

**Engineering College Council Meeting**  
**October 30, 2008**  
**423 ILR Conference Center**

Members Present: James Becker, Joseph Bonventre, Jay Carter, Mei-Wei Cheng, Timothy Costello, Robert Cowie, Sarah Fischell, Kent Fuchs, Michael Goguen, Geoffrey Hedrick, Frank Huband, William Hudson, James McCormick, Evelyn Taylor Pearson, Robert Shaw, William Shreve, Robert Smith, Sophie Vandebroek, David Welch, James Wrightson, Susan Ying

Emeritus Members Present: Richard Aubrecht, Charles Brown, Kenneth Brown, Scott Donnelly, James Hauslein, Keith Kennedy Jr.

Bill Shreve welcomed the council. Kent Fuchs opened the meeting. It is a great turnout – we are really glad you are here.

The meeting presentations can be found at [http://132.236.67.210/ecac/ecc\\_ld.cfm](http://132.236.67.210/ecac/ecc_ld.cfm).

User Name: fall08

Password: fall08

### **College Overview – Kent Fuchs**

#### Focus of the Meeting

The university is facing some budget challenges and it will be an interesting and strategic time for the next 4 or 5 years. I am leaving at 9:00 am because President Skorton has called a second budget meeting from 9-11:00 am. The university is also working on a press release about the budget. It will be a time of investment, budget management, and budget cuts. The heart of the university is the academic departments and schools and the focus today is on the 12 academic units in the college. We will talk about the department opportunities, challenges, and the strategies for addressing them. What are the synergies? What are the opportunities and the new challenges?

I will go over a few slides for 15 minutes and we will spend 15 minutes on questions and answers. We will talk about the budget at 11:30 a.m., at which time, our new Associate Dean for Administration, Cathy Dove, will give a presentation.

We have 12 departments and schools. Departments are led by chairs and schools are led by directors. These people are the heart of the academic leadership along with our colleagues who are the leaders of the university. Directors and chairs are responsible for faculty, facilities, budget, research, and curriculum. The dean's primary responsibility is to choose these leaders. New chairs and directors include Dan Aneshansley, Chair of BEE, Len Lion, Interim Director of CEE for one year until Phil Liu returns from sabbatical, Larry Brown, Chair of EAS, and Alan Zehnder, Chair of TAM. Within the college, there has been one leadership change. Cathy Dove, who will speak about the budget later today, is the new College Executive Officer in charge of budget, physical plant, and human resources.

#### Leadership Changes

Two key leadership changes have occurred at the university level. Biddy Martin, Provost, left Cornell and David Harris has been appointed the Interim Provost until I take the position in

January. Carolyn Ainslie, Vice President, had a dual reporting relationship for budget and planning, and she is now gone too. David Harris and I will start a search to replace her in a few weeks. It was Biddy and Carolyn who oversaw the budget and knew the details. We have a lot to learn in their absence.

### College of Engineering Teaching Excellence Institute

We have made progress on the College of Engineering Teaching Excellence Institute. In August we hired Kathryn Dimiduk as the Director of the Institute. Kathryn is a Cornell alumna, having received her Bachelors degree here in Physics. She went on to complete a PhD in Applied Physics at Stanford University. Kathryn has 14 years experience as a lecturer in Physics at the University of New Mexico where she won multiple teaching awards. The Council talked about this Institute a year ago. Kathy's objective is to help our faculty to be better educators. We have marvelous programs to help our students to be better learners, but she will help our faculty to be spectacular teachers.

### Core Data Graphs

The bottom line is the college is in good shape. We have significant reserves that were accumulated because we were saving for buildings. Applications for the undergraduate program are at all time highs. The graduate program is growing and research is growing, but not at the rate we had as our objective. In fact, it dropped a bit this year. There is good news for the future because of proposals going out. The college needs to continue to make progress on its goals.

Our undergraduate enrollment is steady. We admit 710 first year students each fall. We want to keep this number stable, but this past year we enrolled 760 students because our yield was higher than expected. We have 2,800 undergraduates in the college and we graduate about 700 each year. We don't have many transfers. 82% of our undergraduates will get an engineering degree within 5 years. (91% will graduate with a Cornell degree.) That graduation rate is almost even across gender and diversity.

