Engineering College Council Meeting

March 29-30, 2012

423 ILR Conference Center

Members Present: Ken Arnold, Jim Becker, Joe Bonventre, Lance Collins, Sarah Fischell, Sam Fleming, Greg Galvin, Geoff Hedrick, Frank Huband, Brian Kushner, Justin Rattner, Bob Shaw, Bill Shreve, Dan Simpkins, Duane Stiller, John Swanson, Jim Wrightson

Emeriti Members Present: Charlie Brown, Jay Carter

The meeting presentations and materials can be found at:
https://confluence.cornell.edu/display/ECC/2012+Spring+ECC+Meeting

Username: eccmeeting@gmail.com
Password: eccmeeting#

Welcome Overview of the Meeting - Bob Shaw and Sarah Fischell
Bob Shaw and Sarah Fischell welcomed the Council to the Spring '12 ECC meeting. Bob Shaw indicated that during the executive session the group would be reviewing the ECC bylaws. He mentioned that the term of the chair and vice-chair will be three years and that Sarah and his terms were ending and that this would be his last meeting as chair. He added that he would be happy to guide the next chair and thanked the council for their support over the last three years.

State of the College Presentation – Lance Collins
Lance Collins, Dean of Engineering, thanked Bob Shaw and Sarah Fischell for their outstanding leadership on the council. He indicated that he was looking forward to this meeting because it was an historical opportunity to discuss the start up of a new campus. Lance gave an update on the state of the college. He noted that he would now be focusing more of his attention on the Ithaca campus and would be less involved in the CornellNYC Tech campus since Dan Huttenlocher will be taking over that responsibility. He added that there's a lot of excitement over this campus both in and outside of Cornell. He indicated that he's very optimistic about how this is going to play out over the next several years.

Leadership changes: Lance introduced Beth Ahner, the new chair of Biological and Environmental Engineering, replacing Dan Aneshansley. He pointed out that Beth is an outstanding researcher in the area of biological engineering. He also announced that Cathy Dove, Associate Dean for Administration, has taken the position of Vice President, CornellNYC Tech Campus and thanked Julie Delay, Director of Human Resources, for agreeing to serve as interim Associate Dean for Administration.

Faculty Awards: Lance was delighted to announce that we have a new National Academy of Engineering (NAE) member, Christine Shoemaker, Professor of Civil Engineering. She has had a long and distinguished career in Civil Engineering, and was cited "for development of decision-making optimization algorithms for environmental and water resources problems."

Lance also highlighted several engineering faculty who received prestigious awards, including: *Technology Review* magazine Top Technology Innovators under 35, Noah Snavely (CS); NSF CAREER Award: Christopher Batten (ECE); Tanzeem Choudhury (IS); Susan Daniel (CBE); Craig Fennie (AEP); Richard Hennig (MSE); Alyosha Molnar (ECE); Richard Robinson (MSE); Noah Snavely (CS); Blavatnik Award (The New York Academy of Sciences and the Blavatnik Family Foundation), Johannes Gehrke (CS); Sloan Research Fellowships: Nate Foster (CS) and Noah Snavely (CS); NASA Chief Technologist, Mason Peck (MAE); Airforce's Young Investigator Research Program: Gregory Fuchs (AEP) and Kevin Tang (ECE); Frederick W. Lanchester Prize by INFORMS, Jon Kleinberg (CS); Google Faculty Research Award, Ashutosh Saxena (CS).

DPE Award: Lance announced that the college's Diversity Programs in Engineering (DPE) received the 2011 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring. This was a national competition where the winner had the opportunity to meet with President Obama. Sara Hernández, Director of DPE, was selected to meet with the President. A reception was held in D.C. to celebrate this prestigious award. DPE programs has had a tremendous impact on our students. Year after year the number of undergraduate and graduate URM students has increased due to DPE's hard work.

AguaClara honored with Intel Environment award: Lance pointed out that AguaClara is a project team that has had numerous years of success. They are dedicated to building inexpensive water technology in Honduras and are an example of how engineering can have an impact in developing countries, and not just in the technology sectors.

New hires and current searches: Lance indicated that several new hires and searches are underway in the college. He also noted that we are being as aggressive as we can be in terms of hiring since a large number of faculty are retiring. Planning at the highest level of the university has allowed us to do this. Lance mentioned that he's concerned about the demographics of our faculty and he'd like to see more women and URM faculty. He indicated that if we can pull together resources, then we will have the ability to enrich the outcomes of the opportunity hires.

Undergraduate Applications for Admission: Lance noted that application pressure continues to rise which is challenging for our admissions program. The number of applications has more than doubled since 2004, which is good news from a selection standpoint. The number of admits and deposits remains flat because our numbers are fixed by the university. One of the reasons for the increase in applications is that the new general application process has broadened the geographical reach of the university. For example, there have been stronger applications from the Midwest than in the past. From an admissions standpoint, the rising application pressure allows us to look at our demographics. Lance indicated that we are trying to be aggressive about increasing the percentage of our classes that are women. He added that it's not enough to admit them, but we also need to bring them in to visit, which is why we have hosting weekends. We have discovered that students who visit Cornell are much more likely to come here. Therefore, it's important for us to constantly work to bring people to campus to see what it's like, because it sells the place better than anything else we can do.

Lance pointed out that there has been a rising trend in applications of URMs, 14% (close to the national average). For women, the number of applications is twice the national average. He added that we are working on improving these demographics.

