Summary and Recommendations of 9/27/2013 Meeting
of the CU-Boulder Engineering Advisory Council

This report provides a summary of the 9/27/2013 meeting of the CU-Boulder Engineering Advisory Council (EAC), with key recommendations in italics. This report, presentation slides, and other materials are archived at http://www.colorado.edu/engineering/about/engineering-advisory-council.

Strategic Planning: Dean Robert H. Davis presented a report of progress made during the five years since the college strategic plan, Engineering 2020: Vision for Excellence, was published. Increases in enrollments, diversity, student quality measures, and faculty research grants have exceeded expectations and goals, while increases in faculty and staff numbers and in private fundraising have lagged due to the economic downturn. Revised goals were presented that have more aggressive growth, higher diversity, and increased personnel and space resources. The case for growth was made based on (i) increased student interest and employer demand, (ii) enhanced reputation, resources, and rankings associated with larger engineering colleges, and (iii) undergraduate engineering enrollments having grown in the past five years even faster across the nation (31%) than at CU-Boulder (16%).

EAC Chair Pam Drew then led a discussion of the revised strategic-planning goals. The key recommendations are:

- **The revised growth goals should be the minimum; also plan a more aggressive growth scenario to compete with top public engineering schools, and discuss this scenario and the required resources with campus leadership.**
- **Along with growth, continue to improve student quality, with an increased focus on recruiting top students.**
- **Set our aspirational peer group as the top 20 engineering schools.**
- **Develop and promote distinctive programs to attract top students, and make innovative use of technology and space to better serve our students within resource limitations.**

Branding: Courtney Staufer and Jon Leslie made a presentation of campus and college branding and messaging efforts. Our college objective is to highlight distinctive features to improve reputation, rankings, recruitment, etc. The preliminary efforts were well received by the EAC, with several recommendations for further improvement:

- **Add additional key words, such as disruptive, surprising, innovative, and collaborative, and tailor which words/messages are used for different audiences.**
- **Seek to generate a positive emotional response rather than to educate the audience.**
- **Make use of our mountains in the background.**
- **Use unique messages (e.g., first Engineers Without Borders, two Gordon Prizes, and top NASA funding) versus uninspiring data (e.g., patent numbers).**
**College Updates:** After a mid-morning break, Dean Davis provided further updates on the College. Fall 2013 enrollments are even higher than the revised goals, and the *Pre-Engineering Program* and *BA in Computer Science* degree in collaboration with the College of Arts and Sciences have also attracted more students than anticipated. Collaboration with the Leeds School of Business is also proceeding, albeit slowly as mutual understanding and respect are developed. Leeds is now offering a business minor, and it is included as one of the first “plus” concentrations in our new *General Engineering Plus* degree. State funding has been provided to finish shelled teaching space in the Biotechnology Building this year, and design of The Idea Forge for student projects in the old Fleming Law Library is underway. Associate Dean for Research, Kurt Maute, noted a small dip in new grant awards ($72M in FY13 versus $73M in FY12) but a much larger decline in new proposals as some programs were canceled or cut back due to federal budget sequestration. Associate Dean for Inclusive Excellence, Jackie Sullivan, along with EAC member Carin Knickel showed data on remarkable increases in the representation and success of women and minorities in our college over the past few years, a differentiation lauded by the EAC. Our development team leader, Jessica Wright, described the $16 million FY14 goal for BEST (Biotechnology, Engineering, Science and Technology), up from $11 million raised in FY13. EAC Chair Pam Drew is on the Chancellor’s Advisory Council and noted that our college plays a prominent role in the Chancellor’s priorities. Key recommendations by the EAC include:

- *Continue to build collaboration with the Leeds School of Business, and engage the two advisory boards where needed.*
- *Continue to build on diversity success, including scholarship strategy, partnership with high-minority schools like the Denver Schools of Science and Technology, and taking the GoldShirt Program to the next level.*

**Global Engineering RAP and The Idea Forge:** During lunch, presentations were made by the Associate Dean for Education, Diane Sieber, and a student, Andy Hemphill, on the College’s newest Residential Academic Program (RAP): Global Engineering. This RAP started this fall with 53 students (nearly 50% over target) and requires the use of Spanish in residence. They were followed with a presentation by Professor Daria Kotys-Schwartz and a student, Eric Fauble, on The Idea Forge. Concept drawings show a flexible, open design for hands-on projects associated with courses, teams, and individuals. A flier describing the “makerspace” concept of The Idea Forge and naming opportunities was included with the EAC packet.

**Civil, Environmental and Architectural Engineering:** After lunch, Chair Keith Molenaar made an excellent presentation on the CEAE Department and the accomplishments of its faculty and students. Of particular interest is that several members of the newly formed CEAE advisory board along with other donors have established named faculty fellowships and professorships. Keith was followed by presentations by Professor Abbie Liel on seismic collapse and by a student, Christina Jones, on her internship at the Panama Canal.
Subcommittee Reports: The Education Committee discussed industry perspectives on (i) the need for global engineering skills and mobility, (ii) the need for collaborative skills (e.g., group solutions of open-ended problems) such as will be promoted in The Idea Forge, and (iii) the challenges and opportunities of MOOCs and other on-line educational technologies. Subcommittee recommendations include (1) incorporate into our outcomes for both global engineering and design effort qualities such as collaborative problems solving, (2) work with EAC members to identify opportunities for current students to interact with engineers in global corporations via virtual communication technologies, (3) take a campus lead in diversifying undergraduate course offerings to online environments though collaboration with CAETE and by providing additional technical support of individual faculty efforts, and (4) start an online information group on the fast pace of MOOC and online education development; education subcommittee members have been invited to this group, which is now active. The Research Committee discussed (i) graduate education and corporate needs, (ii) “Big Data” and CU opportunities, (iii) CU technology transfer, and (iv) CU’s presence in Washington, DC. Subcommittee recommendations include (1) identify a niche in Big Data that builds on current strength and partners with industry, and (2) encourage faculty to serve as program managers for funding agencies, and team with industry associations on advocating for CU. The Resource Development Committee is seeking to help improve alumni giving, which at 8.5% per year is third from last of the Pac-12 schools; it was also noted that EAC giving to the Dean’s Club was 79% last year.

Wrap up: EAC Chair Pam Drew led a discussion of the key messages for our college:

- **Strategic Plan:** The revised growth goals are realistic but perhaps too modest. Add even higher aspirational goals and discuss with campus leadership what it would take to be a top-tier engineering school. Be inspirational and set apart, with diverse, top-tier students who graduate within four years.

- **Branding:** The campus and college messaging efforts have made a good start. Tune up the college messaging using words that appeal to prospective students and emote versus educate.

Dean Rob Davis then announced that next EAC meetings are scheduled for 4/25/2014, 10/24/2014, and 4/24/2015. The fall 2014 meeting is subject to change when the football schedule is announced and other campus events are scheduled. Expected topics include graduate education, student recruiting, roles of departmental advisory boards, and the Electrical, Computer, and Energy Engineering Department.