We would like to keep growing the number of PhDs so that we graduate about 200 each year. Our Master of Engineering (MEng) program is the only degree program from which we receive most of the tuition. The size of the program is a point of discussion. Some departments have large programs that generate revenue. Others have very small MEng programs. Our goal is to graduate 2 MEng students per faculty.

The faculty FTE trend chart doesn't look like there has been much change, but I am proud of the growth that is shown in the trend. We wanted to grow the faculty by 30 and grow the 6 strategic research areas. Each position requires the endowment to grow by \$3,000,000.

The big centers don't report to the college. They report to the VP for Research, Bob Buhrman (one of our AEP faculty), but we track those research expenditures. Always ask about expenditures, not awards, when you are tracking research. The expenditures we track are externally funded expenditures. This is the funding the faculty brought in. The goal is to keep growing this. The center research expenditures have gone down as their life span expires. There are 5 big proposals for new major centers. In the spring, we had the KAUST Center funded. We will receive \$25M over 5 years in support of that new initiative. Those expenditures will start hitting this year and will show on next year's research expenditure chart.

We are dominated by federal funding. Seventy-five percent of our external funding comes from the federal government. Twelve to thirteen percent comes from industry. The State of New York makes some contributions to research. The 75% federal portion is primarily dominated by NSF. DOD funding has gone down. Our DOD funds come primarily from DARPA and the Airforce National Labs. My guess is that DOD will grow but it depends a lot on how they increase their funding. Half of the Computer Science, Computer Engineering, and Electrical Engineering funding is DOD based. When DOD funding goes down, it impacts universities and specifically these areas. We hope there will be less investment in weapons and more funds available for technology in the future. As we have grown our life sciences, NIH funding has also grown.

We are making great progress on the Facilities Master Plan but there is likely to be a pause in construction. I asked that the college be able to proceed with all of our facilities, and David Skorton responded to me that as Provost I might not want him to say “yes”. President Skorton supports the Phillips Hall fourth floor addition. He wants us to discuss each phase of the Carpenter/Hollister building. We hope that we can complete the feasibility phase. We have the funds to do that, but not to build the building. I am worried about that building in the future. In a few years, when we want to start construction, we hope we will be in a better financial position and, therefore, able to construct the building. Olin Hall, a 50 year old building, is in the midst of lots of HVAC renovation and new windows and that renovation will continue.

This afternoon, you will get a tour of Weill Hall, our new life sciences building. It is finished and the Department of Biomedical Engineering is in it. The Physical Sciences building is under construction. Gates Hall will start construction in spring 2010. This is a difficult planning process because the site is next to the gorge and space is limited. It is a two phase project. The first phase will cost \$50M, half of which is funded. The other half will be funded through debt. The reason for two phases is funding. Ideally, we would like to construct the building in one phase. There are 3 design schemes being considered. In all of them, Gates Hall is approximately a seven-story building. We are now relooking at the height and footprint of the building because of fire access needs and because the college’s Facilities Master Plan includes an addition to Kimbell/Thurston/Bard that will require access space next to the gorge. To make Gates Hall happen and leave room for fire access and the planned college facility additions is a challenge.

### **Questions and Answers:**

*James Becker – Is the increasing enrollment universal?*

No it is not. As a nation, we graduate about 68,000 undergraduates and that number has been stable. The college population has grown, but engineering numbers have been stable. I don’t know how many applications there are nationwide, but I would guess it is not going up. There is capacity in state universities to grow that number. I don’t talk about how many students should be in the profession. I talk about more students studying engineering regardless of their profession.

*Sophie Vandebroek – For career opportunities and role models for students and faculty, it is important to have Black and Hispanic leaders in the university. It is disappointing that two*

*women leaders are leaving. You had four director/chair hiring opportunities for diversity. Were there no qualified women or minorities?*

That is a good point. We haven't had diversity as an explicit goal for leadership, but maybe we should. In our undergraduate student population we have about 33% women. The national average is about 18%. That is our big success.

