

**Engineering College Council Meeting**  
**April 12, 2007**  
**423 ILR Conference Center**

Present: Kenneth Arnold, Dick Aubrecht, Jim Becker, Scott Donnelly, Kent Fuchs, Bill Hudson, Jim McCormick, Jay Carter, Venky Narayanamurti, Justin Rattner, Bob Shaw, Bill Shreve

Presentations can be found at <http://www.engineering.cornell.edu/ecc> (User Name: spring07, Password: spring07)

Bill Shreve opened the meeting and reviewed the agenda. The Council introduced themselves.

**College Overview – Kent Fuchs**

Today's focus is all about faculty – recruiting, mentoring, competitive issues, retirement, and other sub themes such as diversity.

Facilities Master Plan

The Master Plan for the Engineering Quad is moving forward. Since the last meeting we have made a presentation to the Board of Trustees. We have approval to proceed with the site analysis to replace the Northern part of Hollister Hall and Carpenter Hall. We also have approval to move forward to improve Olin Hall.

The Life Sciences building will be finished in 2008. This summer we will break ground for the new Physical Sciences building (100M+) and we are in the process of designing Gates Hall.

Undergraduate Curriculum Transformation

The faculty engaged this past fall and spring in the process of reviewing the undergraduate curriculum resulting in a Curriculum Transformation proposal that the entire faculty voted on. Most faculty, but not all, approved of it. The part that was not approved was the redesign of the Engineering Introduction courses. Nevertheless, we are moving forward with this recommendation by creating a few prototype courses as a pilot.

College Marketing Plan

We have hired a marketing firm, Media Logic, based in Albany, to develop a college marketing plan to improve the college's visibility and image. The firm will engage, and develop a plan for, each one of the departments as well as the college.

Future ECC Meetings

The fall '07 meeting with focus on Teaching Excellence – How we teach and teaching excellence. We will update you on the development of new programs in this area and there will be university representatives who will come to the meeting. The university has not had a significant program to enhance undergraduate education. They are in the

process of reorganizing their approach to undergraduate teaching excellence and adding staff.

The spring '08 meeting will be focused on new initiatives in research and research excellence. The big new theme in our current plans is to increase research and teaching in the area of sustainable energy. We are in the process of searching for some senior faculty. We will report on new research centers and centers that have national prominence. We will also introduce James Severson, the Director of the new Intellectual Property and Technology Transfer Office.

President Skorton was the Vice President for research at Iowa for 10 years. He understands the issues of technology transfer and intellectual property and that will help to better position Cornell and the college.

Our goal will be to show you some changes that are impacting research particularly related to the Department of Defense and energy related initiatives. We want to use you to influence the federal government.

#### Lab in Honor of Ken Arnold

Yesterday there was a reception and dedication held to honor Kenneth E. and Ruth Arnold's support of the Bovay Jr. '36 Lab in Thurston Hall.

#### Systems Engineering Distance Learning MEng Degree

For the first time ever the faculty senate approved a Cornell distance learning based degree – an MEng degree in Systems Engineering. We have had failure in this area before with the eCornell initiative and the Bill Streett distance learning initiative in the early 1990s.

The Systems Engineering MEng faculty have developed distance based courses that will be taken by engineers around the country. Peter Jackson, Professor in ORIE and Director of the Systems Engineering Program, led the effort. The proposal has gone through 5 different college committees and there has been much debate. It was endorsed by the Graduate School and then brought to and approved by the full Faculty Senate. It will be presented to the Board of Trustees at the end of May.

We don't have part time graduate students at Cornell, but these distance learning students will be part time graduate students. That is a big step. The program's tuition model is different too. The distance based students are, for the most part, engineers working in companies and we will make money on the program. That bothers some of the Arts and Sciences faculty.

Bob Shaw – Why does that bother them?

The idea that we have an agreement/alliance with a company is questioned by non-engineers/business faculty.

Bill Shreve – Is this opening the program up to students with undergraduate degrees from other schools?

Kent Fuchs - Yes, but the MEng program has 350-400 students, half of whom were Cornell undergrads. We consider the MEng program our 5<sup>th</sup> year of specialization. We have always had about half of our MEng students from the outside.

Bill Shreve – Do you see this program making the MEng program larger – Let’s say going from 400-600 students?

Kent Fuchs - The business model assumes about 50 additional students. The money we make on the program will be spent on faculty we engage in the program. The majority of the MEng return comes back to the college and is redistributed out to the departments.

Justin Rattner – Is this a unique program or a repurposing of the existing program?

Kent Fuchs - This is not a new degree – it is just distance based.

Dick Aubrecht – How about the admission standards to the program?

Kent Fuchs – We will use the same standards as those used in the on-campus admissions process. This makes it very different than eCornell. eCornell is open to everyone – if you apply and do the work you get a certificate.

Justin Rattner – Do you want to say something about the technology?

Kent Fuchs - It is all web based. It will likely be replicated over time in a few other programs such as Financial Engineering.

#### New National Academy of Engineers (NAE) Members

There was a period of 10 years where the college had no NAE members elected and we were losing NAE members because they were retiring. Last year we had two and this year Harold Craighead and Eva Tardos were elected. Some of you have helped us with the nominations. Thank each one of you who have done that.

J. Rattner – Eva Tardos’s appointment can be worth a lot – not just as an NAE member.

#### Capital Campaign

Cornell announced its \$4B capital campaign in the fall to be achieved over the next 5 years. The University campaign status has been bolstered by the Weill Medical College’s grateful and generous patients. We do have some alumni in this group and we talk to them about related programs such as biomedical engineering.

Other programs have also raised large amounts that are beneficial to us. These include the Provost’s goals for biomedical programs, graduate fellowships, and undergraduate scholarships.

To date Engineering has raised \$121.6M.

Bill Hudson – How much of the \$4B is earmarked for A& S?

Kent Fuchs – Initially no goals were to be set for individual colleges. Now Charlie Phlager has set internal goals for each college. Roughly \$400M is the goal for each of the large colleges. I think we will raise more than that.

Bob Shaw – Do the donations the college has received reflect gifts designated for engineering?

Kent Fuchs - Yes but the way they are counted is not exact. Some gifts are shared, but it is a way of measuring progress and eventually a significant amount will show up in our budget. We are doing well but we want to do even better.

Bob Shaw – Does this break out into the endowment and other gifts going to programs or equipment etc?

