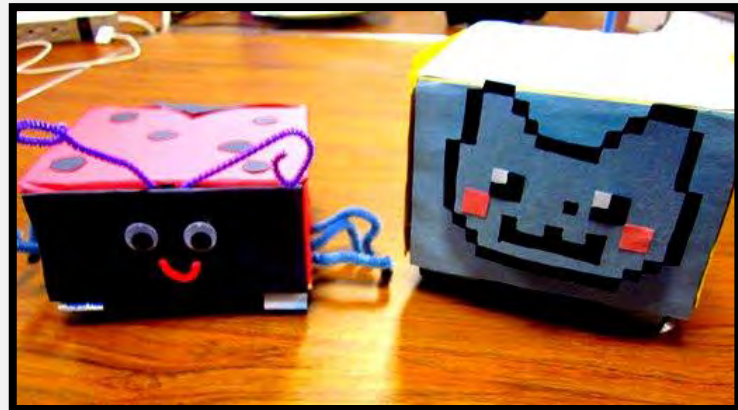
New event:  
**Aperture Laboratories  
at Jacobs**



New event:  $e^n$



**Enspire 2012:** From t-shirts to robots







Who's in charge:  
**Salome Vasquez**  
1<sup>st</sup> year, Mechanical Engineering



Who's in charge:  
**Avital Slavin**  
2<sup>nd</sup> year, Chemical Engineering



New collaborators  
and sponsors:



Stuart Art Collection



Girl Scouts®



DECaF Corporate  
Sponsors:



New!



New!



communications

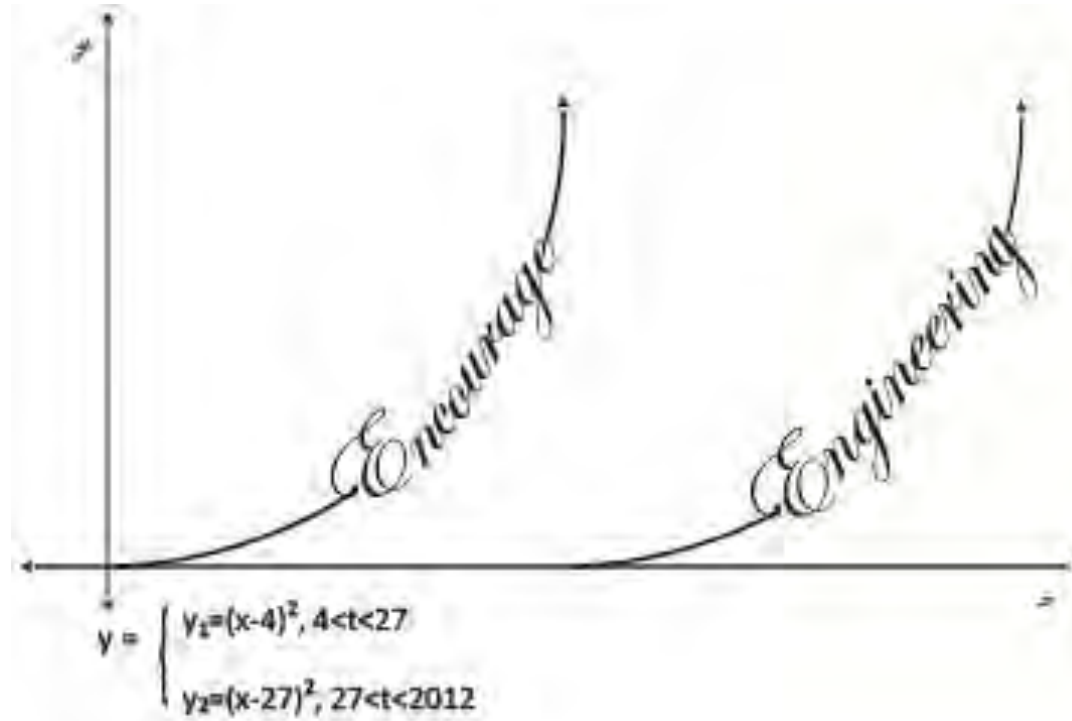


## Solar® Turbines

*A Caterpillar Company*











# Welcome Jacobs School Student Organization Leaders

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**Ludovic Vincent, PhD BIOENG'14**

**Academic Committee Chairman  
Jacobs Graduate Student Council**





# JACOBS INNOVATORS FORUM



# JACOBS INNOVATORS FORUM

Topic: Modeling and Simulation

Wednesday, February 8th, 2012, 5:00-6:30 p.m.