Career placement and employment sectors: Lance noted that many of our students go on to graduate school. The majority of our students seeking employment after they graduate are successful in doing so. Also, their employment is widely distributed over many sectors (technology, consulting/professional practice, financial services, business/industry, government, manufacturing, biotechnology/pharmaceutical, education and other).

Engineering Undergraduate and Graduate US News Rankings: Lance noted that over the last three years, we have been ranked 10th in the graduate rankings. He indicated that the CornellNYC Tech campus is the kind of event that will make a difference in our rankings. He mentioned that at the undergraduate level it's all about education and a low student/faculty ratio is what counts. At the graduate level, it's desirable to have a high student/faculty ratio because it reflects research.

Research Expenditures, Distribution of Federal Funding: Lance pointed out that there has been a slight uptick in research expenditures. This probably includes some ARRA funding which enhances everyone's research. The college did very well in ARRA funding but there may be a downturn in the future because this funding will come to an end. Lance noted that when you look at our distribution across different agencies, it is interesting to see that what appears to be a bad trend is the result of NIH funding. We are seeing a growing presence of NIH dollars in the college likely due to the fact that the BME department is now getting traction so they're hiring a lot of young faculty and becoming quite successful in obtaining NIH dollars. This is a shift in which we are less dependent on the NSF. One of the risks we had was our heavy reliance on the NSF, and now we're seeing is a broader distribution of federal funding.

Industry Funding Trends: Lance noted that according to the latest US News Report, Cornell ranks close to the bottom of the top 20 engineering colleges in terms of percentage of research supported by industrial funding. As a result of the CornellNYC Tech campus, there'll be momentum on this front. He added that industry's interest in Cornell has increased due to the NYC campus.

Leadership Program: Lance indicated that this is a pilot program, endowed by one of our alumni for a trial three-year period. This leadership program targets the entire undergraduate population and is an important element of our strength as an institution. He added that we are excited about focusing our attention on this program because we feel that this is what differentiates us from other outstanding engineering programs. At the moment, we have an advisory committee made up of faculty and staff. There have been interviews with three outstanding candidates for the directorship of this program and an offer is in progress. Charlie Seyler, Associate Dean for Undergraduate Programs, and Betsy East, Assistant Dean for Student Services, are co-chairing this search committee. There could be modules in the capstone design

courses. We have a gift of $700,000 for the three-year pilot program, as well as an additional ~$140,000 to hire an Associate Director.

Facilities: Lance pointed out that we have completed a master plan conducted by Payette. This is a very different facilities plan than the one under the Fuchs strategic plan (and a lot less expensive, by a factor of 5, than the Fuchs plan). We are doing things that address the needs and repurposed space. He indicated that it's a very conservative way of getting to the distribution of labs that we need. The major issue is that we don't have enough wet lab space. We're taking space in the first floor of Weill had and creating lab space that will accommodate a new chair of BME. Next we will do a major renovation of Kimball Hall to create more wet lab space. Ultimately, this is a high ticket item. Upson Hall is reaching the end of its life cycle. If we plan to continue using Upson, it will be a major investment. Lance added that with philanthropy we want to create a new building which would house the expansion of the Biomedical Engineering Department. Gates Hall has already been funded and will free up some space for us in Upson. Timing is important because Gates Hall should be completed in two years. Once they vacate Upson Hall, we want to do renovations there. It's much more efficient to do the renovations during a time when it's empty.

Status of Budget: Lance explained that the university has a four-year plan to balance the operating budget, which means a $6.2M in budget reduction for the college. Engineering's response to this was restructuring administrative functions, consolidation of services by reducing layers, etc. He added that we are becoming more efficient on the staff side and continuing to hire faculty based on faculty renewal funds. This is continuing to increase our reliance on MEng returns, which is not necessarily the direction in which he'd like the college to go, however, it's the fiscal reality. The university's health is much better than it was three years ago. The budget model is undergoing major changes and the deans have been meeting weekly over the past year to design the new budgets based on what we're calling an activity model. Basically, this model is saying that if you're busy with undergraduate and graduate education you need a budget that reflects this which is a very important change. Lance indicated that the college should benefit from this model because we are very active at all levels. However, we will also be paying for our buildings and we have more expensive buildings than the other colleges so it's uncertain what the budget will be until all the numbers are confirmed. Lance added that he believes that it's a good idea for us to pay for our buildings because the college will be able to renovate more efficiently, which will benefit the college in the long run, as well as the university.

Strategic Plan Update: Lance pointed out that the college is still updating its strategic plan, which was delayed due to the NYC Tech campus proposal. He noted that the growth areas in the college are Energy and the Environment and Bioengineering, while the established areas are Advanced Materials and Complex Systems, Network Science and Computation. With respect to the faculty hiring plan, he indicated that his resources are pushed out to the departments and that leaves him little flexibility to do anything. He emphasized that he needs to find a way to have a program which will allow him to have more control over some resources

so that we can look out for the larger good of the entire college. Lance indicated that it won't be a huge amount, nevertheless it's a change in the way we conduct our business.

NYC Campus Discussion, Introduction – Lance Collins
Lance outlined the three topics that were a focus for the discussion: 1) Faculty and Research; 2) Innovation and Commercialization in NYC; 3) Enhancing the Cornell Brand. He mentioned that the council would be asked to give their feedback on those three topics using flip charts that were placed around the conference room.