*Jay Carter – The number of URM applications is down. Can we do something about that? The yield is also down.*

There was a phenomenon across the university. The college doesn't receive the student's folder until the application is complete. This year we had fewer completed folders. It is due to an administrative and logistical change that resulted from moving to a paperless system and PeopleSoft, etc. There wasn't a reminder to push students to complete their folders. We are aggressive in growing the percentage of women and URMs that we admit. The percentage that matriculates is something we have to work on and the secret is financial aid. That is why President Skorton wants financial aid to focus on:

- Students of color/diversity, including engineering women too
- Lowest income students
- Students of merit
- Athletes

We have not focused on merit before. We are looking at increasing the financial aid for those four groups. It would cost \$12M/year (.25 B in endowment). It is a huge investment in the context of a budget deficit.

*William Shreve – In research there is a lot of emphasis on energy, but in the past you said that DOE was difficult to get money from.*

The situation has changed. We have submitted 3 new proposals. KAUST is also an energy center. Some of our partnerships are with National Labs and that is the secret to DOE funding. Congress is looking at a continuing resolution to fund DOE and it is likely to be at the same level.

*Susan Ying – How does the research compare to universities of similar size?*

Our research per faculty is in the top 5. We still need to grow it. Research expenditures drive your reputation and ranking. When you look at these posters some departments have amazing research, others have low numbers. It has a lot to do with the domain and is not necessarily an indicator of productivity.

*Richard Aubrecht – The research sponsored by business and industry is low. We must be the lowest in the top 10. It says something about our willingness to be flexible to work with industry and IT issues.*

Some of our peers have industry funding at 35%. We dominate NSF compared to our peers. Industry funding is an opportunity. Part of our challenge with industry funding is intellectual property flexibility, part is the work we do, and part is our geographical location.

*Mei-Wei Cheng – The posters do a nice job to show the diversity of the college. Do you have plans to take this further to enhance the reputation of the college, particularly for international students? What is the plan to continue with that so the image and recognition of the college is out there?*

We have hired Media Logic, a marketing firm. They designed the look of this ENG logo. They have created posters, electronic media, and web to print technology for each department. It is not at the scale you are used to in industry, but we are investing \$1M+. We started this initiative about two years ago. The sell sheets in your packets were also developed using the new design. We are leading most of the other top 10 schools in marketing

*Evelyn Taylor Pearson – At our last meeting we talked about IP. Are you seeing funding from licensing income?*

No – We currently are not using any of the licensing return to fund research. Licensing returns are managed by CCTEC and that unit reports to Bob Buhrman, VP for Research. IP funds are calculated as follows: expenses are subtracted from the IP return and what is left is distributed 1/3 to CCTEC, 1/3 to the faculty/student, and the remaining 1/3 is distributed 20% to the college and 12% to provost. The college no longer takes a piece of our return. It all goes to the department, but they must put it into an endowment for their department. It is usually less than \$1 million per year. It could be bigger in the future and that is why I wanted the endowment policy in place.

*Sophie Vandebroek – Would it be valuable to measure the number of invention disclosures and patents?*

We have the numbers, but it is not part of our core data set. It varies some, but has not changed a lot over the years. Walt Webb has some significant returns. It is important because it improves your visibility and impact. The money is less important.

*Joseph Bonventre - The retention figures are phenomenal. Put in perspective to 20 years ago, how do you account for that?*

There was a purposeful change that may account for that. Bill Streett worked on small math sections. Bill and John Hopcroft worked on Academic Excellence Workshops – small workshops in math. Student in the AEWs are very gifted students, but their success is a matter of whether they are motivated. I don't know what admissions was like 30 years ago. Maybe we are doing more screening. There has been a lot of progress made in helping students succeed. There is a freshman engineering advising course, for example.

*Joseph Bonventre – In the Introduction to Engineering course I took when I started, we were told, "look to your right – look to your left...."*

#### Introductions and Meeting Overview

William Shreve introduced two new ECC members: James Wrightson and David Welch and reviewed the goal of the meeting. The next portion of the meeting will be devoted to an open forum session for an hour and then breakout groups for an hour. This is an opportunity period for the university.