**Professor Raymond A. de Callafon, MAE**

"From data to dynamic models for simulation, prediction and validation"

**Matthew de Stadler, MAE**

"High resolution simulation of the turbulent wake behind a sphere in a stratified fluid"

**Matthew Gonzales, BE**

"Patient-specific Models of Human Atrial Fibrillation"

**Mehrdad Yazdani, ECE**

"Convex Combination of Simple Bang-Bang Control Policies in Fast Human Movements"

**RSVP**

to [lvincent@ucsd.edu](mailto:lvincent@ucsd.edu)  
by Monday, February 6<sup>th</sup>

Hosted by

 **UCSD  
Jacobs** | **Graduate  
Student Council**

with support from the  
Dean's Office





**Ismael Muñoz Jr, BIOENG'15**  
**IDEA Scholar**





UCSD

+ ME













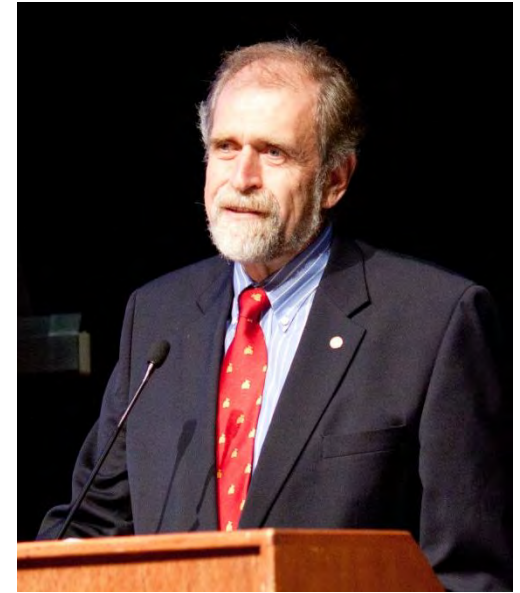




# Dean's Report

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



# UC San Diego #1

## Second Consecutive Year



and



sort	Institution	sort a-z sort by state	
		Overall Score	
1	University of California —San Diego (CA)*	100	



sort	Institution	sort a-z sort by state	
		Overall Score	
1	Univ. of California, San Diego*	100	



# UC San Diego #1



## Strength in:

- Social Mobility
- Research
- Service

sort	Institution	sort a-z	Overall Score
		sort by state	
1	University of California —San Diego (CA)*		100
2	University of California —Los Angeles (CA)*		99
3	University of California —Berkeley (CA)*		98
4	Stanford University (CA)		93
5	University of California —Riverside (CA)*		85
6	Harvard University (MA)		83
7	Case Western Reserve University (OH)		83
8	University of California —Davis (CA)*		81
9	Jackson State University (MS)*		78
10	University of Michigan —Ann Arbor (MI)*		77



# Jacobs School Recognized for Excellence in Diversity and Inclusion

An individual, a center, and a committee each earned 2011 Diversity Awards



CSE Prof. Jeanne Ferrante,  
Associate Dean at the Jacobs  
School and Associate Vice  
Chancellor for Faculty Equity



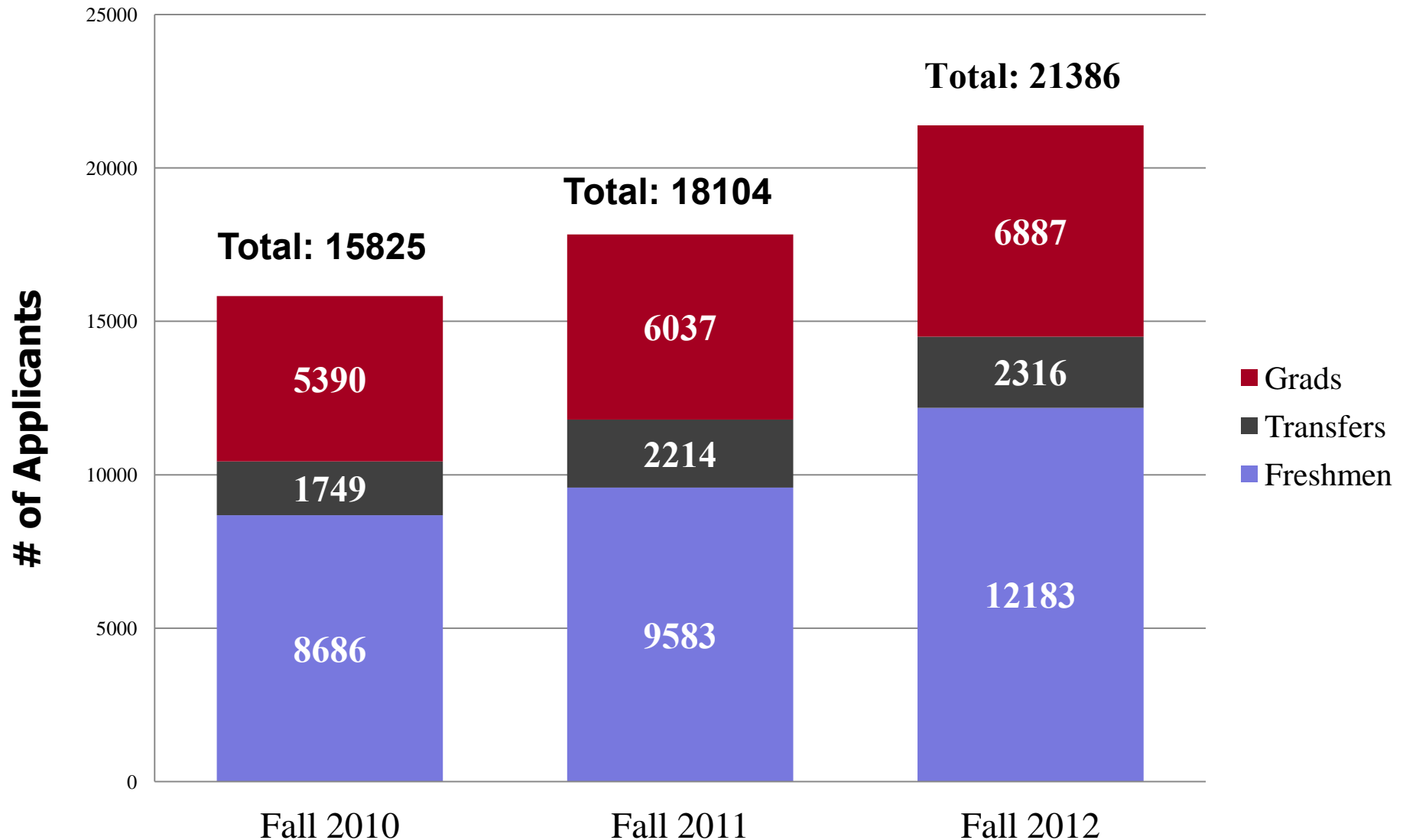
IDEA Scholars at Summer PrEP  
program, one of several new  
programs from the IDEA Center to  
recruit, retain, and reward  
underrepresented students at the  
Jacobs School