Faculty and Research - led by Lance Collins.
Lance pointed out that the CornellNYC Tech campus addresses the lack of a vibrant commercialization engine. He noted that this will be a unique campus. In essence Cornell will have an urban, as well as a rural campus, which are the most interesting environments from a research perspective. The urban campus represents the frenetic, busy, constant buzz environment and there's no place bigger than NYC. Ithaca is the place where you can step back and do longer-reaching research with great facilities, which we do very well here. You can't build CHESS or Duffield Hall in NYC. Now we will have both types of campuses. We will have faculty who will have the opportunity of experiencing both kinds of lifestyles that they wouldn't have otherwise been able to do. He added that our partnership with Technion is huge and it places us on the world stage. This is an engine of commercialization and now we're linked together. The mayor of NYC probably never heard of Cornell before the CornellNYC proposal, but now he knows Cornell, meets with us regularly, and has an amazing press office. It's an amazing machine of media that allows us to showcase our greatest talent across the entire institution.

Risks: Lance indicated that we're building two campus and we don't want them to compete with each other in unhealthy ways. He added that there will always be a little competition, which is good. However, we don't want to do something where we're robbing an MEng program in Ithaca to create an MEng program in NYC.

Financial challenge: Lance pointed out that it's a heavy lift which will involve enhancing philanthropy beyond what we had originally planned. The focus will be on commercialization. We want Cornell-level research. He added that we don't want the commercialization focus to cause the quality of our research to decline.

Update on IP and Technology Transfer Practices – Rajit Manohar
Rajit Manohar, Associate Dean for Research, gave an update on IP and Technology Transfer Practices. He indicated that in the past there have been issues with IP and tech transfer at this university and he has received input from several individuals, including: Robert Buhrman, Lance Collins, Dan Huttenlocher, Alan Paau, Kenneth Birman, Harold Craighead, Dan Luo and Uli Wiesner. One of the issues, how the University handles open source. Essentially, this will allow researchers to place copyrightable works in the public domain (which is a change in current practice) however, this is not an option for work on which patent protection has been sought. The goal is to allow open source software to be a vehicle for technology transfer using specific

licenses. A template is being developed for implementation later this year. Rajit pointed out that the licensing terms should strive to be reasonable and agreeable to the VC/commercial community, as well as to Cornell. The goal is to speed up negotiations upfront and the licensing process for any IP. He also noted that a researcher will be able to "carve out" a specific area of research for commercial activity, with the College and University's approval. However, the caveat is that the research carved out cannot be conducted at Cornell even in the future. Currently, this policy is undergoing the University's approval. Rajit asked for the council's feedback on the questions posed on flip charts around the conference room and that an ECC member briefly summarize each flip chart. Summaries are presented below:

Greg Galvin gave a summary on leveraging the partnership with Technion. He pointed out that networking and informal socialization are important for this partnership and encouraged both sides to participate in this. He noted that there are strong cultural differences between the Technion and Cornell and encouraged both to reach out to interested parties who can help facilitate the dialogue between these two very different cultures. Technion's style is structured in such a way that everyone can contribute and criticize, and there's no hierarchy. This sounds fantastic in the early stages, but as the business matures, and you reach a certain size, you start to need a hierarchy to establish some structure. However, that's where Cornell is at its best. *Comment*: there's a very strong American Technion society which is made up in large part of Israelis who now live in the U.S. that we should look at as a bridging group. They're extremely active and raise a lot of money for the Technion.

Bob Shaw gave a summary of suggestions on how we take advantage of the partnership with the Technion to bring their innovation culture to NYC and Ithaca. Firstly, he indicated that we've made enormous progress. However, we aren't there yet. The general reaction among the group was try to emulate things that happen in other places, use as many different models as possible, and to treat this endeavor as an experiment. It will be important to measure and monitor its progress. Setting up venture conferences would be good. He pointed out that if we have wonderful ideas, people will come. He also mentioned that setting up an incubator and a place for people to work would be a good idea. Over time we need to provide support for people who want to come to Ithaca for two or three years who can't afford to live in NYC. The model for that might be something that Stanford does which is providing housing for faculty. He noted that there were also several comments about measures for successful institutions such as CCTEC. How do we evaluate them in their support of what we're trying to do at Cornell and what is the equivalent of CCTEC in NYC.   Rajit commented that CCTEC files patents well so there's no point in reinventing the wheel. However, the business development role will need an external face, not CCTEC, for licensing and similar activities. Eventually, they will have staff in NYC for filing patents. Lance added that CCTEC has multiple functions, one of which is the mechanics of the patents. For financial reasons, we don't want to duplicate something and create a whole new structure that has to be managed.

Dan Simpkins summarized the comments on how do we leverage the NYC campus to increase commercialization in Ithaca. First, he noted that this is the wrong question. The question should be what can we do at the NYC campus to increase commercialization of Ithaca ideas? In

general, the people in NYC are the ones with the expertise in commercialization. They are the entrepreneurs and one of the key questions was how do you get funding for businesses in Ithaca or even in NYC. He added that it will probably require the involvement of the financial community. Lance commented that there's a big chunk of the College of Engineering that is not going to participate in the NYC campus. Lance would like for this campus to make the entire university more entrepreneurial, so that perhaps we'll start to see the types of companies that can't be done in NYC happen here.