*Robert Shaw – What are the really big problems that keep chairs awake at night?*

President Skorton will make a budget announcement today at 1:00 pm. It will not be specific. The university has been spending the core part of the endowment for many years. We did not understand this. The president is putting a halt to it. That coupled with this perfect storm, will likely result in budget cuts for the next five years. That is a real challenge to manage. In advisory councils around the country this same conversation is going on. We have been a little more aggressive in building in the last five years than our peers. How we manage this will

determine Cornell's future for the next 25 years. In this college we have a lot of goals. We will have to decide which we put a pause to and which we continue. It is an important time for all of us. Your input is really valuable – more so than in the past. There are opportunities for not just cutting, but for also growing revenue in particular areas (such as MEng) as a temporary solution. This information is occurring in real time. It is surprising that everything was positive a few months ago and now everything is negative.

The university is a little over half way through the campaign period. The goal is over \$2.3B including the medical college. We have a bar graph tracking the progress of each of the units. We are slightly ahead of A&S, having raised \$168M. We have higher aspirations than our public goal, but if you look at the publicly stated goal, we are doing OK. You all are an important part of what we are doing here. The president will focus on cash for the next five years. Annual gifts, which are modest gifts, are really important. They can go to the college or the departments.

*Robert Shaw - What is the \$2.3B worth today?*

Some of it has been spent – the university endowment which was \$6B has gone down to \$5B. The \$2.3B goal includes pledges that go out several years. Over \$1B of the \$2.3B is for the medical college.

*Robert Cowie – In percentage terms, how are the other units doing?*

A few are ahead of their percentage goals including the Hotel School and the Lab of Ornithology. The big colleges, CALS and A&S, are similar.

Cathy Dove is our new College Officer. She had the same position plus the academic MBA program in the Johnson Graduate School of Management. Here she heads the budget, facilities, and people. You can see her background on this slide. She has a Doctor of Education from the University of Pennsylvania.

### **Budget Presentation – Cathy Dove**

The university is complex, one of the most complex in the U.S. Cornell has many colleges, many departments, many campuses, and many budget envelopes. We also have the Weill Medical College. On the Ithaca campus, there are three envelopes: (1) the Contract Colleges, (2) the Endowed Colleges, the private colleges that do not retain most of their tuition, and (3) the colleges that are tubs that stand on their own bottom. They retain their revenues and are charged with breaking even themselves. Additionally, a dollar is not necessarily a dollar. There are many constraints on how we spend them.

### What keeps us up at night?

Tuition can't continue to keep growing. Net tuition is total tuition less the impact of financial aid. There are incredible pressures on financial aid right now. In June, the State of New York said we needed to cut the contract college budgets. This cut, however, is not one of the larger numbers. It is only 10% of the problem.

*Does the state expect the endowed colleges will put funds back into the contract colleges?*

That is one of the university principles. Back in June, the contract colleges wanted the endowed units to share the pain. Now that the general budget is in trouble, they may want to take that back.

The capital campaign is in trouble. We relied on it to fund current as well as future programs. We relied on it to fund facilities and financial aid. Investment returns are also down. The endowment return is lower and that impacts the operating budget. Federal research has a potential impact on the engineering school if it declines or is flat.

With salaries, we try to maintain a good market position. I am worried because retirements we were counting on will slow down and we need huge start up packages to attract the best faculty. Utilities and energy are also something to keep an eye on. Underfunded programs include maintenance and information technology. We rely on our fund balances for new initiatives and other things. With investment returns down and worries about a credit crunch, the impact is large.

### Funding Impact

- State funds are being cut.
- The endowment payout impacts the operating budget.
- The General Purpose budget (tuition doled back out) has been spending funds for one-time programs.
- Capital debt service will increase. We have been using the endowment payout to cover things. Now we will have more debt for a longer time.

### College Sources of Funds

Total pool of College of Engineering funds is \$160M and that does not include about \$118M in center research funds. The university appropriation is the amount we are given by the provost. A number of our college funding sources could be impacted. The university appropriation is likely to be cut. We also rely on a number of restricted sources. If federal sources aren't robust, it will also negatively impact us. Gifts are also a challenge, as is a declining investment income payout from the endowment.

