PROGRESS ON RECOMMENDATIONS OF 10/30/09
CU Engineering Advisory Council Meeting

The key recommendations of the 10/30/09 meeting of the CU-Boulder Engineering Advisory Council (EAC) are provided below in *italics*, followed by summaries of progress and plans made on these recommendations. This summary report and other EAC information may also be found at [http://engineering.colorado.edu/overview/advisory_boards.htm](http://engineering.colorado.edu/overview/advisory_boards.htm).

**Resource Development Committee:** An abbreviated RDC meeting was held early on 10/30/09 prior to the EAC meeting. Doug Smith reported on the Engineering Dean’s Club, which started in FY09 and will be expanded in FY10. Multiple levels, beyond the $1,000 minimum, were recommended. The ChBE/Biotech Building Subcommittee and Friendraising Subcommittee did not meet the afternoon before, due to the snowstorm, and teleconferences will be scheduled.

Due to a snow cancellation the afternoon before, the RDC held an abbreviated breakfast meeting just prior to the 30 October 2009 EAC meeting, where the main topic was the roll-out results of Dean’s Club efforts and a discussion about building this program to add “tiered” support levels. The group consensus was that such tiered support would be unnecessary and not provide value at the additional levels that a) would make a donor want to give more, and b) not incur conflicts with other giving-level policies (e.g., named scholarships, etc.). Thus, tiered support levels were not implemented. Instead, the Dean’s Club with a minimum of $1000 annual donation has been promoted with past Dean’s Club members, $500+ donors, and the EAC. To-date in FY10, there are 66 members with $175K total donations, compared to 62 members with $146K total donations in all of FY09. Other items of business included conference calls for the two subcommittees in the time between the Fall and Spring EAC meetings. The ChBE subcommittee met via phone and provided additional leads, mostly corporate, for follow-up. These leads are in various stages of follow-up at this time. The Dean has visited Chevron, Fluor, ConocoPhillips, Genentech, and OPX during the past six months, while other faculty and development reps have visited Eli Lilly, BASF, Marathon, Valero, and Air Products. The Friendraising subcommittee was unable to find a time for a teleconference.

**Inclusive Excellence Committee:** Frank Figueroa stated the overall goal of CU engineering demographics that mirror the state population. Associate Dean Jackie Sullivan presented background data and also described the BOLD (Broadening Opportunities through Leadership and Diversity) Center as an integrated effort to improve access, retention and performance. The main recommendations of the subcommittee are (i) benchmark successful programs, (ii) conduct focus-group sessions with students on strategies, and (iii) establish metrics to evaluate success.

CU Strategic Diversity Objectives — Clarify the College’s strategic diversity objectives that specifically relate to the purpose of the Inclusive Excellence subcommittee.

- Action: Engineering 2020 diversity-focused distillation sent to subcommittee 25 March 2010
- Action: Map and reflect how our subcommittee objectives connect with these CU strategic objectives
  - Jean Becker, Leader, with input from Carin Knickel and Jill Tietjen
  - First team conference call 29 March 2010; action TBD by Jean and her team
#1 Develop a corporate “cornerstone” program (much like United Way) that appeals to supporting corporations and provides substantial and consistent funding to support backbone CU engineering inclusion efforts such that 100% of BOLD gifts support programs.

- Dan Hernandez, Leader, with help from Joe Negler, Arch Archuleta and Joanne Maguire
- Progress: No progress to report; Frank working to connect with Dan

#2 Develop strategic measures that guide CU engineering diversity actions and course correction.

- Jean Becker, Leader, with help from Jill Tietjen and Carin Knickel (and lots of data from Jackie Sullivan and Beth Myers)
- Conduct benchmarking assessment of the College’s “aspirational universities” and provide a summary report
- Agree on specific quantifiable measures of success for the College’s inclusive excellence initiative (e.g., what does success look like and how do we know if we achieve it?)
- Progress:
  - First team conference call 29 March 2010; action TBD by Jean and her team
  - Initial benchmark data sent 25 March 2010

#3 Conduct benchmarking of Summer Bridge programs that informs CU’s future direction.

- Jackie Sullivan, Leader, in collaboration with BOLD team
- Progress:
  - Completed benchmark of >35 programs in fall 2009
  - Summer Bridge 2010 program redesigned during winter 09-10 to achieve a different set of outcomes
  - Program brochure created March 2010
  - Recruiting for summer 2010 pilot initiated April 2010

#4 Conduct focus groups with students so we understand what they believe would achieve our strategic diversity goals.

- Daniel Knight, Leader, in collaboration with Jackie & BOLD team
- Progress: by mid April 2010

#5 Develop research and development partnerships with targeted research entities (e.g., NREL, Sandia, PNNL) to provide more grant and fellowship opportunities for diverse students.

