Welcome

New members:
• Bruce Doyle, Broadcom
• Tom Ferraro, National Instruments

Guests:
• Jim Cale, National Renewable Energy Laboratory
• Scott Higgins, Schneider Electric
• Steve Martin, Avago Technologies
Agenda

• Department Update
• Overview of Industry Membership Program
• Industry Spotlight: Schneider Electric
• ABET Survey
• Break
• Breakout Session: How Technology is Changing the Delivery of Education
• Discuss Results of Breakout Session
• Election
• Lunch & Senior Design Presentations
• Tour of New Engineering Building
What was Tony doing last semester?
College Update

• Dean search underway
• Jill Higham hired to focus on corporate relations and development
Faculty News

• ECE faculty dominate CSU awards ceremony
  – Teaching: B. Notaros – BOG Excellence in Teaching
  – Research: Menoni – Scholarship Impact
  – Outreach: Chandra – Innovative Excellence by CSU Ventures
New ECE professors bolster research

- Advanced Beam Laboratory under construction
- Signed IMOU with University of Twente; electron accelerator donated
- Laser System donated by Boeing Directed Energy Systems
• Prof. Notaros receives IEEE Outstanding Engineering Educator Award
• Professor Pasricha wins AFOSR Young Investigator Award
• Math Prof. Margaret Cheney to deliver Sonia Kovalevsky Lecture
• Professor Menoni recognized at SPIE conference for Best Oral Presentation

• Professor Siegel honored by Governor as High Park first responder
Personnel News

• ECE faculty search underway
• New department advisor hired
  – Kate Douglass starts May 6
Student News

• E-Days winners
  – 1st: LARRY (Little Autonomous Retrieval Robot “Y”)
  – 2nd: CSU Antenna Test Range
  – 3rd: Underwater ROV (voted best by underclassmen)
• Open Design Competition a success!
  – Competition is for students at all levels

• Senior Royce Quintana honored by CSU with First Generation Award

• 6th Annual Best Paper Contest starts next month
  – Thanks for your continued support!
COE Research Expenditures

2011-2012

- CIRA: 27%
- ECE: 20%
- CEE: 14%
- ME: 10%
- CBE: 4%
- ATS: 25%

College of Engineering: 46%
COE Research by Sponsor

- NSF - National Science Foundation
- DOC-NOAA-Natl Oceanic & Atmospheric Admin
- NASA - Natl Aeronautics & Space Admin
- DOE-DOE-Energy
- DOE-US Department of Energy
- DOD-Navy-Office of Naval Research
- DOD - US Department of Defense
- DOD-ARMY-Corps of Engineers
- Calif. Inst. of Tech./Jet Propulsion Lab
- USDA-CSREES-Coop State Resrch Ed & Ext

Legend:
- Red: Sum of F&A_Exp
- Blue: Sum of Direct_Exp
ECE Research Expenditures

2002-2003: $2,636,379
2003-2004: $0
2004-2005: $2,000,000
2005-2006: $4,000,000
2006-2007: $6,000,000
2007-2008: $8,000,000
2008-2009: $10,000,000
2009-2010: $12,000,000
2010-2011: $12,747,067
2011-2012: $14,000,000
National Enrollment Trends

- Biomedical Engineering
- Electrical & Computer Engineering
- Mechanical Engineering
- Chemical Engineering
- Engineering Science
- Civil Engineering
- Environmental Engineering
- Total Engineering
Undergraduate Degrees Awarded

Calendar Year

- 2006: 50
- 2007: 50
- 2008: 40
- 2009: 20
- 2010: 10
- 2011: 30
- 2012: 40

Number

- BSCpE
- BSEE
Freshman Enrollment
Enrollment Trends by Class
Graduate Degrees Awarded

Calendar Year

Number

2006
2007
2008
2009
2010
2011
2012

ME-Systems
MS
Ph.D.
% of International Degrees Awarded

Calendar Year

2006 2007 2008 2009 2010 2011 2012

ME-Systems
MS
Ph.D.
Total
ABET Update: IAB input drives continuous improvement

*Important actions taken since last ABET review based on your suggestions and ideas:*

- ECE seminar series created (2007)
- Senior Design program changes (2007-present)
  - Communication skills emphasized
  - Increased industry involvement
  - 3 new papers expected: project plan w/deliverables, test plan, and ethics paper
- Systems Engineering program launched (2008)
• ECE 202 changes – course project added to syllabus (2009)
  – Early exposure to design, teamwork, project management, and testing; great preparation for senior design

• Power & Energy program bolstered (2010)
  – Two new faculty hired in this area

• Design Your Future Day created (2010)

• I/O diagrams developed for core undergraduate courses (Tiger Team, 2010)

• Student lounge refurbished (Tiger Team, 2011)

• Online certificate and degree program launched (2012)

• ECE 161 created specifically for ECE students (collaboration with Math Dept, 2012)
Technology & Higher Education

• Massive Open Online Courses (MOOCs)
  – Online course aiming at large-scale interactive participation and open access via the web
  – Include traditional course materials and provide interactive user forums that help build community
  – MOOCs do not offer academic credit or charge tuition fees
    • Only about 10% of the tens of thousands of students who may sign up complete the course*
  – edX (MIT/Harvard), Coursera (Stanford), Udacity (Stanford), Khan Academy

*“Universities Abroad Join Partnerships on the Web” New York Times (Feb ’13)
The Value of a College Degree: Median First-Year Earnings by CO Institution

Source: Colorado Department of Higher Education

Source: CollegeMeasures.org
Median First-Year Earnings in EE by CO Institution

Source: CollegeMeasures.org
EUV ERC Industry Membership Program

Bob Bower, Industrial Liaison Officer
Industry Spotlight: Schneider Electric

Scott Higgins, VP, Utilities
Break
Breakout Session
How Technology is Changing the Delivery of Education
Considerations:

• Massive Open Online Courses
  – What is the value of learning on campus?
  – How do we stay competitive and create new opportunities for learning?

• The Value of a College Degree
  – How do we deal with public policy makers and dispel the perception that a higher degree doesn’t necessarily pay off?

• Social Media
  – How do we effectively integrate social media tools into our program?
Discuss Results of Breakout Session

Facilitator: Scott Makinen
Election
Facilitator: Scott Makinen
Lunch & Senior Design Presentations
Closing Remarks, Tour of Scott Building

Tony Maciejewski