COLLEGE OF ENGINEERING

ANNUAL FACULTY MEETING
MAY 19, 2011
MEETING MINUTES

- UNIVERSITY OF CALIFORNIA, DAVIS
  VOLUME XXXVIII, NO. 3
- ACADEMIC SENATE
- MINUTES
- REGULAR MEETING
- FACULTY OF THE COLLEGE OF ENGINEERING (DAVIS)
- May 19, 2011, 4:00 p.m., room 1065 Kemper Hall
Order of Business

- 1. Announcements by the President, Mark Yudof (none)

- 2. Announcements by the Chair, Matthew Farrens
Executive Committee Activities

- Discussion regarding the closure of the department of Applied Science.
- Optical Science Major – voted to close admissions.
- Computational Applied Science Major – voted to cancel major.
- Joint Federation/Senate review committee – discussion regarding on-going difficulties between COE and review committee for federation appointments.
- Voted to amend the current GE requirements as requested by UGEP.
- Jeannie Darby (CEE) elected as Vice-Chair for AY 2011/12, Marjorie Longo (CHMS), will serve as chair of CEC for AY 2011/12.
ORDER OF BUSINESS

3. Announcements by Dean, Enrique J. Lavernia

   Slides to follow
College Statistics

- Established in 1962
- 8 academic departments
- Multidisciplinary research centers
- 211 faculty members
- Highest number of ABET-accredited majors in California
- 20,000 Alumni
- 3,250 Undergraduates
- 1,200 Graduate Students
- 15 Undergraduate majors
- 10 Graduate programs
Eight departments (# of faculty)

- Applied Science (17) – Chair: Dr. Yin Yeh
- Biological and Agricultural Engineering (17) – Chair: Dr. Raul Piedrahita
- Biomedical Engineering (21) – Chair: Dr. Kyriacos Athanasiou
- Chemical Engineering and Materials Science (31) – Chair: Dr. Bob Powell
- Civil and Environmental Engineering (33) – Chair: Dr. Sashi Kunnath
- Computer Science (31) – Chair: Dr. Prasant Mohapatra
- Electrical and Computer Engineering (29) – Chair: Dr. Rick Kiehl
- Mechanical and Aerospace Engineering (32) – Chair: Dr. Case Van Dam
Importance of Diversity in Engineering

- Generates more relevant long-term solutions to important societal problems
- Engages a talented intellectual resource
- Satisfies industry needs and demands
Freshmen Applicants, Admissions and Enrollments

CA Residents: 2011 applications = 7832; admitted = 3736; intend to register = 783

Non-residents: 2011 applications = 910; admitted = 712; intend to register = 77
Transfer Applicants, Admissions and Enrollments

CA Residents: 2011 applications = 1210; admitted = 292; SIR: June 1
Non-residents: 2011 applications = 204; admitted = 50; SIR: June 1
### 2011: Freshmen Admissions