Kent Fuchs – You can see how the gifts break out on the New Gifts and Commitments by Category slide. The endowment has received some major gifts this past year. In '99 we had a spike in the plant funds when we were working on Duffield Hall. One of our goals in this campaign is to raise the level of giving for unrestricted gifts.

Bill Hudson – Where is the dean's discretionary fund show up?

Kent Fuchs - If it is an endowment it will show up in the yellow endowment section.

Bill Shreve – Will you say a word or two about the gift that went to graduate fellowships?

Kent Fuchs - The one large gift was from Erwin and Joan Jacobs, the founder of QUALCOMM. The Jacobs gave \$30M, of which \$15M was for undergraduate scholarships (\$5M for diversity scholarships to off set self-help and \$10M for the undergraduate financial aid pool) and \$15M was for graduate student fellowships in Electrical and Computer Engineering.

Bill Shreve – Will that help to get more students per faculty?

Kent Fuchs – Absolutely!

Clif Pollock - The ECE fellowship funds are in an endowment and we are using it to bring in first year graduate students by awarding 1 year named fellowships.

Kent Fuchs - We are engaging the departments in fund raising and it will benefit them. Our objective is to have every entering graduate student on a fellowship.

Jay Carter – Undergraduate scholarships are based on need. What are the graduate fellowships based on?

Kent Fuchs - At the Graduate School fellowships are awarded based on merit with a focus on recruiting the very best students.

Kent introduced Tim Dougherty, the new Assistant Dean for Alumni Affairs and Development.

### Alumni Affairs and Development Changes within the College – Tim Dougherty

To keep the campaign in perspective, it was publicly announced in October '06 but officially started on July 1, 2004. The campaign in total will last 7 ½ years. We are a third of the way through the campaign.

The New Gifts and Commitments slide shows both a 10 year average and a 5 year moving average. We look to be in pretty good shape, but the data doesn't touch upon the opportunities we have to make the college stronger.

The college plans are clear and the college knows where it wants to go. Through the process of developing our plans the departments have identified over \$700M they would like to see funded. There isn't disagreement about how much should be raised, but we believe we have an opportunity to meet all the dept needs and raise \$750M, which is more than the university's goal for us (~\$400M).

We still have \$628M left to go in this campaign. That is an average of \$132M per year over the next five years. It is daunting and exciting because we have the ability to do this. We have tremendous untapped potential in the college.

Our plan is based on two simple goals:

1. Raise as much money for the college as possible, and
2. Build our capacity to raise money over the long term.

The \$628M still to be raised only includes a bit of the Facilities Master Plan. Realization of the complete Facilities Master Plan will take another half a billion dollars.

To achieve our goals we are revising our staff structure. We currently have 2 administrative assistants, 2 assistant directors and Tim. We are adding 3 new positions – an associate director and 2 new assistant directors.

We will engage the departments in the fund raising process by pairing them with an assistant director – our new captains in the campaign army.

The assistant directors will also try to leverage the resources available to us from Cornell's central development operation. They will facilitate activity with the central university operation and make sure the university is aware of what is going on in the college, understands our needs, knows that faculty can speak to those needs, and can help build relationships to support us.

We have generous and successful alumni, many of whom we haven't had the opportunity to reach out to as much as we would like to. You all can help us in that too by identifying people who could assist in the campaign.

Venky Narayanamurti - Do you have a dotted line to the central development office?

Tim Dougherty - A solid line to the central development office and a dotted line to Kent.

Many of our graduates identify with their discipline and the department involvement is important.

A Case Statement for the University was passed around with a sign up sheet for anyone who wanted a copy.

### Questions

Bill Hudson – The last 6 months has had a lot of wins. I applaud you for getting constituencies on board and for the MEng Systems Engineering Distance Learning degree approval.

Dick Aubrecht – Where is work and study abroad going to happen? In what countries? At what schools?

Kent Fuchs – We have agreements with IIT Kanpur, Ecole Centrale Paris, Mexico, Germany, and Hong Kong.

Bob Shaw – Do we still have an aggressive Co-op program and what percentage of undergraduates participate in it?

Kent Fuchs – We admit about 700 students per class each year most of whom will graduate. Of that number we have about 120-130 students who participate in Co-op each year.

Bob Shaw – What is the student feedback – How many go into large corps? Small?

Kent Fuchs – About 2/3rds go to large corporations and 1/3 to small ones at about 60 total sites. The student feedback about the program is very positive. Mark Savage, Director of Cooperative Education and Career Services has traveled abroad to develop international co-ops.

Jay Carter – A true differentiator for Cornell is our international activities. Is there some way for more collaborative programs with other schools? For example, leveraging the CALs relationships in India?

Kent Fuchs - It is timely and a great question. Most of the international initiatives are college based and colleges collaborate with different universities. In India we work with the IITs but they are not necessarily the best schools for research. TaTa is keenly interested in having a Cornell presence and there is discussion with the president now about developing that presence. TaTa wants to be generous, but he wants to invest in India.

Bill Shreve – I applaud the Computer course change. Do we expect more enrollment from outside engineering and as such will there be more of an element of problem solving?

Kent Fuchs - We didn't discuss reaching out to other colleges this time. It was more about how other colleges could change to serve our students. I have to think about it. Ask David Gries – He actually teaches that course.

Dick Aubrecht – The change in the engineering introductory course was not approved – why?

Kent Fuchs - This is where we will implement a prototype course. Twenty years ago students took no engineering in their first year. The first year introductory course and math changes improved retention. This new proposal took the introductory course to the next step as a two semester course in which all freshmen would work together on teams on problems introducing concepts from multiple fields. That is a big change that was not accepted by all faculty. We will move forward with the prototype and take the course evolution step by step.

Bob Shaw – We moved up (down) a notch in the ranking. I am surprised we are not doing better than some of the schools in the top 10.

Kent Fuchs - There are many factors that influence our rank. Some are important ones that we work on and others aren't and we don't work on them. Cornell has some unique attributes such as breadth (12 departments) and science based programs. We pay a price for the breadth in the rankings, but we think it makes us stronger overall.

We work on the peer assessment rankings, our faculty productivity and quality, and the size of our PhD programs (# graduated). We graduate fewer PhDs than the other top 10 schools. Quality is the most important measure. There are other metrics based on size – total research\$ and total PhDs – that favor larger schools and they are not as important to us but they influence our ranking.

I could make us #5 next year because the data is self reported.

