Welcome CAP Executive Board

January 31, 2013
CAP Chairman 2012 - 2013

Anton Monk, Ph.D. UCSD ‘94
Co-founder & VP Technology
Entropic Communications
Welcome New CAP Members!

appfolio

ARISTA

L-P3

IDT INNOVATIVE DEFENSE TECHNOLOGIES

taoglas antenna solutions
Welcome Distinguished Students

Triton Engineering Student Council
Eduardo Mateo, VP Finance

ThoughtSTEM
Sarah Esper, Co-founder
Stephen Foster, Co-founder
A big thanks to all of our Corporate Sponsors!
Over 25 CAP Members Attending!
Friday, February 22, 2013
9:30 AM to 2:00 PM
University of California, San Diego

The regular registration period ends February 1st, 2013!
This year, we have invited over 300 under-served middle school students to UCSD to learn about university-level engineering!

The students will participate in a design activity, lab tours, and listen to guest speakers through the span of their stay at UCSD.
Enspire

We really need your help to continue making this event a successful event!
“College-level material”
“Traditional classrooms”
Do Or Dice

Task

Used a random number generator and an if statement to simulate a 6-sided die with 6 LEDs.
Dean’s Report
Corporate Affiliates Executive Board Meeting

Juan C. Lasheras
Interim Dean
Interim Dean

Juan C. Lasheras

Distinguished Professor
Mechanical and Aerospace Engineering
Bioengineering

Penner Chair in
Engineering and Applied Science

National Academy of Engineering

Director,
Center for Medical Device and Instrumentation,

Faculty Director,
MAS Medical Device Engineering
Frieder Seible
Dean Emeritus

30 Years of Service as Distinguished Professor
10 Years of Service as Dean of the Jacobs School

87 Faculty Hires

Industry Partnerships Doubled

Two New Academic Departments

Four Buildings

Initiatives to enhance education through team engineering and leadership programs

Thank You, Frieder!
Dean Search Advisory Committee

Firm: Isaacson, Miller
Committee Chairman: Robert Bitmead (MAE)
rbitmead@ucsd.edu

Committee Members:
Professor Pamela Cosman (ECE)
Provost Daniel Donoghue (Council of Provosts)
Vice Chancellor Linda S. Greene (Equity, Diversity and Inclusion)
Shazzy Gustafson (Student, CSE)
Professor Michael Heller (NanoEng)
Professor Michael Holst (Mathematics/Physical Sciences)
Professor Ryan Kastner (CSE)

Professor Francesco Lanza Di Scalea (SE)
Dean Seth Lerer (Arts and Humanities)
Professor John Orcutt (IGPP/Scripps Institution of Oceanography)
Professor Kevin Patrick (School of Medicine)
Nieves Rankin (Staff Representative)
Professor Geert Schmid-Schonbein (BE)
Sayanan Sivaraman (Student, ECE)
Professor Steven Wasserman (Biological Sciences)
Proposed Translational Fund
Focused on UC San Diego Technologies
Structure

- $15 Million Fund, 4 year investment cycle
- Externally managed, for-profit
- Focused on UCSD technology
- Experienced VC management who have long-term relationships with UCSD
- Close collaboration with von Liebig Center and the Office of Technology Transfer
- Balanced portfolio with targeted exits planned within three years
  - Telecomm
  - Internet/IT
  - Nanotech/Materials
  - Energy
  - Medical Device Technologies
Management & Investment Decision Process

Operating Committee

- Dave Schwab, Co-Chair
- John Rodenrys, Co-Chair
- Managing Director
- UCSD-designated Investment Professional
- San Diego-based Investment Professional

Advisory Committee

- Outside Domain Experts
- Researchers, UCSD & External
- Entrepreneurs
- Venture Capitalists

- Investment Decisions
- Kill Decisions
- Operational Decisions
Technology Acceleration Process & Funding Phases

Faculty Disclosures Released by Tech Transfer

- Fund independently
  Screens 100s of disclosures

Investment Fund

Investment Committee Decisions

Proof of Concept
$60K + IDC
License Option

A Round
$100K + IDC
License Executed

B Round
$250K + IDC

Von Liebig Advisors Provide Project Mentoring/Management
Strategic Planning Process: Defining UC San Diego’s Future
Our Goals

▪ To be the leading public university that enriches human life by:
  – Creating and disseminating, discoveries, technologies, inventions, cures, creative works and artistic expression
  – Educating and training leaders for society
  – Maintaining access and affordability
  – Engaging with, and contributing to, the community
  – Recognizing and celebrating diversity

▪ To be a university that provides an enabling environment and opportunity for all to achieve their objectives, dreams and ambitions, while contributing to institutional goals