- Frank Figueroa, Leader - with assistance from Marty Dunn/PNNL research officials
- Progress: Telecon conducted in 2009 to provide introductions and impetus to conduct first on-site interaction meeting at PNNL; Frank sent message to Marty asking for status

**Education Committee:** Mike Wirth noted that discussion focused on the freshman experience and enrollment-limited majors. A possible alternative is an open-option first year for all engineering students, who would then declare their majors after the first year. Such a common year does not solve the need for enrollment limits but it does remove a disadvantage that current students face when choosing open option and then not getting into their majors of choice. It was recommended that we (i) review our data and the models of other schools for the freshman experience and (ii) create more flexibility for changing demands for different majors.

A plan was vetted by the College of Engineering and Applied Science (CEAS) Undergraduate Education Council and the Administrative Council to create a CEAS first-year vision and implementation plan. The Vision will be the focus of a 17 April 2010, college-wide retreat entitled: “Building Consensus: Rethinking
the First-Year Experience.” Matthew Ohland, from the Purdue University School of Engineering Education, will facilitate and will lead a review of our data and first-year models at other schools. On 16 April 2010, Ohland will deliver an education research seminar focused on the “The Multiple-Institution Database for Investigating Engineering Longitudinal Development (MIDFIELD) Project.” To address resource issues, and particularly enrollment limits, the First-Year Experience Task Force was created. The task force is composed of the CEAS department chairs, undergraduate academic program directors, representatives from the advising programs, and the department chairs of Applied Math, Chemistry, and Physics. The purpose of the Task Force is to: a) Develop a vision for the first-year experience in CEAS; b) Develop a roadmap for implementation. Deliverables include: a) First-year learning and experiences goals to introduce students to the engineering and applied science profession to prepare them to make an informed major choice; b) Design incentives to ensure interdepartmental cooperation so that “only the best shall teach” in the first year; c) Develop a strategy to eliminate enrollment limits in fall 2011, and to manage enrollment growth in accordance with the Strategic Plan; d) Deliver an implementation roadmap. The first task-force meeting is scheduled for 2 April 2010. The first Task Force deliverable is an enrollment-management plan that eliminates enrollment caps. This deliverable is due mid-June 2010 to ensure that publicity materials are updated prior to the fall 2011 recruiting cycle. As an initial step, a decision was made to relax the enrollment limits on two high-demand majors.

Operations Committee: Kristy Schloss reported that discussion and advice was provided on facilities, finances, and personnel. The main recommendations are to (i) define productivity metrics at the college, department, and even faculty levels that could be reported monthly or quarterly, and (ii) rebalance space allocations using appropriate metrics such as revenue per square foot.

Productivity and quality metrics include enrollments, degrees, proposals submitted, grants received, honors received, publications, presentations, rankings, patents, student performance on standardized exams, research expenditures, student assessment of courses, senior survey results, etc. While these data have been collected and distributed in a variety of ways in the past, a regular system will be established to produce quarterly reports to distribute to all faculty, staff and other key stakeholders. These reports will also highlight individual success stories.

A process is underway to rebalance space allocations within the College. A table of metrics such as square footage per person and per expenditures has been developed. Preliminary recommendations on some space reallocations have been made, but we are awaiting a campus decision on our request to meet some critical needs by installing temporary trailers and by providing space in the old Fleming Law Building.

Partnerships Committee: The partnerships committee had small attendance due to the weather. Mike Herriage reported three main recommendations: (i) the concept of a CU venture fund should be moved forward, (ii) our college should develop a leadership program, drawing on existing programs, and (iii) build on existing strengths in biotechnology and energy.

The Partnership Subcommittee is working on two projects: (1) establishing a CU Venture Fund and (2) developing recommendations on a Leadership Program for undergraduate students in the College. The CU Venture Fund team includes Vern Norviel, Peter Mannetti, Merc Mercure, and David Allen. The team has had two teleconference calls to discuss the structure and launch of the fund. An investment model
and management structure under University Licensing Equity Holdings, Inc. (ULEHI) has been developed. Financial modeling is underway. A viewgraph presentation on the fund has been developed for review with CU administrators and CU Foundation board members.

The subcommittee is recommending that the College develop an umbrella Engineering Leadership Program that encompasses the programs in the College that have components of leadership education, such as Entrepreneurship, Engineering Management Certificate, International Education Certificate, Honors Program, and ConocoPhillips SPIRIT Scholars. It will also add leadership seminars and mentoring. The subcommittee recognizes that the certificate programs are primarily undertaken in the third year and beyond; the seminars and mentoring would be structured to reach students in their first and second years. The EAC members will be solicited for their involvement in both the seminars and mentoring.

**Research Committee:** Dereje Agonafer reported that the office of the Associate Dean for Research is growing, as are the number of proposals and amount of research funding in the college. The committee also discussed CU’s new Renewable and Sustainable Energy Institute (RASEI). Key recommendations include (i) our college should play a key role in RASEI, (ii) EAC members should help champion corporate relations for our college, including sponsorship of RASEI fellows, and (iii) we should seek to further increase our research funding, which would help increase our rankings, and build on relationships in Washington, DC.