### College Use of Funds

We don't have freedom of choice to spend restricted funds, and about half of our funds are restricted. Faculty salary and benefits in unrestricted sources are probably not going to be touched. Graduate and undergraduate financial aid will also be protected. Those funds add up to 70% of our budget, leaving 30% to look at as possible budget cuts.

### Our Pressures

Our funds are more engineering centric. We rely on sponsored research and that is a potential exposure. We have small amounts of discretionary revenue such as MEng tuition funds, but those revenues fund a number of general expenses.

In a competitive market, we want to continue to invest in faculty. We are in a workforce transition. Our workforce is aging but may not retire. Do we have bridge and start up funds to bring in new faculty?

The college also has lean staffing. The staff ratio to faculty is one of the lowest on campus. There is not a lot of room to cut staffing. Our space and facilities also require significant resources.

A month ago, President Skorton established principles to guide the university through this difficult time. He has been explicit in maintaining a commitment to financial aid. We also have to make decisions on the way we pay people. We can pay fewer people more or more people less. We are engaging the community in these decisions and that process started today.

We are charging a Budget Advisory Committee that will be made up of directors/chairs, central college representatives, faculty, and staff. We don't have a target cut yet, but we know enough to start working. We are already considering a hiring freeze and will delay some facility projects with potentially long term impacts. In planning our facilities, we will have stop points at which we consider whether or not to move forward.

This is a time to identify new revenue opportunities. You can't build a robust organization on cuts. You need to look at new revenue opportunities. Process and organizational efficiencies are also important. If you analyze faculty productivity, it varies significantly across campus.

*Robert Cowie - What do you mean by that?*

Workloads are not equal. Course loads and research loads vary among individual faculty and across units.

We will need to optimize our use of our reserves and fund balances, and be careful how we use them. We will be looking for ways to better use our existing space and for small immediate "wins".

Kent Fuchs - We want to come out of this in five years having gained ground in relation to our peers. There will not be a uniform budget cut across colleges. The colleges won't be told how to meet their targets. We have the opportunity to grow revenues in some areas. What questions do you have about the content?

### **Questions and Answers:**

*Timothy Costello – There are no questions because 99% of people have done this a dozen times. We know how to do all of this. It is a different world. Municipal governments are also doing this. They can't raise taxes again. You have a number of people with experience to help you. There is more practical knowledge to manage this in your alumni base than at the university.*

Kent Fuchs - We may want to give you an assignment at the end of the meeting.

*Sophie Vandebroek – What percentage of the tuition is deducted because of financial aid?*  
I think 25% of tuition is financial aid.

*Sophie Vandebroek – What is the debt that will need to be financed?*

The number is big. The budget for the entire university will have to be reduced. It is between 3-10% of the total budget. The plan is to not take all of the cut in one year. The cut in this year is going to be minimal in-year. It is more dramatic in the contract colleges. Next year, the cuts in the college will be more dramatic. At the end of five years we need to be spending less than we are bringing in. I don't know the specific answer to the debt question. I will have to learn.

*Robert Shaw – In the venture world, this is a really good time because it is the right time to invest. Why wouldn't the university tap its endowment to invest instead of just cutting?*



That is an option, but that decision has yet to be made.

*Robert Shaw* – If it is a five year dip, invest hard and come out of it with a big win.

*David Welch* – *The restricted funds make up 70% of your funding?*

Cathy Dove - Technically no, but in reality when you add the funding we choose not to touch, you get close to that. Things like financial aid and faculty salaries would be difficult to adjust and when you add those in you get to 70%.

President Skorton is committed to investing \$12M more a year in financial aid. The deans are pushing back on this commitment.

*William Shreve* – *When looking at the posters, everyone was surprised by the multidisciplinary approach of CALS and ENGR to solve world problems. Cornell could bring that out with a better marketing approach.*

*Geoffrey Hedrick* – *What percentage of funding comes from the endowment?*

The endowment makes up 9% of the funding in the college. It varies in other colleges at Cornell and at other institutions. At Princeton it is 30-40%. We are only allowed to spend 4% of our endowment return so the endowment grows.