## **Faculty Development, Mentoring, and Diversity - Zellman Warhaft**

Zellman Warhaft, Associate Dean for Diversity, presented data on the demographics of the current faculty in the college. Slightly over 60% of the faculty in the college are 60 or older. The age distribution varies significantly by department. It is estimated that 102 total faculty (42%) will turnover over during the next 10 years. That means we will have to hire approximately ten faculty a year to maintain our faculty size. This turnover will be due to the cumulative effect of retirements and departures and is consistent with the projected retirement predictions nationwide. Filling these positions will pose a significant challenge to the college in an environment where our peers will also be competing to renew their faculties as baby boomers retire.

In addition, the challenge is exacerbated by our goal to grow the faculty by 30. Half of that growth will be in the Department of Biomedical Engineering and the other half in the priority areas identified in the Strategic Plan.

The total number of engineering PhDs awarded in the U.S. between 1985 and 2005 has doubled while the number of degrees awarded to women and URMs have increased steadily but still represent small pools. The vast majority of PhD recipients go into industry (69.4% in 2005). How can we expand our pool to tap the PhD talent working in industry?

Bill Hudson – Is it still true that you have to leave Cornell for your PhD? It might be another way that students lose their tie to the university.

Kent Fuchs - It is heavily dependent on your discipline. In most disciplines it is true.

Bob Shaw – The PhD recipient employment choices chart is interesting. What is really driving that (69.4% of PhD recipients choosing employment in industry)? The first thing that springs to mind is economics. Can the universities compete? What do these statistics teach us?

Zellman Warhaft - A lot of it is due to the perceived tensions of being an academic.

Sheila Hemami – How many academic jobs were available in that time frame? 1994 was the first year many schools were hiring in a long time.

Dick Aubrecht – What were the opportunities available? That data is missing from the table. It takes 10 years to change the fundamental supply and demand.

Bob Shaw – There was also a period of entrepreneurial start up in that time frame. I have a feeling that is driving a lot of it.

Jim Becker – The absolute number isn't wavering that much. The question is really what is the demand side of the academic side. It looks like a steady absorption in academe.



Another interpretation would be that we are producing more PhDs but the increased demand is in industry. Have the aggregate faculty in engineering schools grown?

Kent Fuchs – I think the number of faculty has been fairly steady.

Kenneth Arnold – What has happened to the number of engineering students in the country?

Kent Fuchs - It has been steady.

Bill Shreve – More important is looking forward when we will have greater hiring needs. As the baby boomers start to retire, both academe and industry will have the need to hire more PhDs. It is going to be a very competitive environment. More than half of our PhD graduates now are international students and you will have to compete with opportunities abroad too.

Jim Becker – The academic environment being difficult for women raises two questions:

1. Is the industry environment more friendly?
2. Has anyone looked at what the tenure track should be?

Venky Narayanamurti – Pregnant faculty at Harvard automatically get a tenure extension.

Zellman Warhaft - These issues also apply to men. Nearly 50% of our hires are dual career couples.

There is no need to discuss the reasons for diversifying – most have been internalized.

### Goals and Approaches for Hiring and Mentoring

The college wants to increase the percentage of women faculty from 12% to 20% and the percentage of URM faculty from 4% to 10%.

We currently are at the top of the pool of our peers when looking at the % of women faculty. For URM faculty we are in the middle of the pack and going up.

We have projected the percentage of women and URM faculty that we want to hire. Achievement of the goals looks possible in terms of an extrapolation of this graph.

Jim McCormick – I am curious about the obtainability factor? You could say that schools below us have even more reason to rise up and this could be defined as a 9 sigma problem.

J. Rattner – Being near the top puts you ahead of the game because role models help attract more women and URM faculty.

Zellman Warhaft – I agree it is positive feedback to see women and minorities at an institution and the environment is important too.

Bill Hudson – We have to make sure we have good candidates. We shouldn't have an unnatural process where we reject good males to hire women and URM's.

Zellman Warhaft – Our number one goal is excellence.

Bill Hudson – We went through an era of stretching things in industry to reach certain percentages.

Zellman Warhaft – There is a danger in strict rules, but we don't compromise quality in any sense.

Venky Narayanamurti – This would mean you would have to hire about 2 women a year every year. That isn't crazy at all. In fact it may not be enough of a stretch goal.

Bill Shreve – It is more than two because you will lose some.

Bob Shaw – It is a stretch because we are over the average.

#### Tenure and Tenure-Track Faculty Hired

We have never hired a woman beyond the Assistant Professor level. This is an extraordinary fact that we have to face.

Kent – Some of you thought we don't have any female Associate Professors. That is not what this chart means. We have women tenured professors.

Bob Shaw – Is it normal for faculty to come in to an institution and grow into an associate professors? If 62 are hired will virtually 100% become full professors at Cornell or will they be hired away somewhere else? We are going to have to raid other institutions to solve the problem. I assume our good faculty will be raided by others.

Zellman Warhaft – We lose 2-3 faculty each year to other schools.

Hiring Process slide –

The hiring process is a department run consensus process.

Venky Narayanamurti – Sometimes the searches are so narrowly defined that you have to change them. It is a real problem

Zellman Warhaft – I agree narrow definition inhibits diversity

Bill Hudson – Is there a variation on the department's ability to do this?

Zellman Warhaft – Diversifying is in competition with cloning or keeping things like they were. The more distanced you are from it the more you see the need to be open.

Bill Hudson – In past years there was an issue with the community being able to provide a friendly absorption into the community.

ZW – I am not seeing that as an issue now.

Venky Narayanamurti – Since you have a strategic plan now and a plan for research that is not by department, can't you authorize searches differently at the college level so that you can broaden the pool? I would enthusiastically encourage you along that line. Harvard is changing and doing this. You can authorize searches in a different way – not in a department way.

Zellman Warhaft – There is yet another big problem and that is the ability to achieve tenure. When we broaden the area it makes tenure more difficult. Narrow and deep is the traditional model.

Armando Olivera – We have had trouble attracting and retaining minorities. A lot of it goes back to quality of life in the community. We have had a tough time attracting Blacks because they don't feel welcome in the community – it wasn't the job. I suspect it is this environment too. You have to attack it at the individual level. There are a whole host of questions and it is better to be up front about schools and neighborhoods etc.

Dick Aubrecht – One of the best control guys at the University of Illinois was offered a position at Cornell but a dual career path for his wife was a problem. You have to have some help from Day Hall to create lines for dual career paths.