The College of Engineering and Applied Science (CEAS) is taking a lead role in RASEI. RASEI is essentially run by a board of “fellows.” The inaugural fellows were selected in late 2009 and consist of 18 from CU and 16 from NREL. Of the 18 CU fellows, 9 are from CEAS, coming from all departments except Computer Science. Furthermore, CEAS faculty are playing a significant role in the just-submitted $125M DOE Solar Hub proposal that is a joint effort with RASEI (CU and NREL), MIT, and UT-Austin. About half of the research proposed in the context of the Solar Hub proposal (Sunlabs) will be carried out by CEAS in the CHBE, MCEN, and ASEN departments. With an ultimate emphasis on technology commercialization, CEAS faculty are well-positioned to play naturally-significant roles in RASEI. A presentation about RASEI, including participation of the RASEI director, will be held at the Spring 2010 EAC meeting.

We will discuss possible roles for EAC to help champion CEAS causes at the Spring EAC 2010 meeting. Associate Dean Marty Dunn will work with Jim Voss to survey EAC members about their interests and capabilities to this end.

We are continually working to increase research funding. For the first six months of FY10, CEAS research awards were $31.3M (compared with $27.6M for the first six months and $57.7M total for FY09). Of this, total $6.7M is from American Reinvestment and Recovery Act (ARRA) funds. Submitted proposals are also up 15% (376 through December 2009). The Associate Dean for Research (ADR) office strategy calls for the ADR to increase the amount of time spent in Washington, DC, meeting with program officers at various agencies and interacting with CU federal relations folks. Since the Fall EAC meeting, the ADR has made four trips to Washington, DC and disseminated info to a broad spectrum of faculty to help them establish research connections and programs. In addition, the ADR will take a group of young faculty to Washington, DC in May to meet with the NSF Engineering Director and various program managers at NSF and mission agencies. The ADR will prepare a written description of this strategy and circulate it to the EAC before the Spring meeting. Finally, the ADR office is increasingly working to help develop/form proposal teams to respond to opportunities. A new position, Coordinator for Research Facilitation, was created and filled as of January 2010, which allows the Associate Dean for Research (Marty Dunn) time to focus on assisting faculty with funding opportunities.
State and Campus Budget Outlook: Senior Vice Chancellor Ric Porreca made a presentation on CU-Boulder’s budget. Of a $1.1 billion annual amount, 42% comes from tuition and fees, 27% from research grants, 16% from auxiliary enterprises (housing, football, bookstore, etc.), and only 6% from state funds. There was a $22 million cut in state funding last year, and more cuts are expected this year. These cuts have been temporarily backfilled with federal stimulus funding, but CU-Boulder is making some permanent cuts as it does not expect state funding to be fully restored. EAC members recommended that (i) we continue to add faculty, who bring in revenue, and (ii) CU move ahead on a new model for higher education that does not rely on state appropriations and has higher tuition, provided that state control is relaxed.

On a positive note, the number of tenure-line faculty in the College of Engineering and Applied science has increased from 156 in Fall 2007 to 174 in Fall 2009. However, this growth will be at least temporarily eroded by the requirement that the College relinquishes seven faculty vacancies over a two-year period to help meet state budget cuts. The permanent cuts to the College’s general fund over FY09 and FY10 total just over $1 million, or about 3% of the general-fund budget. The leadership of the University of Colorado and other institutions of higher education has worked with the Colorado legislators to introduce higher-education flexibility legislation, which would provide for reduced state control on tuition, spending, and capital projects (this legislation is still pending).

General Discussion: General discussion included two questions: What can we do best? How can we improve our reputation and rankings? It was noted that research drives rankings, even at the undergraduate level, and that the college and campus should focus on strengths in areas of strength such as aerospace, biotechnology and energy. Specific recommendations made during the discussion and planning session include: (i) Doug Smith’s appeal that all EAC members join the Dean’s Club was well received, with many noting the importance of such discretionary funds, (ii) include a campus or system speaker again next time – Bruce Benson, if possible, (iii) provide pre-reads well in advance of the next meeting, especially for the subcommittees, (iv) too much time was spent on background in the subcommittees, which could be covered with pre-read materials, and more focus is needed in the subcommittee agendas and readouts, (v) a Washington, DC liaison is still needed, especially with agencies such as DOE and DoD where our college has less funding, and (vi) the next meeting should include a presentation on RASEI architecture, a report on the findings from a student focus group on diversity, and report on benchmarking of peers and how we are positioned for lead roles in energy and other areas. Dates were announced for the next several EAC meetings: 4/23/2010, 9/24/2010, and 4/22/2011.

A further discussion of rankings and what can we do best will be included in the 23 April 2010 EAC meeting. President Bruce Benson and other top CU officials are not available for this meeting due to a Regents meeting in Denver at the same time. A RASEI presentation and how we are positioned for lead roles in energy are included in the agenda, and a report on a student focus group and diversity will be provided. Associate Dean for Research Marty Dunn has decided that the best way to improve our college presence in Washington, DC is for him to frequently travel to the federal agencies and to enlist the support of the CU system federal relations team.


Robert H. Davis 3/30/2010