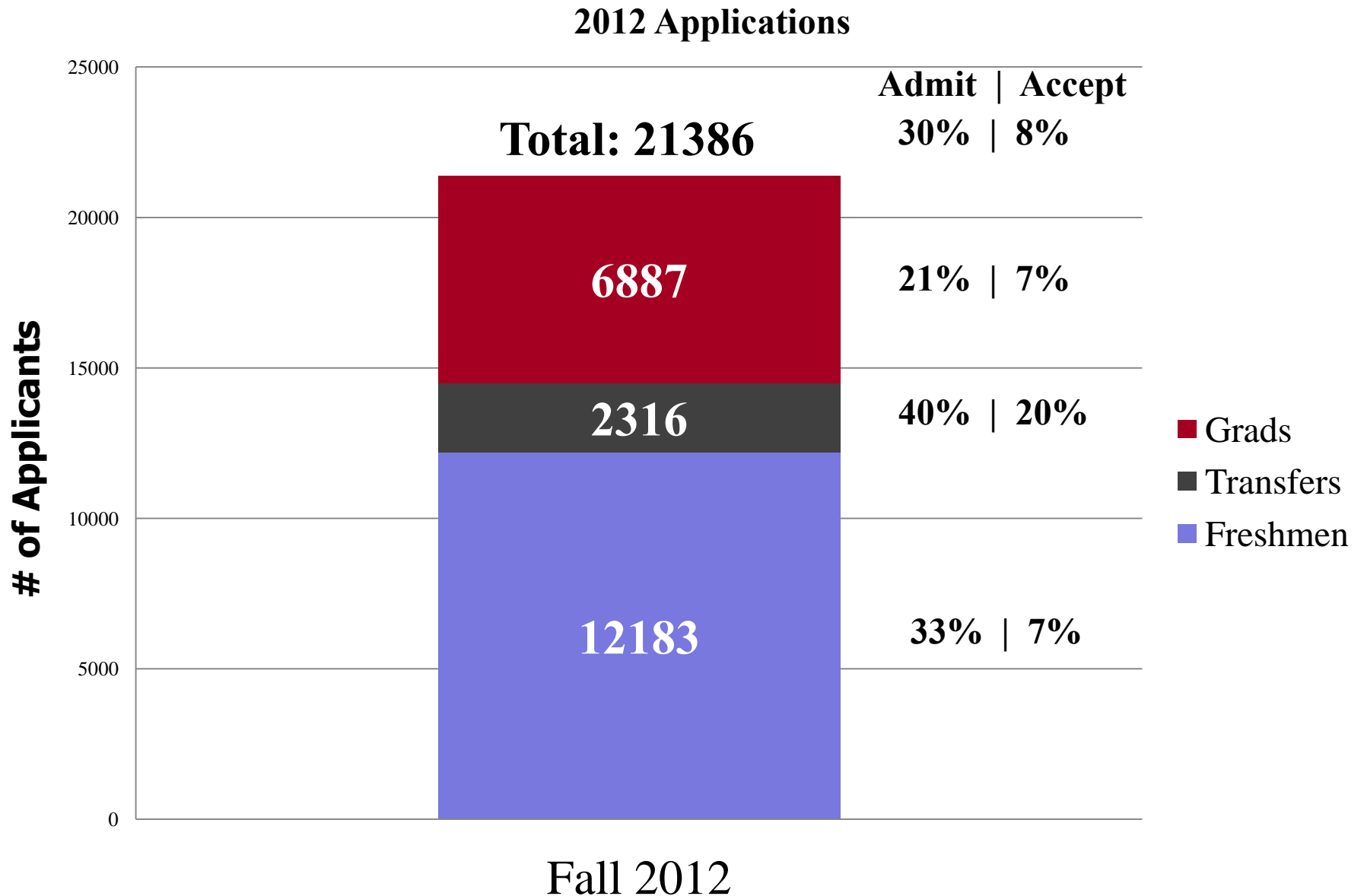
SE Prof. Ahmed Elgamal, co-  
chair of the 2010-11 school-wide  
Excellence Search Committee