Bill Shreve gave a summary on how can we ensure that good ideas see the light of day. He noted that first it is important that real needs are being addressed which are actionable. Next, we need to ensure there's a technical foundation or some aspect of the idea that is unique in the marketplace so that you have an IP that gives you some competitive edge once you get out into the marketplace. Lastly, make sure that the people who are pursuing the commercialization of the idea are competent and passionate about pursuing the idea. *Comment*: offering competitions for venture capitalists who may want to pour money into new ideas could be helpful. He added that you need to ensure that the "great" ideas see the light of day. The college needs to have a way to help the visionaries get started, and that's the key to selecting the faculty. We need faculty who are able to recognize visionaries or who are themselves visionaries to encourage their students to do those crazy things that nobody else will do. Lance indicated that we want the CornellNYC Tech campus to be a magnet for different activities at different scales. Our goals also need to match those of the university. The job creation side of things is probably the most important aspect of campus.

What is the College of Engineering Brand? – Dawn McWilliams
Dawn McWilliams, Director of Marketing and Communications, gave a presentation on branding in the College of Engineering. She was heavily involved in the CornellNYC Tech Campus proposal. She indicated that now that the competition has ended we can now focus on the marketing and branding of the College of Engineering at large. How we share information about our college is important and it is also important that others share information about us that is consistent with exactly how we want to be perceived. She added that we need to focus on what is unique and relevant about us and determine if that matches the demands of our customers. Higher education is somewhat difficult because it has so many customers, such as prospective students, alumni, corporations, faculty members, and the institution at large. Therefore, we have to think about how we're perceived and make sure that these perceptions are crossing over all of those areas. A few years ago, the College hired a company called Media Logic which did an excellent job of conducting a comprehensive branding exercise, which included focus groups with prospective students, alumni conversations on both coasts, and a variety of research into what other colleges were saying. Comments were made about press worthiness: the college needs to decide what story it wants to communicate to build its public perception and have a consistent way of telling that story. The focus should be the perception that the CornellNYC Tech campus is creating jobs.   The suggestion was made that Cornell could consider issuing global press releases once a month about companies that are Cornell related. This would help us build our brand. These are the kinds of things that would be valuable and would take very little effort. Another member commented that it is important to have legends

and heroes who are discussed in those legends. That's how the institutional or generational history is passed along. For example, this could be done through a series of informal, very relaxed conversations with a very diverse cross-section of the engineering and alumni population. You could ask them to start relating the legends that they've heard about or are now hearing about that reinforce some of the key characteristics that fill in the blanks of where else, only at Cornell. For example, you could put that at the end of a Cornell magazine article messages such as: We'd like to hear from you; Why did Cornell make a difference here? What was unique about that, enabling this to happen? Another comment was faculty awards were mentioned in Lance's presentation. Each of those awards is a newsworthy story at the time the award is given. Other than during the ECC meetings and in the alumni magazine, these awards are not announced in the broader press. Another suggestion was taking advantage of social networking. There's a Cornell You Tube channel. Perhaps we could have interviews with short vignettes on that channel. Comment: What is unique about Cornell? We're at the forefront of technology with a lot of cows around us! This has a certain appeal to it, because Ithaca has a unique and special environment.   Comment: it would also be good to get on a conversational level with the appropriate columnists and writers for the critical publications you want to get into. They will come to you if you feed them some news and it's good. Just sending out a press release doesn't get you into the *Time*s or *Wall Street Journal*.

Dawn mentioned that on March 28th, Cornell hosted the first Engineering Conference for Media at the Cornell Club, which she coordinated. Thirty-one people from top engineering schools and 16 media representatives participated. The participants included: *National Geographic, Popular Mechanics, Scientific America, USA Today*, etc., and social media people. There was a meet and greet discussion on how to feed the stories to them properly, and we received a lot of information, as well as handed out our business cards. Some of the schools that attended included were MIT, Princeton, Stanford and Dartmouth. *Comment*: almost all of the sites are looking for catchy pictures, so having those pictures or video clips available will help catch someone's attention and make them ask, what is that? *Comment*: what are we trying to establish, a Cornell brand or a Cornell engineering brand? Dawn responded that the Cornell brand has launched a new set of brand guidelines and positioning statements. She added that we are looking at the College of Engineering brand, which is to tell people why we're unique. She pointed out that the critical audience is prospective students. How are we going to get students to come here versus our competitors? It's a conversation we have been having with our MEng programs. Also, how do we attract faculty to Cornell? The branding will be targeted to specific audiences.

Dawn discussed how we can take advantage of the new CornellNYC Tech Campus to improve the College of Engineering brand. She noted that we need to pitch our stories to the NYC press about the Ithaca campus. *Comment*: the media will listen when there's something to listen to. This opportunity is now news so we have to harness it as much as we can and keep creating news. Lance added that the city is very much behind us. This is the legacy of the city and of Mayor Bloomberg. There will be a series of announcements during this year that will continue to be new and rejuvenating and keep the interest back in this. He felt confident that this will continue for some time. *Comment*: Is there a sentence or two pitch about why Cornell is in

NYC? We should focus all of our attention on NYC and what's going to happen in the next year or two. It was noted that there are lots of stories coming out of Cornell in Ithaca and we shouldn't stop reporting on them to focus solely on NYC. If Dan Huttenlocher had a twitter account it could generate thousands of followers, certainly in the region, or at least Cornell alumni. Very few days should go by where there isn't a tweet about what's news with the Technion and Cornell. It was mentioned that blogs and a Facebook page for Cornell Engineering would be excellent forums (which would include news from both the Ithaca and NYC campuses). However, it's important to update them frequently so that they're fresh. Perhaps a student intern could maintain a blog so that the staff is not burdened with that responsibility. The student could poll the ECC members for news of interest over the past week.