Kent Fuchs – We would have had that person if a position had been created for his wife.

Venky Narayanamurti – You need some funds from the college and some from the university.

Zellman Warhaft – I'd like to come back to the climate issues. They are less glamorous than recruiting but improving the climate has a longer term payoff and word gets around. The numbers don't tell the whole story.

Armando Olivera – We do mentoring. We assign a person who has gone through the experience to work with the family and integrate them into the community. It has been very effective.

Venky Narayanamurti – This is a complicated eco-system and you have to pay attention to all of it.

Bob Shaw – Are we looking hard at what is working? What kinds of social issues impact those offers that are and are not accepted?

Armando Olivera – We talked with people who left to determine why.

Sheila – Part of the Advance grant is performing interviews with every incoming assistant professor in sciences and engineering and tracking them through their entire appointment at Cornell.

Bob Shaw – Then the remaining issue is how do you act on what you learn?

Jay Carter – Have we partnered or collaborated with other institutions in the area such as Ithaca College? There is a critical mass issue in the Ithaca area. Other schools and employers could help and you could possibly expand regionally. Everybody has the same issue.

Zellman Warhaft – At the graduate level we have an alliance for minorities with Syracuse and RPI.

Sheila Hemami – We are providing services at other universities for women faculty through the Advance Grant.

Zellman Warhaft – We are not doing well enough with industry. This is an important challenge. Diversity and breadth are orthogonal to hiring.

Justin Rattner – It strikes me that academics are highly advantaged because publication is so much of what is going on, particularly on the research side. Who is presenting the best work and who is winning the prizes? You should be spotting them.

Zellman Warhaft – We do that but we are not systematic about it. We give funds for students near completion of their PhD to come give talks. We keep a data base of prospects.

### Retention

We want to unify the mentoring process across the college. We propose to have a mentor in the department and a faculty mentor outside the department/college that they can give the assistant professor a broader perspective and guide them. There is a slight conflict of interest with mentoring within the department because the faculty mentor will vote on the tenure decision.

Nothing could be more important than child minding, particularly from 0-2 year olds, both from a recruitment/retention and climate perspective. To be able to say to candidates that we have excellent child minding would be wonderful.

Scott Donnelly – We built a day care facility at our medical facility. We lost a lot of people because of the day care issue. The facility has been packed.

Bill Shreve – HP built a day care and had a K-6 program on site. It was a huge retention issue and people wanted jobs at HP because of it.

Justin Rattner – Preschool through kindergarten is the most important.

Bill Shreve – A retention issue for men and women is work/life balance. Make yourself stand out as an institution on the quality of life side. Ithaca has some strong pluses because it is not in a metropolitan area. One woman left Agilent and went to Nebraska – she was stared at because of her cultural dress and couldn't find the food she wanted. Keeping these things in mind is important.

Justin Rattner – Do you have data about the internal climate? We are surprised about the kind of hostility women and URM's face inside the workplace. I don't have a sense if you have your finger on the pulse.

Zellman Warhaft - It exists here and is a real problem (anecdotal).

Justin Rattner – We found there are bad actors that impact the workforce climate. We were shocked after many corporate efforts. It turned out to be more of an individual problem. If the supervisor or leader acts that way the group follows. Go after those folks.

Advance Program – NSF Sheila Hemami and Marjolein van der Meulen

The Advance Program came out of an MIT study. Its goals are to increase recruitment and promotion into leadership positions of women and institutionalize the best practices. The grant involves five colleges at Cornell. We get Cornell matching funds for overhead costs.

Bob Shaw – What percentage of your time will you be spending on this? 10-20 hours per week?

Marjolein van der Meulen - Officially over the 5 years Sheila Hemami and I are time sharing two positions; the Program Director and the Engineering College Liaison positions. Kent has provided a semester of teaching relief to each of us. Officially the percentage of effort is 25%. The time spent is more in the start up period because we are the drivers of the draft proposal and are implementing our vision.

I want to acknowledge the Dean who supported our summer work to write this grant. The PI is the Provost. She is the only person that make this happen in other colleges. We also have Bob Harris, the VP for Diversity and Faculty Development, on the team. There was buy in by all five college deans.

Venky Narayanamurti – Do you have faculty champions in other colleges?

Marjolein van der Meulen – That is the role of the college liaison and the deans.

Sheila Hemami – We spoke extensively with former deans and chairs.

Marjolein van der Meulen – We got males involved too. It is important to have that buy in.

A condition of the NSF grant is that the effort must exist beyond the life of the grant. The idea is to have the best practices adopted across the colleges to change the climate.

Bob Shaw – Is your doing this accepted and rewarded by your fellow faculty? What is the perception about whether this is something that is important enough to give you research credit?

Marjolein van der Meulen – I would say it gives us teaching and service credit. Chairs are very supportive. Most of the people that matter are on board. In the long run it probably does detract from our research.

Sheila – Of course it hurts the impression people have of me. Why didn't I write a technical paper instead? I have a passion and wanted to do it anyway. We are doing better than other schools and could continue to do so.

Venky Narayanamurti – I want to compliment you for your utter frankness. You really want to get faculty with stellar reputations that are solidly behind this. Otherwise the women get stigmatized.

Sheila Hemami – I think we can also develop male faculty advocates that are highly respected. We plant advocate moles in meetings to positively back up chairs.

We are very pleased with the five liaisons in the other colleges. All are women and previous chairs or associate deans.

The Advance goals for women faculty are –

- Recruitment, retention, and promotion into leadership positions
- Implementation of best practices
- Each science and engineering department will have 20% women faculty by the end of the 5-year life grant. The 20% goal is grounded in literature. To get more than 30% more than half of our hires would have to be women.
- An additional 15 senior women hires (total of 75 hires). This goal appeased our not setting the goal total goal at 30%.

Venky Narayanamurti – You are saying the other science departments such as physics and chemistry etc. have bought on to this?

Sheila Hemami - Yes

This is a net goal. Since setting it we have moved in the wrong direction.

60 hires @ Cornell University

25 of 60 @ COE

Venky Narayanamurti – Engineering has one advantage - we should look more and more at industry. Computer Science can be affected significantly that way.

Our initiatives include those to improve recruitment, retention, and the climate, and to evaluate and measure success.

Marjolein van der Meulen – On the climate side, the Provost did a work/life study of all faculty on campus based on surveys done by peer institutions and customized for Cornell. The initial findings are that the most substantial differences are in gender. Women's response rate was higher than the men's'.