# Jacobs School Applications Increase Continues

Applications (Academic Years '10, '11, '12)



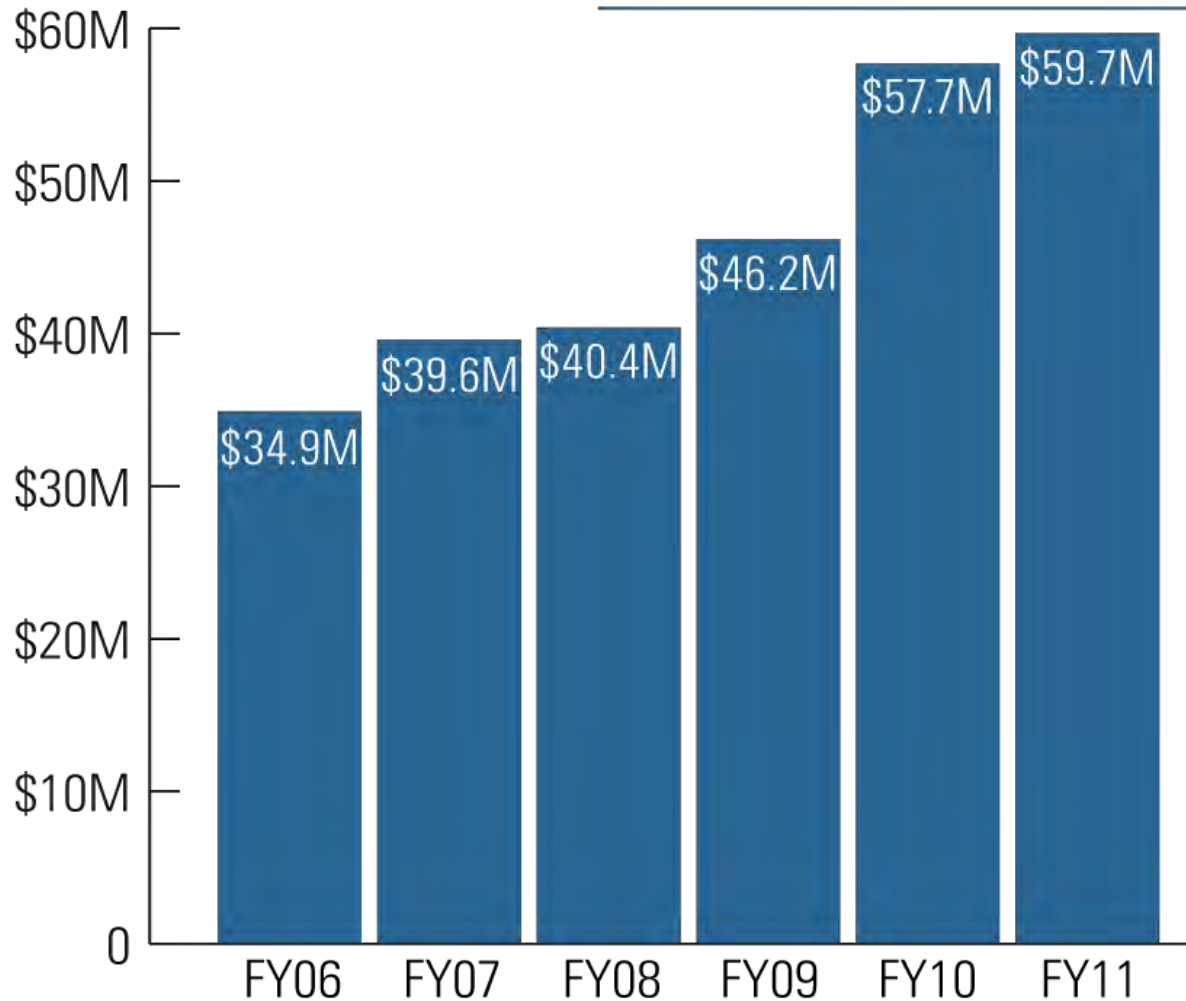
# Jacobs School Applications Increase Continues





# Jacobs School Research Partnership With Industry

**In FY11, 41% of research expenditures came from industry/private funding**



**Total Jacobs Research Expenditures rise from \$144M to \$147M in from FY'10 to FY'11**

# Jacobs School Research Partnership With Industry



## Fellow Mentor Advisor (FMA) Sponsorship



**1 Faculty  
Advisor**



**1 Student Fellow**



**1 Industry  
Mentor**

## **New Opportunity at UCSD for Industry Executives**

### **Goals:**

- Continue meaningful engagement on campus outside industry role
- Avail faculty and students of industry leader's experience
- Increase industry involvement in both the Academies and Universities
  - e.g. NAE targets 30% Academics, 10% Government, 60% Industry





A photograph of a modern university building with large glass windows and a courtyard with people. The text is overlaid on the image.