Flip Chart Notes from the Faculty and Research Session – March 30, 2012

Discussion Topic #1 – Faculty and Research
Facilitator: Lance Collins, Dean of Engineering

- **What is your best or worst experience with a multi-site organization, merger or expansion site? What characteristics, processes, etc. were critical to making it happen well?**

    • Worst:
        o Cultural and political discontinuity overlap in individual professional objectives that compete.
        o Inconsistent budget views, unwillingness to cross boundaries, inability to align long-term objectives. (Justin Rattner)

    • Best:
        o Having the new leader(s) spend "quality-time" (3-6 mos.) at the parent org to learn culture and build his/her network. (Justin Rattner)

    • Most of the corporate JV's I've worked with or watched have failed, as have most acquisitions (examples on request). I would let CNYC grow on it's own w/o much interference from Ithaca. (Bob Shaw)

    • Bad:
        o Mismatched expectations of partner organizations (despite immense agreement document in advance). (Sarah Fischell).

    • Good:
        o Let start-up organization be alone and adversarial for awhile – then rebuild collaboration. (Sara Fischell)

    • Systematic and continual exchange of people (faculty). (James Wrightson)

    • IT systems that enable collaboration at over distances. (James Wrightson)

    • Projects (R&D or commercialization) that are multi-site – Ithaca and NYC. (James Wrightson)

    • Common management for both sites. (James Wrightson)

    • A management model that reinforces inter-site collaboration and not inter-site competition, e.g., not site-based, but "intellectual flow" based.

- Common core values, well organized organizational interaction at multiple levels.

- Critical need to communicate frequently, unedited, and passionately. (DS - Duane Stiller or Dan Simpkins?)

- Can't try to duplicate ANYTHING! This is not a merger – it is a STARTUP! (DS - Duane Stiller or Dan Simpkins?)

- For corp. mergers and JVs, having shared (common) objectives is critical to success. In this case, appears to be different objectives between campuses. Need to address this. (Jay Carter)

- (Let's get some stories going). (Sarah Fischell)

- Good:
    - Right people
    - Enough $
    - Strong (but flexible) vision/mission. (Sarah Fischell)

- Not the same thing. There is no existing NYC organization. Should be easier than a merger! (John Swanson)

- Establish some for the interlocking advisory councils/governance bodies between 2 campuses. (Jay Carter)

- Good results with clear strategy and differentiated objectives for different locations. (Bill Shreve)

Discussion Topic #1 – Faculty and Research
Facilitator: Lance Collins, Dean of Engineering

- **How do we translate the best of both cultures – i.e., the collaborative, low-ego environment of Ithaca to the NYC Tech Campus, and the entrepreneurial spirit of the NYC Tech Campus to Ithaca?**

  - Understand the differences in IP issues.
    - Industry won't want to pay twice.
    - Industry wants the IP their people generate protected/owned by themselves (not Cornell). (Bill Shreve)

  - Large and small companies need someone at Cornell/Technion that is concerned about the success of commercial ventures, not IP ownership. Success create value that can then be shared. (Bill Shreve)

  - I think IP policy is the key. The IP produced here should recognize the source, but be available with no (little) inertia (free). (John Swanson)

  - Frequent interactions (e.g., formal & informal). (John Swanson)

  - "Forced" collaborations (joint activities in research, education & commercialization).

  - Consistent policies applied at both campuses.

  - Not clear that there is any culture to translate since Tech campus will likely not be staffed from either existing campus. Therefore, need to articulate all elements of new desired culture and then hire to this criteria.

  - Be explicit about the core values that must be resident on both campuses. Then create policies/processes/incentives that reinforce these core values.
    - But don't make all values, core or common (distinguish). (James Wrightson)

  - Trying to maintain 2 separate cultures may be a mistake over time, rather, one has to allow change in Ithaca to occur because of Tech campus and vice versa.

  - Articulate and document the characteristics of the new culture you want to create. Design/implement formal and informal processes that reinforce the desired culture, e.g., tell legends & honor heroes of the new culture.

  - Have a great "phonebook". Three "phone calls" to the expert (who will talk to you) at Cornell, Technion, NY campus.

- There is no culture yet at CNYC so let it evolve as it will. Don't try to replicate Ithaca there – that will be hopeless. (DS - Dan Simpkins or Duane Stiller ?)

- People will come together if you force it by establishing collaborate grants explicitly focused on this interaction with close monitoring of effectiveness.

- Define how commercialization will or will not affect promotion decisions for faculty. (Joe Bonventre)

Discussion Topic #1 – Faculty and Research
Facilitator: Lance Collins, Dean of Engineering

- **How do we ensure the campuses complement and don't compete (in unhealthy ways)?**

  - There should be healthy competition – take advantage of the "disruptive technology". If center of gravity of Cornell moves toward NYC, over the years this may be great for university and Ithaca campus. (Joe Bonventre)

  - Start by defining success for each campus and the way you'll measure that success. (Justin Rattner)

  - Value the difference and encourage local optimization. (Justin Rattner)

  - Reward and recognize the success in unique ways. (Justin Rattner)

  - I would set up CNYC as a "skunk works". Let it grow and evolve as the leadership on site and the people they hire that they feel make the most sense within very broad "mission/vision" guidelines. Don't worry too much about competition. (Bob Shaw)

  - If campuses work in same fields, they will compete. You need to provide mechanisms to recognize competition and intentionally endorse difference, competing approaches or force them to work together as one team. The latter will not work in the academic environment. (Bill Shreve)

  - The three hubs in the proposal were chosen because they would resonate with New York City management, but the ideas stem from the work of professors in Ithaca. If they don't go to NYC, they will compete.