Sheila – How satisfied were faculty with their general quality of work in their department and in the community?

Advance will Provide Recruitment Support:

- Education – development of formal strategies for recruitment of women
- Funded programs to identify and recruit promising early career women
- Development of and education about dual career challenges and solutions. We agree that the provost must provide lines.

Marjolein van der Meulen – We just lost the Dean of Human Ecology because her husband couldn't find a position. Lisa is now going to become the Provost at Temple and her husband has been offered a faculty position.

Sheila Hemami – Dual career actually impacts the hiring of men more than the hiring of women.

Marjolein van der Meulen – We are also seeing an increase in dual career issues with graduate student admissions.

Advance will provide:

- Retention Support
- Career development workshops
- Travel grants for women assistant professors
- Seed grants for mid-career women faculty
- Leadership training for tenured women faculty – Career stage retreats with blue ribbon panels with retreat content relevant to the audience. This information should be provided by chairs and mentors but mentoring is not uniform across the college and university. We want to make sure everyone has a uniform experience.

- Formal mentoring programs for all faculty in science and engineering
- An improved climate which will positively affect both recruitment and retention.

The academic hiring process provides opportunities to promote diversity.

Bob Shaw – Is a professional search firm ever used to develop the pool?

Marjolein van der Meulen – We don't use them and I don't think it would go over well. This is one of the few things faculty are engaged in and they are determining their colleagues.

Armando Olivera – The person we are interested in for a senior job is not looking for a job. Advertising is not going to get you there.

Marjolein van der Meulen – At the pool creation step you have to actively do things. The degree that we do that varies greatly.

Kenn Arnold – The way it is presented here is that you get a pool through advertising. You probably get your best part of the pool by actively seeking someone.

Sheila Hemami – This is where education comes in. It is not a woman's problem to hire women.

Kenn Arnold – I strongly advise that you change the terminology of #4.

Marjolein van der Meulen – Part of what you are talking about is in #4 – maybe we need to combine them.

James Becker – I liken this to sales not recruiting. You are in a sales mode – that is a better model for the junior academic world.

Bob Shaw – That is the beauty of search firms.

Bill Shreve – If you want 15 senior hires, set a goal of having three of them found by a search firm.

James McCormick – Search firms are bifurcating into different roles. Their main role may be just the identification process – you buy them by the hour to leverage their network.

Marjolein van der Meulen – We treat our faculty as a search firm.

Kenn Arnold – There is a need for such a search firm and I will support you (Bob Shaw) in this effort to establish a new company.



Bob Shaw – What you are doing is the equivalent of Intel thinking they know every professional in the industry and they don't.

Kenn Arnold – There is a much smaller faculty pool.

Bob Shaw – Go back over the last 20 years and there are between 20,000-40,000 people who earned PhDs.

Dick Aubrecht – We only use recruiting firms for very senior positions, but we have an HR group that provides an internal service across the company. They know the company and the culture and they sell the company. After a while they develop the contacts and the ability to find the people. This internal function is better than hiring an outside search firm.

Scott Donnelly – We told our research PhDs – you should always be looking. If you want to bring in 15 senior females then you need to go tell the departments to go find them. Keep your eyes open all of the time. We are always out there and if someone sees a phenomenal prospect we consider if we should go after that person and, if need be, we create a position for that person.

ECC recommendations for modifying the search process:

- Broaden the search area and get away from the model of cloning yourself.
- Advertise – Write the position description to attract a broad pool.
- Pool creation – Actively create the pool as an ongoing process of identifying prospects and developing personal connections.

Justin Rattner – If slide 9 is the mental model than you are broken at the start.

Cornell ranks #2 nationally as an institution where women have received their undergraduate degree. One place to start is with our own graduates. They already have a personal connection with Cornell.

Have your administrative assistant go to the web sites of top departments and make a list of the women faculty. Then ask, “Who could qualify for your search?”

Dick Aubrecht – If you had a group in the dean's office that did that it would free up your time to pursue these people. It would increase your effectiveness.

Marjolein van der Meulen – In interviewing and evaluation there are a lot of biases. There was a study where researchers took same CVs, one with a male and one with a female name, and had faculty review and evaluate them. The man was rated outstanding and the woman was described as having some issues. We have to keep those biases in mind.

Another study looked at perceptions of who is a leader. Men and women were shown at the head of a table. Men were identified more often as the leader of the group.

We are developing tools to help reduce biases.

Venky Narayanamurti – At Harvard, before the candidates are invited, the faculty need my approval confirming they have examined diversity. You should have at least two women in the final interview pool so that one women candidate is not considered a token.

Sheila Hemami – We would love to have Kent do what you just mentioned.

Venky Narayanamurti – This approval step was an outcome of the Larry Summers fiasco.

Sheila Hemami – This also happens in the College of Human Ecology.

Marjolein van der Meulen – I mentor young women and the first decision is whether or not they pursue academia. The second decision is which academic path.

Venky Narayanamurti – And going back to Kent’s strategic plan with a focus on the environment – those areas are more attractive to women.

Sheila Hemami – No one ever says, we are hiring a man, “Is he qualified?”

Marjolein van der Meulen – The Dean’s approval of the final candidate should require proof of diversity efforts across the other search process steps.

Sheila Hemami – Our big word is accountability. We need accountability in the search process. If we don’t have it we have results like last year. 16 men out of 16 hires. We need to have processes in place where there are multiple levels of oversight.

Bill Hudson – HR is also the neutral body involved in the search that gave the judgment about accountability. They identify if there is a bias already built in.

Bill Shreve – I think that you need to not be afraid to say that. If you bring in a pool of 2/3s women they will assume that you lowered the criteria for your pool.

Bob. Shaw – As you look at the faculty do you perceive there is a difference of attitude as a function of age?

Marjolein van der Meulen – No, many of the older faculty have daughters and they understand these issues. Some faculty don’t understand these things until they experience them. There is a lot of learning at that stage.

Bob Shaw – My perception is that there is sea change but you are not confirming it. I see a dramatic change with my children. They assume that the women and the men are on equal tracks.

Sheila – Things have occurred. Prior to 1971 if a women faculty member at Cornell became pregnant she was expected to resign. Things, however, are not where I would have expected them to be 20 years after I was an undergraduate.