<table>
<thead>
<tr>
<th>Major</th>
<th>Applications</th>
<th>Admissions</th>
<th>Intend to Register</th>
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<tbody>
<tr>
<td>EEEL (Electrical)</td>
<td>642</td>
<td>431</td>
<td>81</td>
</tr>
<tr>
<td>ECOM (Computer)</td>
<td>632</td>
<td>259</td>
<td>58</td>
</tr>
<tr>
<td>ECSE (Comp Sci &amp; Engr)</td>
<td>983</td>
<td>481</td>
<td>75</td>
</tr>
<tr>
<td>EASE (Aerospace)</td>
<td>831</td>
<td>319</td>
<td>60</td>
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<tr>
<td>EMEC (Mechanical)</td>
<td>1390</td>
<td>562</td>
<td>103</td>
</tr>
<tr>
<td>EMEM (Mechanical/Materials)</td>
<td>140</td>
<td>59</td>
<td>7</td>
</tr>
<tr>
<td>ECIV (Civil)</td>
<td>1328</td>
<td>489</td>
<td>104</td>
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<tr>
<td>EBCL (Biochemical)</td>
<td>165</td>
<td>122</td>
<td>26</td>
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<tr>
<td>ECML (Chemical)</td>
<td>631</td>
<td>476</td>
<td>100</td>
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<tr>
<td>EMSE (Materials Science)</td>
<td>87</td>
<td>87</td>
<td>27</td>
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<tr>
<td>ECHM (Chem/Materials)</td>
<td>65</td>
<td>74</td>
<td>15</td>
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<tr>
<td>EEME (Electronic Materials)</td>
<td>15</td>
<td>10</td>
<td>3</td>
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<tr>
<td>EBSE (Biological Systems)</td>
<td>296</td>
<td>198</td>
<td>61</td>
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<tr>
<td>ECAS (Comp. Applied Sci.)</td>
<td>13</td>
<td>3</td>
<td>1</td>
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<tr>
<td>EOSE (Optical Science)</td>
<td>43</td>
<td>12</td>
<td>2</td>
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<tr>
<td>EBIM (Biomedical)</td>
<td>1553</td>
<td>866</td>
<td>136</td>
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</table>
Undergraduate Majors

thirteen majors…
- Aerospace Science & Engineering
- Biochemical Engineering
- Biological Systems Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science & Engineering
- Electrical Engineering
- Electronic Materials Engineering
- Materials Science & Engineering
- Mechanical Engineering
- Optical Science & Engineering

two combined majors…
- Chemical Engineering/Materials Science & Engineering
- Mechanical Engineering/Materials Science & Engineering
Undergraduate Enrollments

Engineering Computer Science major In Letters & Science

<table>
<thead>
<tr>
<th>Year</th>
<th>Engineering</th>
<th>Computer Science</th>
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<tbody>
<tr>
<td>2000</td>
<td>2,544</td>
<td>342</td>
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<tr>
<td>2001</td>
<td>2,907</td>
<td>410</td>
</tr>
<tr>
<td>2002</td>
<td>2,921</td>
<td>399</td>
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<td>2003</td>
<td>2,945</td>
<td>380</td>
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<td>2004*</td>
<td>2,874</td>
<td>290</td>
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<tr>
<td>2005</td>
<td>2,881</td>
<td>225</td>
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<tr>
<td>2006</td>
<td>2,814</td>
<td>197</td>
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<td>2007</td>
<td>2,797</td>
<td>193</td>
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<td>2008</td>
<td>2,754</td>
<td>206</td>
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<tr>
<td>2009</td>
<td>2,861</td>
<td>217</td>
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<td>2010</td>
<td>3,003</td>
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Bachelor Degrees Awarded

<table>
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<tr>
<th>Year</th>
<th>Engineering</th>
<th>Computer Science in Letters &amp; Science</th>
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<tr>
<td>2000-01</td>
<td>505</td>
<td>78</td>
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<tr>
<td>2001-02</td>
<td>469</td>
<td>99</td>
</tr>
<tr>
<td>2002-03</td>
<td>507</td>
<td>117</td>
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<tr>
<td>2003-04</td>
<td>558</td>
<td>117</td>
</tr>
<tr>
<td>2004-05</td>
<td>600</td>
<td>79</td>
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<td>2005-06</td>
<td>573</td>
<td>68</td>
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<td>2006-07</td>
<td>560</td>
<td>40</td>
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<tr>
<td>2007-08</td>
<td>487</td>
<td>48</td>
</tr>
<tr>
<td>2008-09</td>
<td>434</td>
<td>59</td>
</tr>
<tr>
<td>2009-10</td>
<td>518</td>
<td>46</td>
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ABET Accredited Majors

- Has the largest number (twelve) of ABET-accredited undergraduate engineering programs in the UC system