*William Hudson* - *In a down cycle you get more graduate students. MEng is a plus to the department when it grows.*

The part of MEng that I worry about is the load on the faculty. There are resource issues too. It does cost money. I worry about being at the top of research with a bigger MEng load. We can, however, adjust the number of MEng students we have annually, because as a one year program, we admit and graduate them every year.

*Robert Smith* - *Do all of the MEng funds go the department?*

No - 20% goes to the provost. The remaining 80% is split at the college. 2/3 goes to the dean and the rest is distributed to the department.

*Jay Carter* – *Pay attention to the psychological impact for all of the people involved. There is a desire to think there will be a one time cut, but unfortunately, the numbers are so fluid there are likely to be multiple cuts. At Lucent, it was round after round of cutting. We know this is painful, but we don't know the cuts will be enough or not.*

This message is important because your reputation is impacted. You are catching us on the very day that we are saying this is real.

*Sarah Fischell* – *How similar is the engineering college position to vis-à-vis our peer institutions?*

*James Hauslein* – *Harvard and Georgetown are surprisingly gloomy. Stanford's endowment is down. It's a harsh reality message.*

We are not going to go public with our peer colleges. I am going to say things are wonderful and steal the best faculty

*Michael Goguen – It is very universal, and it is unprecedented for endowments to be down double digits. Large sections of the endowment are designed to be steady. To see all of the endowments off in a way they thought couldn't happen has them in a panic. I have heard worse from some of your top peers.*

*Frank Huband – The problem in state schools is immediate. Cornell can phase it in over five years. Georgia Tech is going to impose an immediate 6% cut (12% by the end of the year).*

## **Breakout Group Feedback to Departments**

### **Group 1 – BEE, CEE, EAS**

ECC Members: Charles Brown, Mei-Wei Cheng, Keith Kennedy, William Shreve, David Welch

- Build upon the shared college structure
  - Engineering and life sciences
  - Inherently multi-disciplinary
- Focal Points
  - Energy
    - Pick priorities and areas of excellence, i.e. bio fuels, geothermal
    - Identify opportunities for advancement and funding
    - Don't spread yourself too thin; do what you can do well
  - Environment - Focus on water management
- Leverage Cornell's international connections for funding/research.
- Initiate and strengthen the marketing approach to get the programs within the departments in front of the customer and potential funding sources. There are opportunities for greater research funding.
- The international key is to leverage facilities and positions the university already has in place. Take existing relationships and build on them.

### **Group 2 – BME, MAE, TAM**

ECC Members: Richard Aubrecht, Joseph Bonventre, Timothy Costello, Robert Cowie, Sophie Vandebroek, Susan Ying

We heard three themes as the preponderance of the discussion:

1. More staff
2. More dollars
3. More space will solve all problems

These are tertiary effects – not primary effects. Ask, “Why do you need these things?”

In addition, we heard about the challenges of:

1. Hiring quality staff
2. Competing with larger organizations
3. Managing faculty turnover/retirement (An opportunity for new directions)
4. The need to build a bridge from industry to the university

Recommendations:

1. Focus on higher level issues. What is the real scientific purpose? What problems are we going to solve? Organize activities around those problems.
2. Make New York, Tompkins County, Ithaca, and Cornell the place of choice. Work with the city, the county, and NY State, and make it a place people want to come to and do something. Albany has attracted tons of energy dollars. They decided to do it. They have made themselves a hub of alternate energy investment. How do you make this place unique and the place of choice?
3. Integrate the assets across the disciplines. There needs to be more systems level solutions to the problems.
4. There needs to be an independent assessment by an alumni group of all the space in engineering.
5. An alumni group should work with the departments to finish the posters. They didn't include enough detail to identify the issues. All the departments had taken different paths and come to different conclusions – drive consistency in your presentation.