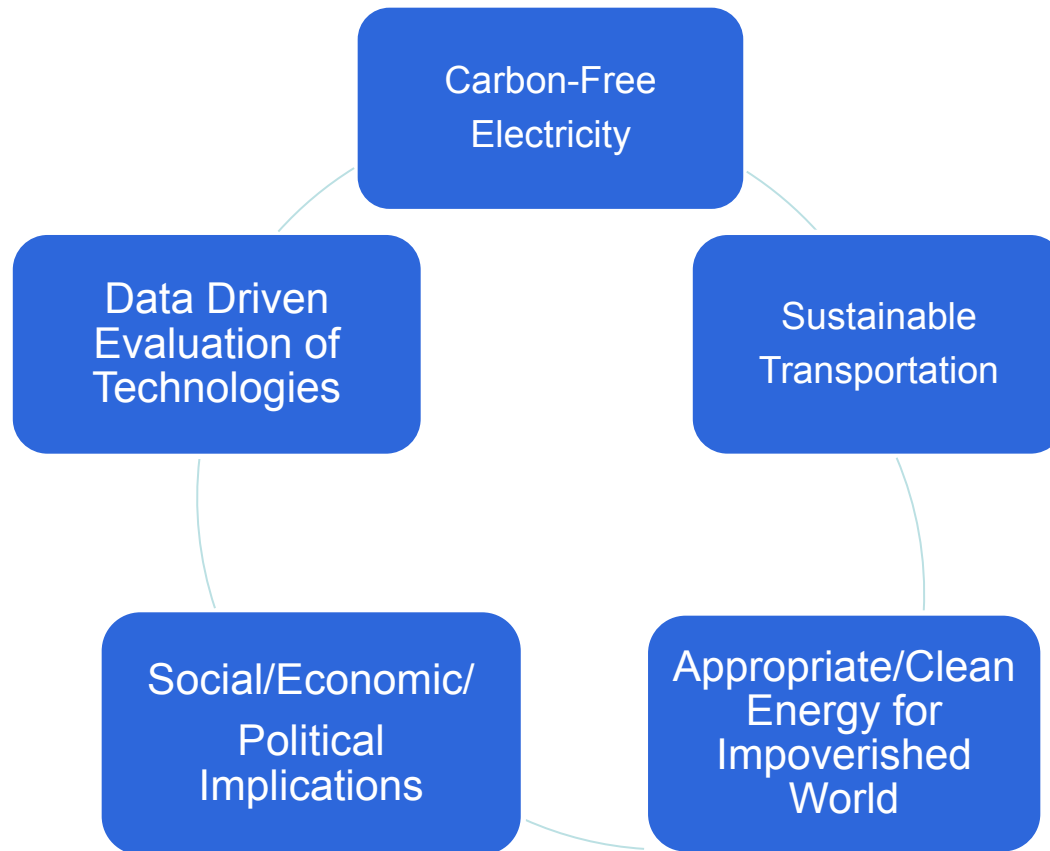
# The UCSD Microgrid

## A Living Laboratory

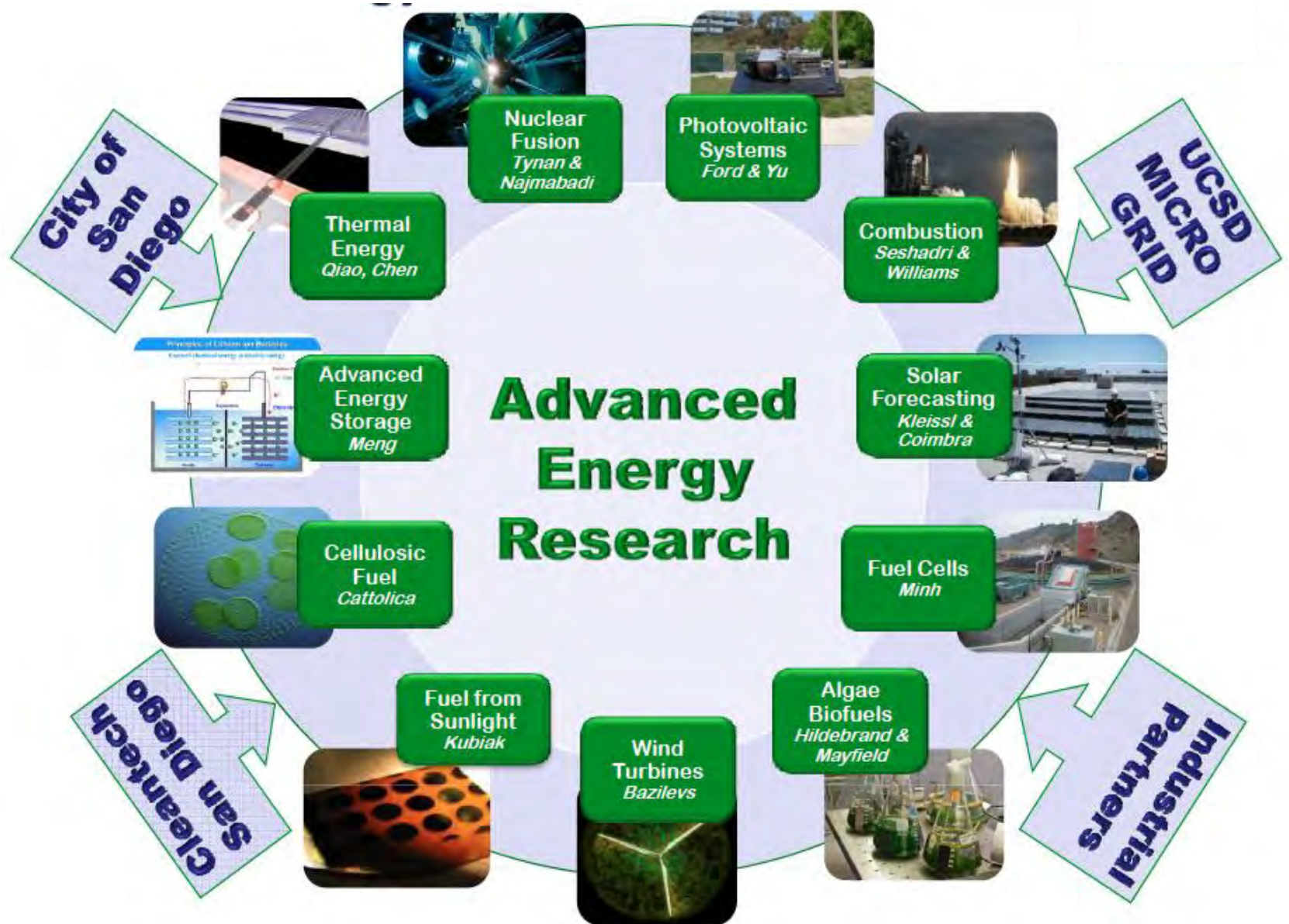
Showing the Future of Electricity ... Today