**Lessons Learned and Current Challenges: Faculty Hiring and Mentoring - Paulette Clancy (CBE)**

Chairs in audience: Mike Shuler (BME), Joel Brock (AEP), Terry Jordan (EAS), Jim Gossett (CEE), Jim Renegar (ORIE), Clif Pollock (ECE), Tim Healey (TAM), Lance Collins (MAE), Peter Jackson (SE)

Lessons Learned: Faculty Hiring slide – We are able to identify candidates that are too green for our competitors. They are immature but with the intellectual horsepower to be a star.

We can make a decision the day of the visit. We think that helps.

We have not been successful recruiting senior faculty. Moving a senior person is a lot harder than moving a junior person. Moving someone to rural upstate NY that has a professional partner is even harder. There are solutions, but we have to be a lot more proactive to encourage senior stars to come to Cornell.

We also have a weakness in hiring women. We haven't hired any women in a long time. We have made offers to women but haven't done a good job of converting them.

Discussion about women candidates has a tendency to gravitate to personality issues. We need to be more inclusive of different personality types.

Bill Hudson – You have a diverse set of personalities with your current faculty.

Paulette Clancy – Yes, but I think that the senior women who have survived have been more male.

Hiring Data slide –

There is a huge difference between male and female acceptance rates. What really kills us is dual career opportunities.

We must target candidates and be aggressive both in the development of the pool and in bringing women in for interviews. Give yourself every opportunity to hire a woman. Hiring to support diversity is our top priority this year – explicitly say that.

Watch for subtle evaluative bias. I take detailed notes about what everyone says so that there is no drift in the discussion. A very vocal faculty member can change the tone of the discussion. If they have gone off track stop the discussion.

Kenn Arnold – What you said makes sense, but you made offers to 50% of the women and 25% of the men. It is hard to see a bias there.

Paulette Clancy – You are right, our bias is in favor of women but our acceptance rate is not good. You have to watch out for bias all the while and be particularly sensitive to it.

Bill Hudson – I think this is another argument for a centralized HR recruiting activity. You have a neutral party who can ask why they didn't accept an offer at Cornell. You might get a more honest answer. You learn a lot from that.

Dual career couples are a huge issue. We have nothing in place now. Other universities have 1/3, 1/3, 1/3 (dept, college, provost) agreements. That won't work here because the departments don't get any money, but if there was a workable model with a pool that would help.

We need a way to create some lines for women and URM faculty or cap and trade open lines. Line trading at Cornell has been done.

We are too small a department and it negatively impacts our ratio of faculty to students. We have the enrollment of a state school and the resources of a private school for faculty lines. We need term chairs to support young faculty.

We also need to protect faculty stars. Is there something we can do preemptively to keep them from being raided? Are financial retention packages viable? Packages would need to be on the order of \$1M. Is it better to offer it preemptively or wait until the challenge arises? We can give faculty a chair but we don't have the resources to do that.

Mentoring Best Practices slide -

Ways to help support Assistant Professors include:

- Have them teach same courses.
- Re-evaluate mentors – at three year review and reassign them if needed
- Don't assign junior faculty to freshmen advising
- Provide good start up packages – don't nickel and dime young faculty – don't take support away if a student wins an external fellowship
- Run the department transparently, fairly and democratically as a team with no sense of privilege.

Bill Hudson – Is the preemption strategy contradictory to the transparency of running the department?

Paulette Clancy – I think that is true, but I think most faculty would realize there are some faculty who are particularly valuable.

Bill Shreve – On the mentoring, how do you pick the mentor/mentee partnering?

Paulette Clancy – We try to assign several mentors – a teaching mentor, 1 or 2 research mentors, matched by area, so they get the best advice in terms of funding agencies and funding opportunities, and the Chair as a mentor.

Bill Shreve – Do you ever use a mentor outside the department?

Paulette Clancy – Yes we assign to any untenured woman faculty member a faculty member from another department. There is a lot of value in having an outside mentor. It allows the faculty to vent safely.

Venky Narayanamurti – We do that all the time and it works quite well.

Zellman Warhaft – An external mentor is part of the college mentoring plan.

We believe in “horses for courses”. We limit service assignments for junior faculty and assign tasks that play on faculty strengths. Over time we develop an understanding of the faculty member’s strengths and weaknesses and use the strengths wisely.

### **Faculty Hiring and Mentoring - Clif Pollock (ECE)**

In ECE 23 faculty have left in the last 9 years. We have hired 19 people to replace them.

1/3 of our faculty are Assistant Professors now. We have a lot of energy, but are bankrupt on wisdom – we have a problem finding mentors.

Losing faculty to start-ups or industry is the real killer.

Hiring Process Example slide

We populate our committees with young Assistant Professors. They have more energy and higher standards.

Bill Hudson – Are these candidates always from other universities or do you hire from industry?

Clif Pollock – We do both. The HR function or search firm might be helpful with the senior faculty.

We look for the Wow factor and if it is there we make an offer. Last year we made three offers in circuits – one person came. If we don’t see anyone we don’t make an offer – that is why we have five searches open.

We don’t do well against MIT, but we do well against Carnegie Mellon. All of our candidates are reviewed using the Michigan review process.

The biggest problem we have is picking the areas of the search. If a junior faculty leaves we try to replace in that area. If a senior faculty leaves we debate the area to be filled. Determining the areas we will and will not hire in is the most difficult part of the search.

The best way to select the area is to put it in the context of the future. In 20 years what are the areas that will impact society? How does ECE get impacted by these problems? How will we adjust our hiring? We have changed our view a bit and it has begun to affect whom we are interviewing. That has worked well. It has caused some tension because there are some areas that are not in our 20 year plan.

Bill Shreve – How do you relate your 20 yr plan to the College Strategic Plan?

Clif Pollock – It fits very well. We made sure to do that.

Lance Collins – How do you identify areas to build?

Clif Pollock – The process to do that has worked. We have identified new areas in which to hire and develop.

Bill Shreve – In areas in which you have no current core competency do you think about whether to hire a senior or junior faculty?

Clif Pollock – We tend to keep our searches open. The area and the fit of the individual guides us.

We have a standard diversity committee, the general committee, who looks for diversity candidates in one of our search areas. They also bring in outstanding candidates in areas in which we are not searching.

Venky Narayanamurti – And the ad says “in any field”?

Clif Pollock – I think we can use stronger language in our ads. ECE has 5 women faculty out of 36 faculty.

Bill Shreve – When you make a general hire, who loses the line?