**Group 3 - ECE, CS, ORIE**

ECC Members: James Becker, Jay Carter, Sarah Fischell, James McCormick, James Wrightson

1. Establish an alumni mentoring program focused at the department level to help each department formulate the issues and solutions:
  - A two-way agreement between mentor and mentee that is voluntary.
  - Written ground rules that clearly set expectations and define what each side will do.
  - A once a year in-person meeting and monthly interaction over the phone, etc.
  - Use of social networking technology is creative and secure. Perhaps you can get help from CS and ECE to facilitate the interaction.
  - Highlight business and careers.
2. University/Industry visits – Have industry representatives come to campus. Are there opportunities to take classes out to industry for a set of tours of lab facilities? What is being done in research at the laboratory level?
3. Educate students in business.
4. Hiring of Faculty
  - Trailing spouses are a university problem and a problem for all three departments.
  - This problem must be seriously addressed by the university
  - Perhaps benchmark best practice for non-urban institutions (e.g. Dartmouth) and come up with a dozen or so benchmark universities.
  - Perhaps use new communication technology. Is there a way to facilitate work from home for the trailing spouse? The Weill Hall distance learning capability is great.
5. Emphasize healthcare, biology, and life sciences connections in each department.

6. IT Management and Business – How do you deal with legacy systems?
  - Involve systems engineering, along with CS and ECE, to work with people dealing with legacy systems.

#### **Group 4 - AEP, CBE, MSE**

ECC Members: Charles Brown, Scott Donnelly, Michael Goguen, William Hudson, Evelyn Taylor Pearson, Robert Smith

1. The issues are similar across the three departments:
  - Faculty recruiting.
  - Getting the best graduate students.
  - Retaining faculty – college competition – keep your stars.
2. Develop a major activity for department heads. They don't have the support they need.
3. Focus on space to attract faculty.

#### **Opportunities**

1. Look at marketing. Develop a strong message about how we are addressing the world's problems that is energizing to future faculty and students. Link the message to each of the department research programs, done very professionally. The web site begins to do that.
2. Look at a reasonable framework for intellectual property. Change the culture to make it easy for industry to partner with Cornell. It will help with funding and increase investment.

#### **Comments:**

*Robert Shaw – This is barely scratching the surface. We could have gone on for hours in a consultative role with the chairs. Where do we go from here? Is there a way we can actually mobilize council members to help make some changes?*

Kent – I value your ideas on that.

*Robert Shaw – Form real working groups.*

*William Shreve – These are good posters for the individual departments. They are a little bit inconsistent, but have better consistency than ever before. Synergies around strategies not well reflected in the posters. Market yourself as the place to find solutions. That synergy needs to show up and there needs to be a link from the departments to the strategic plan.*

## Executive Session

We looked at three areas for working groups to engage alumni to help make real progress:

1. Budgetary crisis: Turn it into an opportunity because it forces you to look at changes you would never otherwise consider. Look at the ways industry handled similar situations.
2. Marketing can provide more opportunities for revenue. Develop common threads between energy, biomedical, and the environment in a marketing package. Get Cornell on industry's lists. Industry wants to know what the overall focus is and how that integrates. The college has many interdisciplinary activities going on, but we don't advertise that well as an advantage to getting funding into Cornell. Look at the ways to get research and industry outreach. Change the fact that your industrial funding component is a small part of the whole. Streamline the IP process to facilitate university-industry interaction.
3. Attract new students, new faculty, and new industry partnerships by taking a leadership role in:
  - Health care/life sciences
  - Energy
  - Climate change
  - Productivity of all systems, e.g. building industry
  - Cyber security

The ECC is willing to work on task forces. Advisory councils do not really help you spending an hour on a subject. People will have to commit significant amounts of time. We discussed the possibility of committing 2 weeks of time.

*Robert Shaw – I am willing to participate as long as you are open to challenging the way things are. Things come up over and over and are not addressed. We need hope that change will evolve.*

*William Shreve - There are two ways to approach cuts: (1) a series of small cut backs across 5 years, that can be painful, or (2) recognize there needs to be a major change and make it in one fell swoop and put it behind you. The series of small cuts destroys the moral of the organization and is hard to recover from. I recommended a meeting with Kent to discuss which strategy to use.*

*As we make changes, have you looked at others with Teaching Excellence programs (benchmarking). We don't do enough of that kind of benchmarking. There doesn't seem to be a structured way of going out to see what others have done.*

Kent Fuchs – For that initiative, I think we have done that.