# UCSD Advanced Energy Initiative

Make ground-breaking discoveries and innovations in energy production and use to meet the energy needs of humanity in a clean and sustainable manner; and partner to move those discoveries into the marketplace.



Current UCSD funding for energy-related research=\$20M/Year





# Connecting Research to the Campus Testbeds

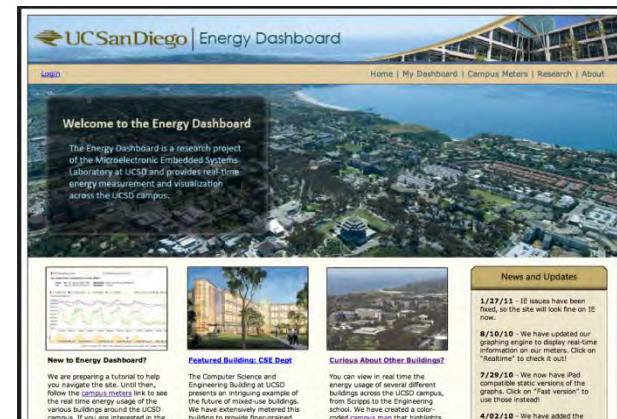
Solar PV



Forecasting



Energy Storage



Power Analytics

**Use Campus to Test, Develop, Evaluate & Enable High Reliability, High Penetration Renewably Generated Electricity**



# 10 YEARS

**entrepreneurism**

# Von Liebig Center Accelerates Innovation

*improve innovation quality and probability of commercialization*



University  
Discoveries

von Liebig Center

Commercial  
Development

Proof of Concept Grants

Business Mentors

Entrepreneurial Culture

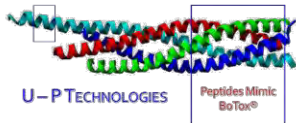
Collaboration with the Region's Ecosystem