Hiring Policy

  - Re. comment emphasis is on external hiring to give cultural freedom. (John Swanson).

  - Need process to assure that the 2 campuses do not compete for: faculty, students, donors + angel + VC investors. (Jay Carter)

  - 1+2 very few from Ithaca at first. But need to have frequent semester-long exchanges. Somehow need to share successes in Ithaca leads to reward in N.Y. + visa versa. (Ken Arnold)

  - Create situations where sites are mutually dependent for the success of the outcome.

- Competition at same level is okay. The trick is to harness it. There needs to be a well-organized plan that brings the "people" together to create sense of the whole.

Discussion Topic #1 – Faculty and Research
Facilitator: Lance Collins, Dean of Engineering

- **How do we maximize the benefits of the partnership with the Technion while minimizing the risks inherent in marrying the two institutions?**

  - Recognize that NYC is not a level playing field. Cornell will, for awhile, have "home-field advantage"… Institute counter measures that enable Technion to be a "full partner".

  - The Technion is based on a very different cultural dynamic. Build a platform on <u>their</u> strengths and by definition you will ensure they are bought into what Cornell wants to achieve.

  - Get an associate director from the Technion on Dan's staff ASAP. (Bill Shreve)

  - I would develop CNYC as an entirely independent organization and let Ithaca and Technion interact with it as individuals in these campuses. Find it in their interest to do so. (Bob Shaw)

  - Be open minded and constantly ask Technion people how they do things re. Tech commercialization and seek ways to bring to NYC environment. (Jay Carter)

  - Prepare yourself for the "tank commanders" – a level of direct confrontation that must be experienced. (Justin Rattner)

  - Focus on hiring focused people from the outside that can hold their ground with Technion. (Brian Kushner)

  - I think Technion will experience a culture shock in trying to commercialize in the U.S. (John Swanson)

  - Sam Fleming and Dick Aubrecht (in absentia):
    - Our experience establishing successful new ventures outside the mother ship suggests critical initial decisions must be made re.
      - What culture must you establish at outset? How best to do it
        and
      - How will new entity be governed for success, e.g., a trustee task force has been formed re. NYC campus – what is their charge? Role in governance, etc.

Flip Chart Notes from the Innovation and Commercialization in NYC Session – March 30, 2012

Discussion Topic #2 – Innovation and Commercialization in NYC

Facilitator: Rajit Manohar, Associate Dean for Research and Graduate Studies

- **Based on Rajit's update, are the proposed practices sufficient to ensure the success of the NYC Campus? What further steps can we take to be sure to build a culture in NYC that is entrepreneurial?   Have we missed anything?**

  • Active sharing among entrepreneurs – create the equivalent of the Silicon Valley coffee shop. (Bill Shreve)

  • Use copyright/patent in open-source model. (John Swanson)

  • Recognize that IP is only a tiny part of commercialization (don't stress over IP, judge by results). (John Swanson)

  • No! We need to keep trying things, experimenting until it is clear that spin-outs, carve outs, industry interactive, etc., etc., are running smoothly and that the "customers" are happy. We must measure and pay attention to "customer" satisfaction with the process and the results. (Bob Shaw)

  • Provide the space for the startup in the university space. Include admin. Support, IT support, finance support. Help build the business until it can stand on its own with outside (VC) funding. (Bill Shreve)

  • Establish frequent conferences or other meetings that bring entrepreneurs to campus.

  • Choose appropriate measures of success and compensate those responsible, e.g., CCTEC, for attaining success.

  • Need some mechanism to bring potential customer needs/wants/desires into the mix and ability to test research concepts w/customers. (Jay Carter)

  • NY campus needs great commercialization policy (e.g. things Rajit mentioned) … but Rajit's suggestions do not seem collaborative/flexible enough. (E.g., not as flexible as typical startup.) Also NY campus needs very different career path options.

Discussion Topic #2 – Innovation and Commercialization in NYC
Facilitator: Rajit Manohar, Associate Dean for Research and Graduate Studies

- **In your companies, how do you ensure that good ideas see the light of day?**

  - Set up innovation funds: create a formal process for review of ideas. Honor failure (3M example). (Bob Shaw)

  - Set up a spot award fund similar to the above. Also set up anonymous input mechanisms. Review process open and transparent. Make a show of rewarding a good idea. (Brian Kushner)

  - How do you define "good ideas"? (Brian Kushner)

  - The best way to get good ideas to percolate to top is to "listen". Ideas aren't good unless they address an <u>actionable</u> need. Must look to management/staff to help filter and separate wheat from chaff but beauty is in eye of beholder so use "VC" process to vet ideas. If an originator is passionate their idea will be pursued to a logical conclusion. (Dan Simpkins)

  - Imagine what success looks like: would there be any product/market interest. Weeds out a lot of "good ideas" that have no commercial value. (Justin Rattner)

  - Spend 50¢ of every research dollar on known business needs. Other 50¢ on blue sky stuff subject to #1 above. (Justin Rattner)

  - There will be too many ideas. Need process for prioritization (VC role) and selection of most promising ideas. Must be needs driven. Presence of industrial partner of target group to fund commercialization might be keys. (Bill Shreve).