  - Aerospace Science and Engineering
  - Biological Systems Engineering
  - Chemical Engineering
  - Biochemical Engineering
  - Civil Engineering
  - Computer Engineering
  - Computer Science and Engineering
  - Electrical Engineering
  - Electrical Engineering/Materials Science and Engineering
  - Materials Science
  - Mechanical Engineering
  - Optical Science and Engineering
Graduate Programs

- Six departmentally-based graduate programs and 3 graduate groups
- Fall 2010 graduate enrollment: 1178 (70% Ph.D., 30% M.S.; 64% Domestic, 36% International)
- Graduate degrees awarded in 2009-10: 173 M.S., 103 Ph.D.
- Graduate student/faculty ratio: 5.6
- Graduate student/undergraduate ratio: 0.36
Graduate Enrollments

Graduate Enrollment* in the College of Engineering

*Starting Fall 2003, graduate enrollment includes students on PELP status, filing fee status or students in graduate groups outside of engineering whose major research advisor is an engineering faculty member.
Graduate Enrollment by Program

- AS
- BAE
- BME
- CHMS
- CEE
- CS
- ECE
- MAE
- TTP

- 12%
- 15%
- 17%
- 23%
- 10%
- 11%
- 4% 4% 4%
Graduate Degrees Awarded

Doctoral  Masters

College of Engineering Rankings

- Ranked 18th among publicly assisted undergraduate colleges of engineering nationwide by *US News & World Report 2011 edition*

- Ranked 19th among publicly assisted graduate colleges of engineering nationwide by *US News & World Report 2012 edition*
College of Engineering
Grants & Contracts

Awards
Gifts & Patents

$120,000,000
$100,000,000
$80,000,000
$60,000,000
$40,000,000
$20,000,000
$0

College of Engineering Expenditures

Federal | State | Private

$0 $10,000,000 $20,000,000 $30,000,000 $40,000,000 $50,000,000 $60,000,000 $70,000,000 $80,000,000 $90,000,000 $100,000,000

New Faculty since May 2010

Diran Apelian (ChMS, January, 2011)
Member, NAE

Subhash Mahajan (ChMS, January, 2011)
Member, NAE
Faculty Searches in Progress

Mechanization Engineer (BAE)

Stem Cell Engineer (BME)

Physical Electronics (ECE)

Microwave, Millimeter-wave and THz Electronics (ECE)
Awards to Junior Faculty

- Ilke Arslan, PECASE (ChMS)
- Ricardo Castro, CAREER (ChMS)
- TJ Green, CAREER (CS)
- Tina Jeoh, CAREER (BAE)

- CoE faculty have received a total of 46 CAREER and similar awards
Recent Budget Cuts

- **2009-10 = $1,670K**
  - Assigned to non-ladder salaries.
  - $523K (31%) absorbed by EDO.
  - Remaining $1,147K incorporated into new BB model.

- **2010-11 = $2,450K**
  - To be realized through faculty FTE returns
  - 3-year transition
  - COE has returned 4.3 FTE worth $690K
  - Will require approx 11 more FTE! Big challenge…
Campus Budget Planning, 2011-12

- Academic units assigned $11.2M out of $67.2M total cuts
  - Of that $11.2M, COE share is $521K = 4.6%
  - COE is ~11% of all academic units (as GF and faculty FTE)

- Cuts based on directed, implementable(?) strategies
  - Revenues
  - Efficiencies
  - Reductions

- Whether we implement particular strategies, $521K target must be realized
Budget Directives for COE, 2011-12

- Revenue generating programs = $100K
- Redirect voluntary committed cost sharing on research grants to faculty salaries = $232K
- Redirect payroll assessment for staff training = $30K
- Streamline organizations by increasing ratio of staff supervised to managers = $75K
- Reduce expenses = $84K
  - GF travel & entertainment: 20%
REPORTS FROM STANDING COMMITTEES

Committee on Undergraduate Educational Policy,
Angie Louie, Chair

Awards Committee, Bernard Levy, Chair
REPORTS CONTINUED....