Clif Pollock – It is bridged to the next vacancy in that area. We have never hit our limit of 40 faculty so until we hit that limit I am not going to worry about it. We basically have 2 openings a year.

We have done some ad hoc dual career things. I offered to pay 1/6<sup>th</sup> of a position forever to Mechanical and Aerospace Engineering and that worked. We are creative. We could be more robust, but in general the system works.

I am trying to be more active in recruiting and I get everyone involved. We have a list and we try to track and visit candidates when we are visiting in their area. The bad news

is that all of my faculty are on someone else's list. I have been visiting schools on the west coast. Out of these visits we have seen results – faculty who applied and at least one offer. This active recruiting has been effective. Ideally all faculty would be doing it, but in practice it is a handful of faculty who really are.

The college Mentoring Guidelines is a very good document. Not all senior faculty are good mentors and this has been a real burden. The good mentors are over booked.

The big problem is retention. We hire truly outstanding professors and they have to be obvious to the world. Other schools try to attract them away. We have to be more attractive to keep them. We expect things of them – they expect things of us. It is ours to lose. One slip and we can lose them.

Bill Hudson – Are they being drawn out by higher offers?

Clif Pollock – Better places to live, better facilities, big start up packages etc. There are many dimensions to the offers.

Bill Hudson – Is there a culture in the department that contributes negatively? Are few faculty participating in searches and mentoring?

Clif Pollock – I think the thing I worry about most is the bad apple. One jerk can cause many problems. I have talked to some of them directly. They could be destined for the NAE. How do you communicate with them?

Bill Hudson – You want to develop the kind of culture that nurtures itself.

### **Faculty Hiring and Mentoring - Lance Collins (MAE)**

There is a myopic view of MAE. I have been director for 1 ½ year and this is the most challenging issue of the job. There is always attrition and you never operate at full capacity.

We have 2 women and 2 URM faculty in MAE. Seven (7) faculty are near retirement and 2 faculty have recently left.

We have a similar recruiting and hiring process as that in ECE.

We identify areas in which we want to search and have a Recruitment Committee in place for opportunity hires – URMs, women, dual career, and superstars.

Nanotechnology is a big attractor. We are currently searching in biomechanics and dynamic systems and controls (2 out of 5 sub areas).

Search statistics:

URM faculty are much more difficult to identify. Our statistics aren't as good. In current searches 67% of the overall pool and 33% of final pool being invited in are women.

Challenges:

There is a tendency for the department to want to build areas of strength which conflict with searching broadly. This is exasperated by the fact that we are small compared to our peers which increases our need to focus on areas of strength. We need to search in a targeted way and broadly.

We are talking about changing the culture and who we are. We focus on mechanisms without appreciating that we are really saying we want to be different.

We look at most things in an identical way – we are searching for white males that just happen to be women and minorities. We are in a transition state and I don't think we appreciate that yet. If successful, the university will be transformed. Are we capable of overcoming the tendency to self replicate and accept the change that will come?

Bill Shreve – I was interested in the different approaches to make the search broad or narrow. Is the approach of ECE and MAE really different or reflective of different department sizes? Lance are you in line with the college strategic plan?

Lance Collins – The issues of size are not trivial. If I had more faculty all of the parameters would be very different. We are in line with the college strategic plan. We did a careful analysis of the strengths of the department and the strategic areas we should pursue. We have lived by this plan and we do not have tension about where we are going.

Clif Pollock – The field of ECE is becoming more of a systems field where faculty must interact. We have a little bit more flexibility because of that.

Teresa Jordan – The ECE and MAE manner of making decisions is not applicable in a field where you are managing a search only every one or two years. It is hard to apply even though it looks interesting.

Jay Carter – Bell System ATT had a leadership development program. As PhD candidates come in is it possible to identify a subset to develop as faculty with no tenure guarantee? You could view it as an early soft commitment and use personal interaction to make them feel special and build the bond to the institution.

Kent Fuchs– We have brought people in not ready for a tenure track position as visiting faculty with the hope that we might hire them as a tenure track faculty.

Eva Tardos – We have one of those people. In general hiring your own graduate student is a “no no”. We should, however, track our undergraduates who get their PhD elsewhere. They already have a commitment to Cornell.



Paulette Clancy – The only problem with bringing in people who are not ready for a tenure track position is that you are actually getting weaker people with a known deficit that you are trying to “grow up”. You end up spending 50% of the amount of money for a diversity post doc hire and you are not at all sure you will be able to turn them into a faculty member.

Bill Hudson – Will this process be adequate to meet the demands over the next 10 years? Probably not if you continue to do what you are doing. We have developed professional HR departments with the capability of searching for potential candidates, keeping data bases, and providing staff support for each of the searches in which the departments are engaged. This amount of change will put too much burden on your faculty. Does the search firm idea have merit?

Paulette Clancy – There is a lot of administrative burden in running a search. My assistant is working full time on the search we have in process now. It is a resource issue.

Bill Hudson – You might want to use search firms for your senior professor searches to give you a better candidate distribution (age, experience). Some of the disciplines could use the same candidate pool. How would your faculty react to having a search firm help with the search?

Jim Gossett – I think it would be very difficult to work with a search firm. The firm could weed out about 2/3 of the candidates, but in the end we have a triage committee that goes through the candidates and weeds them down.

Bill Hudson – The search firm does not do the hiring. They identify the pool and do marketing and sales of the university, college, and department.

Armando Olivera – You pick and choose what service you want from a search firm. You are not going to be able to keep up the recruiting and achieve the goals with the existing process. We all share that view. You all have to believe that you have to change. Can you meet your needs without any change in the process?

Peter Jackson – Getting help in finding people in industry suitable to make the switch to academia would be helpful.

Mike Shuler – I have hired 7 people in the last 2 years. Every offer I have made has been accepted. We are growing at the proper rate to be successful. I am on CBE and MAE search committees too. I sometimes find candidates in their searches (cross fertilization). I don't know if a search firm would work or not. The place it might be useful would be with senior people because they don't want to advertise they are interested in a position – good senior people don't apply – a search firm might add value there.

Jim Becker – There should be serious consideration given to developing a more professional process with central assistance/infrastructure to help with recruiting.

Tracking data bases, acquiring search firms etc. – Either a professional firm or one within the school.

Mike Shuler – We need help with the dual career issue. It takes a lot of time to handle that. I have been fortunate that most BME faculty candidates have not had difficult dual career issues.