  - Two factors tent to foster the origination of commercial concept in my company:

    1. Connection/understanding of needs/market requirements. We use various techniques to enhance this awareness.
    2. Many concepts originate at the intersection of disciplines – we use collaboration venues to facilitate this. (James Wrightson)

  - Have innovation workshops to highlight promising ideas. Audience, VCs and angel investors.

  - All winning ideas have three main components:
    1. They address a real need and the mkt window for the need is known and is practical.

2. They are based on a foundation of technical or business distinction (they have strong competitive edge).
3. They are pursued by people who have the competency to execute. (Dan Simpkins)

- Develop "startup idea competitions" with prizes being VC money. One member of team has to have connection with Cornell. Publicize throughout NYC and Ithaca.

Discussion Topic #2 – Innovation and Commercialization in NYC
Facilitator: Rajit Manohar, Associate Dean for Research and Graduate Studies

- **How do we leverage the NYC campus to increase commercialization in Ithaca?**

  - If there area great successes in CYNC, then the pressure to replicate the process in Ithaca will be unstoppable. (Bob Shaw)

  - Will there be formal interactions with either the Johnson School or other national or NYC biz schools?

  - Most commercialization has business focus and also <u>funding</u> focus. Are there NY State incentives to bring capital to Ithaca?

  - Find vehicles to encourage partnerships between faculty in NYC and Ithaca, where both talents are needed for success (Jim Becker)

  - See stage funds open to both campuses.

  - It's the wrong question. Right question is what can NYC campus do to increase commercialization of Ithaca ideas.

  - Over time develop best practices from Tech campus and share w/Ithaca.

Discussion Topic #2 – Innovation and Commercialization in NYC
Facilitator: Rajit Manohar, Associate Dean for Research and Graduate Studies

- **How do we take advantage of the partnership with the Technion to bring their innovation culture to NYC and Ithaca?**

  - ? Brand as "Cornell-Technion Innovation Campus". Work on lowering barriers to participation by Tech/innovation community in NY. Have interactive weekends/week activities/routine open seminars. ? Jump start publicity with Google/Facebook, etc. (Joe Bonventre)

  - Build prof. networks between/among all 3 locations (+WCMC?). (Joe Bonventre)

  - Need to build a bridge to the American Technion Society and let them help us with bridging the huge cultural gap. "Collaborative" and "Israeli culture" do not go together. (Ken Arnold)

  - Listen carefully to Technion, don't let our preconceived notions of "the right way" become "the only way". Also, honor: reward innovations that lead to commercial success in Israel and other places. (Bob Shaw).

Notes from Marketing and Communications Session – March 30, 2012
Facilitator: Dawn McWilliams, College of Engineering Director of Marketing and
Communications

Enhancing the Cornell Brand

1. What is the Cornell brand?
    *   Discussion of a good brand. Discussed Stanford. They have a good brand. Brand is like a piggy bank. Value to customers, must prove it.
    *   What is Stanford's brand? Reputation, scholar athlete, produced great research, measured by grants, citations, in public eye. Promoted company creation.
    *   How did Stanford build the brand?
        o   Stanford, they instilled they were the source of great companies. Had to overcome party school image in the early days. Stanford Industrial park helped.
        o   Silicon Valley existed, Stanford deliberately capitalized on this. 1954 Silicon was used in the electronics industry.
    *   Cornell does NOT have a party school reputation.
    *   Understand your value proposition. Don't compare to the competition's, it is a waste of time (Dan Simpkins)

What is the Cornell COE brand: We reviewed a Statement that was created 6 years ago…to see if it is still valid….in some ways it is…but other ideas emerged, that need to be researched and tested.

*   *The College of Engineering, working in close partnership with the world-class resources of Cornell University, pioneered and continues to advance a new paradigm—in which faculty, students and graduates apply the process of engineering to actively harness the perspectives and expertise of multiple disciplines.*

    – *Identify solutions where others see barriers*

    – *To produce clarity from complexity*

    – *To create world shaping innovations and drive relevant discovery.*

    – *To prepare a new generation of leaders to think across disciplines in a rapidly changing world.*

Ideas from ECC Members about what the COE brand is:

Entrepreneurial level like no other (see Raff example) Geographic challenges, not visible.

4-5 key points must be told for each brand story, and it must be consistent.

- Best and brightest
- Broad global reach
- Unique
- Entrepreneurial like no other
- Undergrad interaction
- Involvement with brilliance
- Deep research throughout.
- Validation of research

Cornell Brand/COE brand specific (this is as important as having people be aware of us….why?)

- We must show how we are unique because…there are many audiences….
- Improve yield w/students, it can be product specific.
- Raising visibility of the College
- 1 in 8 looking for a job…graduate students…we need Companies to be aware of us and why they should hire our students.
- Providing conferences in our fields can increase awareness and specific research knowledge for our depts. (it makes you the center of the expertise, no matter where the experts come from. NYC may help us with this. We could have the conferences there. Maybe even on commercialization.

Brand means something different to different constituents.

- Need to tweak the messaging to relate to each audience, whether it is students, companies, media etc. consciously approach each differently.
- Revisit the existing message. Need to do more research here.
    - Needs to be less wordy
    - Follow the process that Media logic used before.
    - More focus
    - World we are opening in has changed in the last 6 years.
    - Education, connected for life, what is that value?

Brand Examples: One from Cornell, one from another company experience.