Research and Library Committee,
Sabyasachi Sen, Chair

Committee on Graduate Study,
Frank Loge, Chair

Committee on Student Recruitment, Development,
and Welfare, Jinyi Qi, Chair
4. Special orders (none)

5. Petitions of students (none)

6. Unfinished business (none)

New business: *Proposed Bylaw Changes*

33 members of the COE faculty attended the meeting, reaching the number needed for a quorum. Both bylaw changes were approved by unanimous vote.
Proposed Bylaw Changes

(1) Awards Committee: (E) Committee members shall consult with their home department to propose names of potential speakers for the Dean’s Distinguished Lecture Series. The Awards Committee will review the list of suggested speakers at its Fall meeting prior to being forwarded to the Dean.

(2) Committees: (15) Remove language regarding the requirement for acknowledgement letters for service on College standing committees.
COE Standing Committees 2011/12

EXECUTIVE COMMITTEE

David Slaughter          BAE
Simon Cherry            BME
Marjorie Longo, Chair   CHMS
Jeannie Darby, Vice-Chair CEE
Matthew Farrens         CS
Bernard Levy            ECE
Ron Hess                MAE
COE Standing Committees 2011/12

COMMITTEE ON STUDENT RECRUITMENT,
DEVELOPMENT AND WELFARE

Fadi Fathallah  BAE
Marc Facciotti  BME
Yayoi Takamura  CHMS
Kenneth Loh  CEE
Ian Davidson  CS
Anna Scaglione  ECE
Valeria La Saponara  MAE
# COE Standing Committees 2011/12

## COMMITTEE ON UNDERGRADUATE EDUCATIONAL POLICY

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
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<tbody>
<tr>
<td>Michael Delwiche</td>
<td>BAE</td>
</tr>
<tr>
<td>Angie Louie</td>
<td>BME</td>
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<tr>
<td>Greg Miller</td>
<td>CHMS</td>
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<tr>
<td>Amit Kanvinde</td>
<td>CEE</td>
</tr>
<tr>
<td>Phillip Rogaway</td>
<td>CS</td>
</tr>
<tr>
<td>TBD</td>
<td>ECE</td>
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<tr>
<td>Jim Schaaf</td>
<td>MAE</td>
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COE Standing Committees 2011/12

AWARDS COMMITTEE

Bruce Hartsough  BAE
Kathy Ferrara  BME
Bruce Gates  CHMS
John Bolander  CEE
Zhendong Su  CS
Anh-Vu Pham  ECE
Mohamed Hafez  MAE
# COE Standing Committees 2011/12

## RESEARCH & LIBRARY COMMITTEE

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>Wes Wallender</td>
<td>BAE</td>
</tr>
<tr>
<td>Alex Revzin</td>
<td>BME</td>
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<td>Sabyasachi Sen</td>
<td>CHMS</td>
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<tr>
<td>N. Sukumar</td>
<td>CEE</td>
</tr>
<tr>
<td>Todd (T.J.) Green</td>
<td>CS</td>
</tr>
<tr>
<td>Soheil Ghiasi</td>
<td>ECE</td>
</tr>
<tr>
<td>Kazuo Yamazaki</td>
<td>MAE</td>
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# COE Standing Committees 2011/12

**COMMITTEE ON GRADUATE STUDY**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Shrin Upadhyaya</td>
<td>BAE</td>
</tr>
<tr>
<td>Kent Leach</td>
<td>BME</td>
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<tr>
<td>Roland Faller</td>
<td>CHMS</td>
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<tr>
<td>Frank Loge</td>
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<tr>
<td>Pat Mokhtarian</td>
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<tr>
<td>Kwan-Liu Ma</td>
<td>CS</td>
</tr>
<tr>
<td>Venkatesh Akella</td>
<td>ECE</td>
</tr>
<tr>
<td>Jean-Pierre Delplanque</td>
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