Act Locally and Impact Globally
Current Context – External

- State General Funds expected to be flat at best
- State budget for construction expected to be non-existent
- Reduction in federal research support – very likely!
- Clinical income will decrease through healthcare reform
Why we are undertaking this strategic planning effort

**Overall Context**
- Highly successful trajectory over the last 52 years
- Increasing financial constraints
- Many opportunities for distinctiveness and leadership

**Challenges for UC San Diego**
- Improving the undergraduate student experience
- Serving the best students regardless of their ability to pay
- Attracting more graduate students
- Improving student to faculty ratio
- Attracting and retaining talented faculty
- Enhancing infrastructure
- Improving UC San Diego’s brand
- Enhancing global presence
- Fostering interdisciplinary cooperation among departments and schools by removing institutional barriers
- Increasing alumni giving rates
High level workplan for the strategic planning effort

- **Phase 1**
  - Process design

- **Phase 2**
  - Assessment and engagement

- **Phase 3**
  - Vision definition

- **Phase 4**
  - Unit-level strategic planning
    - Strategy setting

- **Phase 5**
  - Implementation planning

- **Today**
  - Pause for winter break

- Highly interactive process, with phases running in parallel
- Findings and discussions in one phase constantly informing and shaping other phases
Jacobs School Strategic Planning

Workgroups:

Undergraduate
Graduate
Research
Organization and Governance
External Relations
Jacobs School 11/12 Expenditures
$236M

- Federal Research, $86.6
- Industry & Private Research, $63.7
- Instruction & Faculty Salaries, $63.2
- State Funded Operations, $9.1
- State Research, $9.0
- Scholarships and Fellowships, $4.4
Industry/Private Funding as a Percentage of Total Research Expenditures

% of Research Industry/Private Funding as a Percentage of Total Research Expenditures

FY 03/04 FY 04/05 FY 05/06 FY 06/07 FY 07/08 FY 08/09 FY 09/10 FY 10/11 FY 11/12
## General Campus Students

### 3 quarter average

<table>
<thead>
<tr>
<th>Student Counts</th>
<th>FY2008</th>
<th>FY2009</th>
<th>FY2010</th>
<th>FY2011</th>
<th>FY2012</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division of Arts &amp; Humanities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Undergraduate Majors - 3QAvg</td>
<td>2,088.00</td>
<td>2,003.33</td>
<td>1,994.00</td>
<td>1,912.67</td>
<td>1,712.00</td>
<td>(376.00)</td>
</tr>
<tr>
<td>Master’s Students - 3QAvg</td>
<td>139.00</td>
<td>129.67</td>
<td>148.67</td>
<td>144.00</td>
<td>142.33</td>
<td>3.33</td>
</tr>
<tr>
<td>PhD Students - 3QAvg</td>
<td>301.67</td>
<td>319.00</td>
<td>331.67</td>
<td>325.33</td>
<td>322.67</td>
<td>21.00</td>
</tr>
<tr>
<td><strong>Division of Biological Sciences</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Undergraduate Majors - 3QAvg</td>
<td>5,107.00</td>
<td>5,625.33</td>
<td>5,560.67</td>
<td>4,884.67</td>
<td>4,062.33</td>
<td>(1,044.67)</td>
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<tr>
<td>Master’s Students - 3QAvg</td>
<td>80.33</td>
<td>99.00</td>
<td>95.67</td>
<td>128.67</td>
<td>132.00</td>
<td>51.67</td>
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<tr>
<td>PhD Students - 3QAvg</td>
<td>198.00</td>
<td>181.33</td>
<td>170.33</td>
<td>159.00</td>
<td>159.00</td>
<td>(39.00)</td>
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<tr>
<td><strong>Division of Physical Sciences</strong></td>
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</tr>
<tr>
<td>Undergraduate Majors - 3QAvg</td>
<td>2,075.67</td>
<td>1,833.00</td>
<td>1,954.67</td>
<td>2,371.00</td>
<td>2,465.00</td>
<td>389.33</td>
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<tr>
<td>Master’s Students - 3QAvg</td>
<td>41.66</td>
<td>41.67</td>
<td>63.00</td>
<td>70.00</td>
<td>82.00</td>
<td>40.34</td>
</tr>
<tr>
<td>PhD Students - 3QAvg</td>
<td>432.00</td>
<td>434.67</td>
<td>453.33</td>
<td>477.00</td>
<td>460.33</td>
<td>28.33</td>
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<tr>
<td><strong>Division of Social Sciences</strong></td>
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<tr>
<td>Undergraduate Majors - 3QAvg</td>
<td>7,547.00</td>
<td>8,008.67</td>
<td>8,436.67</td>
<td>8,586.67</td>
<td>8,461.33</td>
<td>914.33</td>
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<tr>
<td>Master’s Students - 3QAvg</td>
<td>138.00</td>
<td>110.33</td>
<td>112.67</td>
<td>117.67</td>
<td>115.67</td>
<td>(22.33)</td>
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<tr>
<td>PhD Students - 3QAvg</td>
<td>594.33</td>
<td>595.33</td>
<td>614.67</td>
<td>609.00</td>
<td>623.33</td>
<td>29.00</td>
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<tr>
<td><strong>Jacobs School of Engineering</strong></td>
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<td></td>
</tr>
<tr>
<td>Undergraduate Majors - 3QAvg</td>
<td>3,624.33</td>
<td>3,805.00</td>
<td>4,105.67</td>
<td>4,330.67</td>
<td>4,790.33</td>
<td>1,166.00</td>
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<tr>
<td>Master’s Students - 3QAvg</td>
<td>356.66</td>
<td>378.67</td>
<td>458.00</td>
<td>483.00</td>
<td>496.67</td>
<td>140.01</td>
</tr>
<tr>
<td>PhD Students - 3QAvg</td>
<td>785.67</td>
<td>762.67</td>
<td>820.67</td>
<td>879.33</td>
<td>901.33</td>
<td>115.67</td>
</tr>
<tr>
<td><strong>Jacobs School of Engineering</strong></td>
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</tr>
<tr>
<td>Percent of UG</td>
<td>18%</td>
<td>18%</td>
<td>19%</td>
<td>20%</td>
<td>22%</td>
<td>111%</td>
</tr>
<tr>
<td>Percent of Masters</td>
<td>47%</td>
<td>50%</td>
<td>52%</td>
<td>51%</td>
<td>51%</td>
<td>66%</td>
</tr>
<tr>
<td>Percent of PhD</td>
<td>34%</td>
<td>33%</td>
<td>34%</td>
<td>36%</td>
<td>37%</td>
<td>75%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>20%</td>
<td>20%</td>
<td>21%</td>
<td>22%</td>
<td>25%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*source: EVC Resource Profile Data*
### Fall 2011 - Fall 2013 Undergraduate Applications