Kiva Examples: Lance discussed Raff D'Andrea and his co-founding of Kiva Systems (recently bought by Amazon)

- Pure Cornell story: Theoretical, deep research, propelled outward.
- Brilliant person in Raff.
- He interacted with Undergrads at a high level.
- Where else do you get this? At Cornell COE!
- Created Robocup club around 2000 and ran it for 6 years. No longer going.
- He was hired for a different reason.
- Everyone told him the club was a bad idea. He did it anyway. He is an individual entrepreneur.
- Soccer using autonomous robots.
- Manifest theoretical ideas. Distributed controls, human like.
- Kiva was created. Moves inventory without human intervention.
- Raff discovered Systems Engineering in the process. What he discovered in the process he didn't plan. He was thrilled. Raff credits Al George, uniquely Cornell aspect, he didn't do it on his own, collaborated.
- Why was Amazon interested in buying Kiva for $775 million? The new warehouses are driven using the autonomous moving robots to move product down a line for packing and shipping.

How do we take advantage of the Kiva story?

- Boston company, MIT pushing it as their start up.
- Need to write up Cornell message. Show how it is our own. Unique to Cornell.

Dynamic Ecosystem of marketing a brand.

- Media, Coordination, National possibilities
- Promotion of inception of ideas or companies, commercialization, not conclusion, clear path
- Manage media along the way
- We can support not only successes but failures (we don't know they are failures at the beginning.)

Arthur D. Little Example (from ECC member)

- No one remembers the content when the ads were run many years ago, but you remember the name.
- Cornell associated with things happening
- Example: Science and technology Education support from Intel. No one knows that. McArthur Foundation was on NPR. Intel did ad on NPR. Great success.

How do we get hundreds of these examples/stories for Cornell?

- Need early information
- Leverage Alumni
- What is brand about? Cornell being known? Or just keeping it in front of people?
- Lance mentioned having a unique US story volume.

Additional alternative view: And a very good one!

- It's not about mass messaging
- Content important
- Need overall marketing plan
- Continuous engagement
- Consistent way of telling the story to reinforce the message
- Look to alumni for stories
- Discuss companies that are not associated with Cornell. And make a connection
- Entrepreneurial: help alumni gain press by asking them to note Cornell in their stories/press releases, and we will do the same.
- Discuss heroes and legends.
- Reinforce key messages.
- At the end of the alumni magazine, ask for contributed stories.

ECC is looking for more information about what is happening among the faculty and alumni as well as ECC. More internal communication. (faculty awards, alumni accomplishments, ECC accomplishments.) Maybe add ECC to the Information Update.

Social Media Ideas:

- We should exploit social media! Put in coordination plan.
- Unique: invention engine in the boondocks.
- Appealing: take advantage of this. (see Joel Stein article)
- Unusual…forefront of technology with cows around!
- Capitalize on this.
- Science magazines; shared dual career professorships, leverage these
- Human interest stories, leverage these
- Should be in WSJ or WSJ.com (.com Pioneer, appeals to young people)
- Target appropriate journalists connected/network. World class experts to quote helps them, also send photos and video when possible.

Sponsor and or create first ever conference or media with the COE.

- Talked about ENGINE, held March 29, 2012 at the Cornell Club. 16 top media in NYC meeting with Cornell press people, COE and other colleagues. Very successful event sponsored by COE. Also discussed social media with some experts there. They said send video…if it moves, it should be in video. Quality of video not that critical.

2. How do we take advantage of the new Cornell NYC Tech campus to improve the COE brand?

- Telling many different stories
- Media paying attention n NOW
- Keep creating news: new evolutions
- Connect to writers of influence, they care
- Last as long as Bloomberg is interested and NYC is behind us (Legacy of City and the Mayor.
- Series of announcements this year, planning and timing
- Validation of why Cornell got this.
- What is going on now?
- What is Cornell, from where?
- Elevator Speech: Why is Cornell in Ithaca?
- Center of the media works, we need to embrace that now.
- Focus all of the attention on NYC, but let them learn also about Cornell in Ithaca.

One CEE member opinion:

- NY Times; John Marcoff:
- It is a regional story only…lets see bulldozers on the ground.
- With results there will be national and international stories.
- Keep telling Cornell/Ithaca stories in the meantime.

Justin Rattner (Intel) comments:

- Does Dan H. have a Twitter acct.? He should
- Alumni, NYC residents
- Story for 5 years, at least
- Audience is not John Marcoff perhaps.
- Blog, keep it up to date frequently.
- Facebook, show evolution an d timeline
- Pinterest shows evolution of the site
- Huffington Blog posts: CEOS forget what was written.
- Twitter: One sentence at a time/ How to create a campus from scratch…Dan would be the moderator.
- Easier to do every week: Cornell name
- Note a deal
- Don't distinguish which campus
- Alumni Accomplishments
- Get Cornell out there.
- Get connected the to the media hub
- Ask faculty "don't let best be the enemy of good>"
- Get followers now, start doing it now.
- Don't worry about good/best priority
- Keep people reading?
- Student interns can comb through
- Poll ECC: what is going on with you? Pull it.
- Cornell ambassadors programs doing this.
- Every 4th post can be a student post.
- 15 blogs per day: Scroll, scan each day/ Cornell twice a week.
- Cornell n Twitter, is fairly infrequent…need to be more.
- Press tour: Met them where they are
- In their face
- Regular rotation

- Short attention span, (the media)
- Provide examples, like the Robocup video with the Kiva video to show evolution. Warehouse view of the new world.

Thanks for all the wonderful ideas! Please send additional ideas to Dawn McWilliams <dsm263@cornell.edu>.