Jim Becker – The question is getting the faculty to the point where they can make a decision about a faculty hire. Other people could do some of the work to create a more effective hiring domain particularly when you are trying to expand the school.

Bill Shreve – It would also be helpful for small departments who hire infrequently to have the staff people who could help them ramp up quickly. There is a lot of empty activity to get a search going.

Armando Olivera – In no way does it change your final authority to select a faculty member and make an offer.

Dick Aubrecht – You will make the decision. The questions is, "Can you get help in the process?"

Paulette Clancy – We don't have resources – there is a financial problem. There is no money to support that. The idea of a firm or neutral person asking faculty if they are movable is appealing (selling Cornell).

Clif Pollock – We created a web based process and the staff don't touch a thing. It is the filtering part that I am not sure we can off load. I read 450 resumes and I can only really judge about 30 of them.

Paulette Clancy – You still have to organize all of their visits and do all of the administrative work.

Lance Collins – Is this about the diversity issue or about the general hiring process?

Jim Becker – We didn't feel comfortable with you having two processes so it is meant to address both.

Lance Collins – In the process of reviewing a large pool you worry about the losses that might have gone on. You are relying on your colleagues. That is the order one effort that is both the strength and the weakness of our process. The other things are there and they are not trivial but it is really faculty doing this part time. They are still teaching their classes, doing their research and other service and they do this review quickly. I worry, "Did we lose the gem?"

Jim Gossett – I think an external firm could be useful in identifying senior candidates. Our job is to sift through them all. Can you use the web system for senior candidates – they are not going to apply to a web site.

Clif Pollock – I agree with the senior hires the web based system may not work out.

Jim Gossett – I agree with Paulette that we could use help with the administrative work of the search process. The pace of hiring is accelerating

Eva Tardos – There are things that would be good and perhaps necessary to change. We should hire senior people. I don't think the culture is there. If a colleague calls you are honored, but if a random stranger (from a search firm) calls I don't think it would be accepted. Administrative effort would help with tracking and databases.

Teresa Jordan – Some centralized support would be helpful. We want more junior faculty. I find the idea of an outside search firm or someone in the college office as being helpful. Faculty developed lists are not comprehensive enough. Help building the database with breadth of background and professional administrative help on the search process itself would be useful.

Jim Renegar – Dedicated staff help a great deal. We changed department managers this year and the new manager focused on one search and she became a pro. Details that used to take me a lot of time were taken care of. That is especially true for departments that don't hire very often. They would be able to rely on established expertise.

Tim Healey – The last search TAM did was over 10 years ago. If and when we have a search, I was going to beg for help. The idea of a search infrastructure sounds fabulous to me.

Kent Fuchs -Should the provost or the central HR run this service?

Armando Oliver – I don't know enough about your business to know if it should be centralized or not. We are doing a lot of hiring and we effectively have a matrix process. As we move up the chain it is a more centralized process. It is not a black and white model.

Jim Becker – Some things the university could do, but some things you should never let them do. Ithaca is a sell. The university could do that – a tour guide of the area. People are our only business.

Bill Hudson – We were taught to hire good people and develop them so they became your future senior people. We wanted to keep our people off of the head hunters rolodex lists. Are the faculty being developed fast and properly? We should look at that process too.

Dick Aubrecht – The university is at a critical point that only comes along every 40-50 years. You have the opportunity to recast the university over the next 10 years. The most important thing is the faculty you will hire over the next 10 years. Where is the budget to support this important process? The recognition of the importance of this needs to be in Day Hall so they provide the budget to do this. Search processes differ widely. What kind of process does Cornell have now and how does it impact candidate's choices and perceptions? Does it take a lot of time? Is there consistent contact? Is there a perception that this is a well run place and people care about them? Improve the process and you will improve your image.

Clif Pollock – It is probably a weakness.

Mike Shuler – How many offers can I make? If it is only 1 and I have 6 people, most of them will have to wait a while. A timely response is related to the number of offers that we have to make.

Dick Aubrecht – It is not the time that is the issue, but the constant contact. Only half of the summaries talked about using strategy as the center point. It is inherent in a transformative process to start with your mental model of what you are looking for and develop a consistent strategy.

Kent Fuchs– Any comments on mentoring and retention? Should we allow leaves of absence?

J. Rattner – What is current practice?

Kent Fuchs– The current approach to leaves is ad hoc. If we value the faculty member we will offer them a one year leave of absence. Most work at other institutions for the year and don't come back.

Bill Shreve – HP/Agilent prohibited anyone on a leave of absence from taking salary from anywhere else. I would think that granting leaves of absence and allowing them to work at another university is a bad practice.

Jim Renegar – Universities need to allow one year leaves as a courtesy while a faculty member waits for tenure at a new institution.

## Mentoring

Bill Shreve – What is mentoring? The idea of 4 mentors is daunting. I don't know anyone who has time for that much mentoring. We set up mentoring for all employees. To sign a mentoring contract there is an agreement that they will spend at least 4 hours a month together. How do you define mentoring? Mentors were often described from inside the department only. That makes it difficult if the faculty is having trouble with

the department culture. There was one example where the mentor provided evaluation information to the chair.

Lance Collins – One kind of mentor helps a person understand the bar – what performance is expected. Another kind of mentor is more nurturing and is someone to whom the Assistant Professor can show their weaknesses, rather than impress that individual. You don't want to hang out with your departmental mentor. There is a need for the two approaches. Some guidance about the expectations needs to be transmitted in an ongoing way.

Justin Rattner – At Intel there was a mentoring epiphany. We had never defined mentoring and it was being done randomly. We trained people to be mentors and defined mentoring in that training. That has changed the face of mentoring. People sign up to be mentors having a realistic expectation and others decide they don't want to do mentoring.

Bill Shreve – At the start of each mentoring relationship the mentee defines the goals and selects the mentor. We have them meet informally and then select 3 whom they interview and prioritize. Then a contract is developed for a finite amount (~ 1 year) of time outlining expectations.

Armando Olivera – There are two types of mentoring:

- (1) mentoring to transition people into the organization, and
- (2) mentoring to support career progression – particularly rising stars.

Eva Tardos – The college is working on an explicit definition about what is required to do mentoring and we are working to have an external mentor. Tenure is a big deal in peoples' lives. The outside mentor can't help in many areas and the inside mentor votes on the tenure case. We can't get around this ambiguity.

Bill Hudson – If it isn't working well, drop it. Bad mentoring is worse than no mentoring.