*Robert Shaw – I am concerned about transition – changing leadership at a time of crisis.*

Kent Fuchs – At the university level, there is an Interim Provost, David Harris, until January. He is managing this process. Paul Streeter is the interim for Carolyn Ainslie. There will be an interim dean named soon. That person will have some learning to do but is amongst our group already. The real challenge will be finding our next permanent dean.

*Robert Shaw – I want to challenge that. You are going to face a budget crisis while an interim dean doesn't feel he has the power to act.*

*Keith Kennedy – You could decide to not go outside for the dean search – that would shorten it tremendously.*

### **Department Chairs/School Directors Comments or Questions:**

*Can you absorb the budget or do you need help?*

Alan Zehnder (TAM) – We don't know. We don't receive much funding from the college anyway. In the short term we are good.

Lance Collins (MAE) – The way we are budgeted, a lot is in the appropriated budget that we don't control. I don't know how we would manage it until we see the magnitude of the cut.

Len Lion (CEE) – I would echo that. It depends on the magnitude. We are worried, but we don't know how worried we should be.

Larry Brown (EAS) – I am too new to be worried. I am picking up on the opportunities, particularly the possibility of developing international activities.

Jim Renegar (ORIE) – We are very concerned. We are drawing up worst case scenarios as well as not so worst case scenarios. There are opportunities.

Eva Tardos (CS) – There are challenges where the economy will help us. It will drive up enrollment because people will go back to school.

Bruce van Dover (MSE) – I am concerned. The comments about increasing our interaction with industry point out a noticeable weakness at Cornell. The IP policy is a significant part of it.

Mike Shuler (BME) – We are a new department with a budget for the first time this year. I am not worried about this year. In the next 2-3 years we will have to worry, but my term is up in June. We have good young faculty.

Dan Aneshansley (BEE) – We have already taken a 4% cut and that caused us to think about our priorities and look for other sources of income. We will be as good or better when we come out of this.

Clifford Pollock (ECE) – I see opportunity. It will give us a way to clean up some issues. I need to fund raise for the building, however, and I am not sure I can pull this off.

Paulette Clancy (CBE) – This is a complex situation that requires a two-pronged approach. First, calculate the risk and cover it as best as you can and second create opportunities. We should be concerned that we don't get an operating budget from the college. After 911, we took a 75% cut because we lost gifts. We may lose them again. We will have to be more active in fund raising.

Frank Wise (AEP) – We have done projections and begun to think about consolidating staff. We were in the mode of thinking about expanding our capability. We rely on the ability to have bridge lines for funding and managing our retirements. If those were to be impacted, I don't know how to solve that.

Kent Fuchs– We want to take you up on the offer of engagement between the meetings probably in a task force.

*Jim Becker – It is more important to focus on the college than the departments. Is the problem solved in a traditional fashion or a non-traditional fashion? It is a chance to rethink the engineering school and reposition it for the 21<sup>st</sup> century. You have to look at it as a much more global problem. Do slow cuts forgo the opportunity of making major changes? You are foolish to think that this is just another bump in the road.*

*William Shreve – I would second that. Corporations have been forced to shift towards globalization and it is very different than shifts in other areas. We are dealing with the financial crisis on a country by country basis in a global world. Maybe the structures of the past need to be examined and this is the opportunity to do it. Is this really the right time to change the dean?*

*Keith Kennedy – I think it is great we are changing the dean. Kent is a great selection for Provost.*

*Robert Shaw – Was this feedback useful?*

Kent – It is the beginning and it is useful. You are starting at the very beginning, not coming in four months from now.

*Jim Becker – It was a phenomenal experience to get to see more about the departments and schools.*

*William Shreve – I just learned when Kent will assume his Provost position. Kent has been a wonderful dean and it bodes for even better things ahead in the college and the university.*

Kent – I have distributed a book entitled, “Changing the Conversation”. It is a gift book for you that came from the ASEE and is about how we talk about engineering.

Thank you all for your friendship. I have gotten to know each one of you personally and individually.