Entrepreneurial Education

32 companies, one non profit

\$100 million invested

200+ jobs

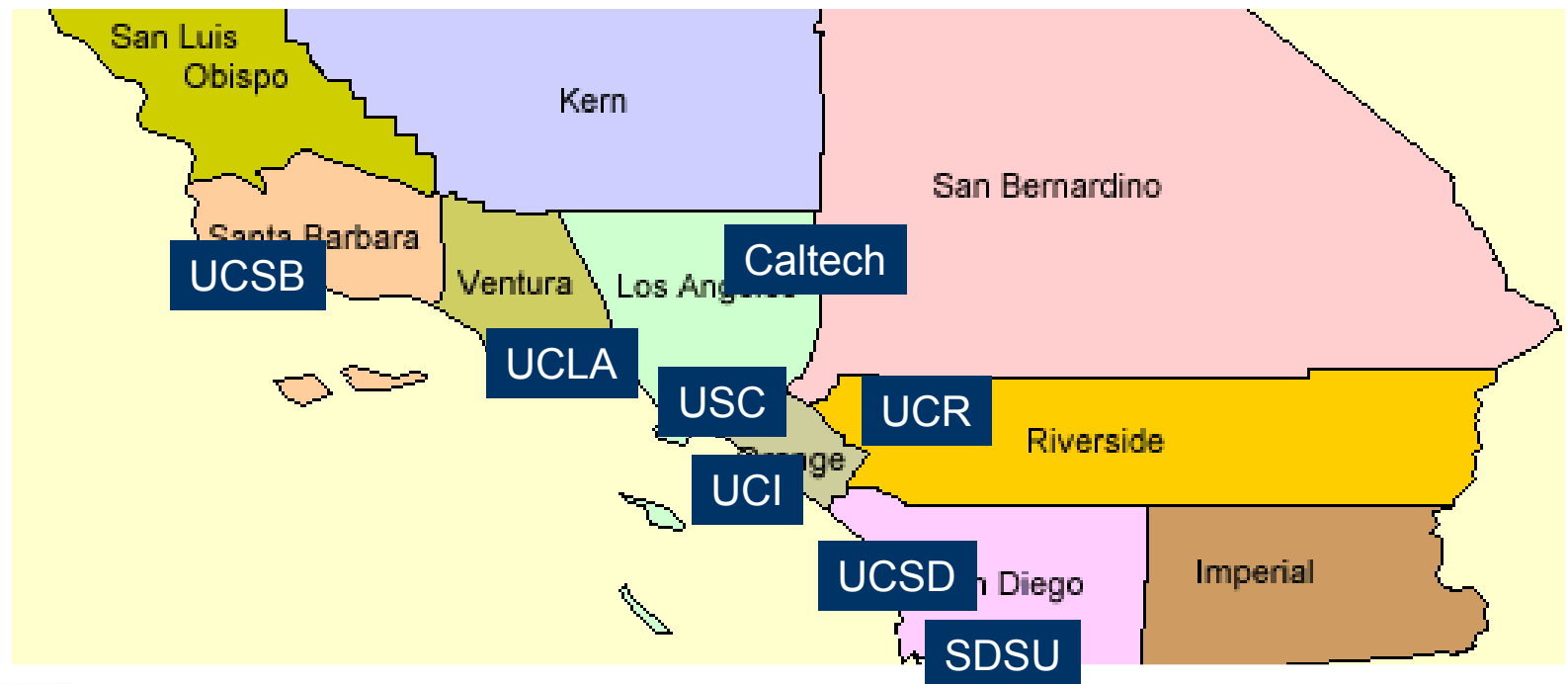




# 2012 DOE Renewable Energy Technology: Regional Expansion of von Liebig Program

Call For Proposals: January 2012

From Open Solicitations to Jacobs Faculty only to  
Topical solicitations open to industry university teams across the region



# TIP Sponsors: Highly Satisfied

100% would host a TIP team again

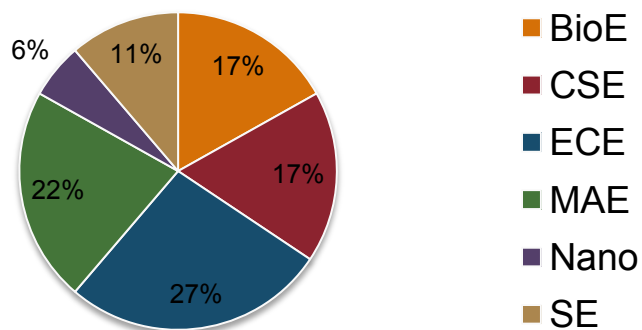


*"I set out a wish list and was amazed at the team's velocity. I ask them to look at a technology, and they fearlessly make it happen with no handholding."*

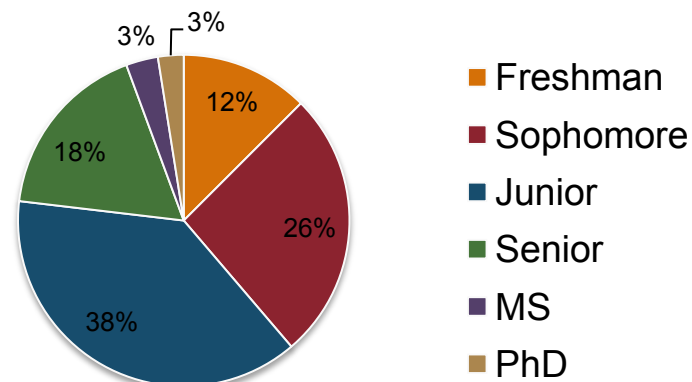
- **Derek Poulin,**  
**Mitchell International**

# 2012 Summer Team Internship Program off to quick start!

**TIP FEST Students in Attendance  
by Department**



**TIP FEST Students in Attendance  
by Year**



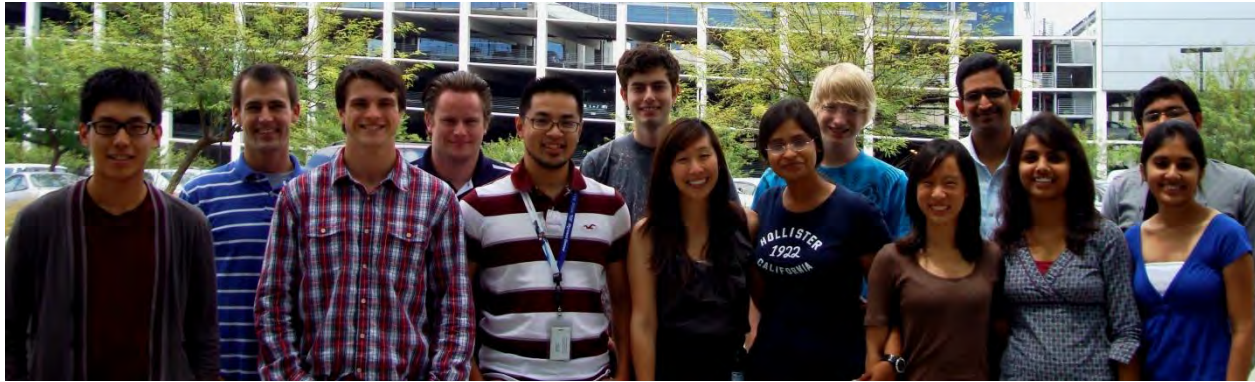
## **TIP 2012 Sponsors thus far include:**