<table>
<thead>
<tr>
<th></th>
<th>2011 Applications</th>
<th>2012 Applications</th>
<th>2013 Applications</th>
<th>1 Year Change</th>
<th>2 Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>12,250</td>
<td>14,500</td>
<td>17,000</td>
<td>17%</td>
<td>39%</td>
</tr>
<tr>
<td>Non-Engineering</td>
<td>59,000</td>
<td>62,000</td>
<td>65,300</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td>71,250</td>
<td>76,500</td>
<td>82,300</td>
<td>8%</td>
<td>16%</td>
</tr>
</tbody>
</table>

### Fall 2013:

17,000 applicants to Jacobs School out of a total of 156,000 applicants to the *entire* UC System

11%
Discussion Questions

1. What do you perceive to be the Jacobs School’s reputation and distinguishing strengths?

2. Are the Jacobs School’s contributions to the future well-being and prosperity of the state properly recognized within your company? How are we viewed in terms of our contributions to:
   - Educating the future workforce?
   - Advancing knowledge in science and technology?
   - Contributing to the growth of industry?

3. Does your company value a strong, thriving, entrepreneurial Jacobs School of Engineering? What are the most important reasons you include us amongst the select universities with whom you do business?

4. How much is the Jacobs School reputation tied to that of the overall UC San Diego reputation? Can/should we create our own brand?
Anne O’Donnell
Director
Corporate Affiliates Program
Jacobs School of Engineering
RESEARCH EXPO
April 18, 2013

CAP Members receive 2 for 1 admission
Call for Expo Judges

2:00P – 4:30P  Poster Sessions
2:30P – 4:30P  Faculty Research Talks

4:30P – 6:00P  Awards Presentation and Networking Reception

UCSD Jacobs School of Engineering
Master of Advanced Study Updates

Mark your calendars: MAS Open House on March 27th.
On campus – reserved parking (spring break week)
Please help promote and distribute information at your organizations.
Flyers available mid-February

Now accepting applications:
Architecture-Based Enterprise Systems Engineering (AESE)
Wireless Embedded Systems (WES)
Medical Device Engineering (MDE)

First Wireless Embedded Systems and Medical Device Engineering students graduating this spring!
Now accepting projects for summer 2013!

These companies have already posted projects:

Stay ahead of the competition by submitting your project descriptions now!
Starring UCSD’s very own Martha Stewart of Electronics, Saura Naderi!
CAP Business:

Dates to Remember:

- Friday, February 22: DECaF (Disciplines in Engineering Career Fair)
- Thursday, April 18: Research Expo
- Thursday, June 6: CAP Executive Board Meeting
- Thursday, October 3: CAP Executive Board Meeting
Thank you CAP Executive Board