**and you!**



# Sponsors: We heard you!



We're taking action:

- ✓ Simplified process for hiring managers
- ✓ Integrated and streamlined web tools to scale program growth
- ✓ Engage CAP partners for technical interview preparation
- ✓ Working with IDEA Center to promote TIP to underrepresented engineering students
- ✓ Interviewing skills workshops

# Distinguished Faculty Presentation



**Professor Todd Coleman**  
**Bioengineering,**  
**Electrical and Computer Engineering**

*"Wireless tattoo electronics for biomedical and consumer products applications"*

# CAP Business

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



# Welcome NEW CAP Team Member!



**Faye Kurpanek**  
**Program Manager**  
**Executive Education**

## CAP Members receive 2 for 1 admission Call for Expo Judges

1:30P – 4:30P

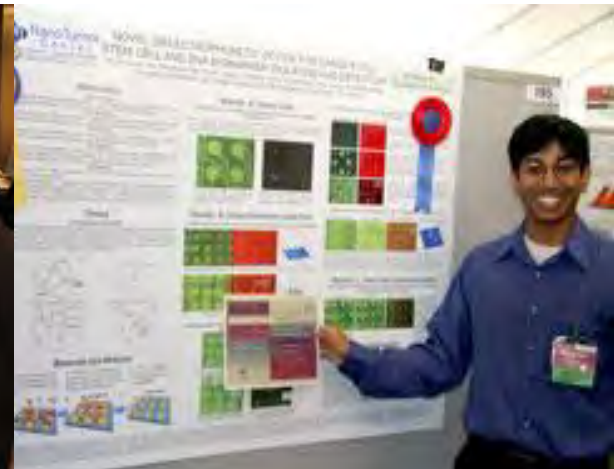
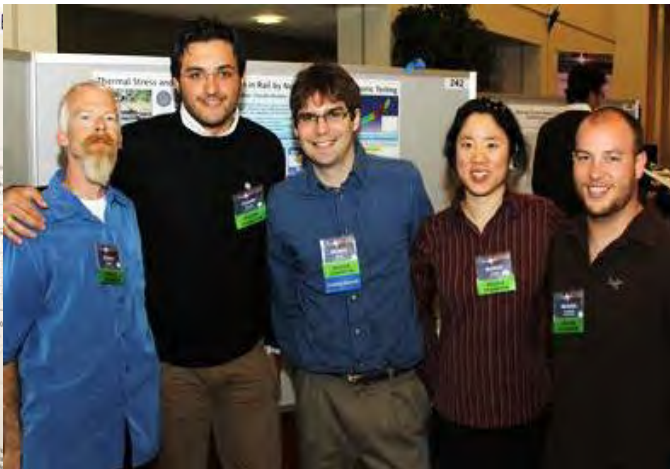
Poster Sessions

2:30P – 4:30P

Faculty Research Talks

4:30P – 6:00P

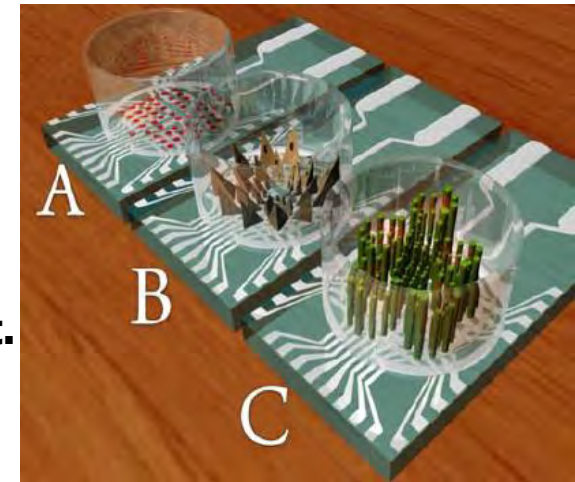
Awards Presentation and Networking Reception



# NSF ERC Site Visit March 1, 2012

## Engineering Research Center (ERC) NanoMACHs – Nano Manufacturing

- **\$18.5 M over five years with five year renewal option**
- **UCSD teamed with UT El Paso**
- **Diversity and K-12 education feature**
- **Commercialization a priority 'translational medicine'**
- **Examples from work in Four thrust areas:**
  - **Functional 3D Cardiac tissue**
  - **Battery-less pacemaker and self powered drug delivery implants**
  - **Self powered sensors and actuators**
  - **3D chemical nano-sensor arrays for monitoring of processes in tissues**
- **Outstanding opportunity for our newest engineering dept.**





**Next week:  
Jacobs School will celebrate FOUR  
Faculty who will be inducted into  
National Academies....stay tuned!**

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**We do know one who has earned this honor.....**



**中國工程院**

**C**HINESE **A**CADEMY OF **E**NGINEERING









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