

Duke University  
DURHAM  
NORTH CAROLINA  
27708-0928

ACADEMIC COUNCIL  
304 UNION WEST  
BOX 90928

phone (919) 684-6447  
e-mail [acouncil@Duke.edu](mailto:acouncil@Duke.edu)  
fax (919) 681-8606

## Minutes of the Regular Meeting of the Academic Council

Thursday February 25, 2010

Craig Henriquez (BME, Chair of the Council): Welcome, everyone. I'd like to move ahead with the approval of the minutes before I get on with the agenda. Usually I have some announcements but I am going to save those until the end in closed session. [The minutes were approved by voice vote without dissent.]

Before we get started, I asked the President if he would be willing to say a few words regarding Duke's partnership with Shanghai Jiao Tong University, in light of the recent allegations of cyber crimes and what Duke is doing to stay informed on the situation as it develops.

### *Duke in China*

President Brodhead: It is a very reasonable question to ask and I am happy to answer it. I know how reasonable this question is because I opened the *New York Times* in the Jacksonville airport last Friday morning, and saw the story about cyber attacks and the idea that the launching of them had been traced to two universities, one a vocational school in Western China and the other Shanghai Jiao Tong University. The name Shanghai Jiao Tong University was well known to me (laughter) because I had recently been there, I had spent time in the company of its president and most of its senior staff, and indeed we had signed an agreement on behalf of Duke University with Shanghai Jiao Tong.

Just to remind you, Shanghai Jiao Tong is one of the top four or five universities in China — all of the coverage made that clear. Indeed the coverage made it clear that they had just beaten Stanford in a global computer challenge.

Our reason for partnering with them is anchored in the first instance in the Fuqua School, which is going to have shared faculty positions, shared training of graduate students in a variety of other programs that are a mutual educational interest with Shanghai Jiao Tong.

Duke has a further relation to Shanghai Jiao Tong, which is in order to advance with our campus in Kun-

shan — the subject of so much discussion in the Academic Council this past fall — we need a Chinese University to cross-endorse our proposal. China won't let American universities enter without having a Chinese partner, and Shanghai Jiao Tong is the University that was to partner with us on that proposal.

I actually believe the educational case for our partnership with Shanghai Jiao Tong remains as compelling today as it did in the past. Of course, then when one hears about them being a possible site for a cyber attack that had been launched on Google, I would say the following things. As soon as I heard that, of course I was concerned. The second thing I'd say is that all the stories make clear that no one knows the truth of what actually happened. Every one of the stories made clear that it might have originated from a student at the University, it might have originated outside of the University, which was using Shanghai Jiao Tong systems — feigning to originate from there in a way that you know is very common in malware attacks around the world. It was suggested that the attack might have come from Ukraine in one story. I read one that said it might have come from Taiwan; others that talked about other sources within China, not in the University.

It seems to me just that the presumption of innocence ought to make us realize that we do not know that Shanghai Jiao Tong, in any official way, participated in this attack. Of course, we have immediately tried to find out what is to be learned about this, we have had a variety of sources, among them a well-placed source in the State Department, who has told us that they know nothing more about this than was in the paper, and I think that they too share the idea that it would be quite premature to believe that there is any linkage between the action and Shanghai Jiao Tong University as an agent. They said if they were us, they thought the only concern we should have about the partnership was if we were planning to have that partnership operate in the specific areas of technology and information technology that had

been at issue here. Of course, that is very far from the areas of our cooperation with them.

And secondly, Tracy Futhey who as you know, is one of the most highly respected IT people in America, has also shared information with me about ways we would arrange our own computer presence in a foreign University so as to give us added security in such a place.

Let's be frank. We all knew when we talked about going to China, that China is not the United States, that it does not embrace all of the same values, that it does not offer all of the same protections to free inquiry or to the exchange of ideas. Indeed that truth was also known by Google when it decided to go into China. It didn't learn anything new about that in the last bit.

We went to China, not because we endorse every practice of China, but because, knowing the differences, we thought there was a profound educational value in going to a place where we have much of value to teach and having our faculty come back here and be able to teach Duke students about what the world looks like from the perspective of a place of such increasing importance to everyone's world.

That's about what there is to say...If we are able to learn anything more about Shanghai Jiao Tong's role in this, of course we will seek such evidence in a careful way and will give it careful weight when the time comes. I think the main point I want to make is when you have heard these two words coupled, we still do not know what the meaning of that coupling is. Do people have other questions about this?

### *Questions*

Earl Dowell (Mechanical Engineering): Have any officials from the university made any statements about this?

Brodhead: They were quoted in the early articles. In fact, the university was closed tight as a drum last week because it was a holiday celebration. Faculty members have been cited and I believe one dean has been cited but I have not yet seen a quote from the president. I will expect to speak to the president next week. Thank you.

### *Masters of Engineering degree*

Henriquez: Thank you President Brodhead — I put him a bit on the spot. I asked him to do this just a few minutes before we started our meeting so thank you for that thoughtful response.

I have a choice for where to go next. I needed some time to make sure we had enough people here to vote on the Masters of Engineering degree proposal, and based on what I see I believe we do have enough council members to vote. So I think we will go to what was on our agenda in the order which is to vote on the proposed Masters of Engineering Degree.

If you were here last month you heard a presentation by Professor Glass about a proposal to create a Mas-

ters of Engineering Degree, the MEng. This is a Professional Master's and will be run out of the Pratt School and not the Graduate School. The goal here is to create a degree that will help to better prepare students for jobs in industry. As we noted last time, and brought out by Professor Wolf, the development of new Master's programs while generating new revenues for schools, also comes with some costs. Those costs are in terms of demands on student services and also in terms of faculty time. It is important that these things are thought about during the creation process. And here we are at the creation of this degree.

A new master's programs also has the possibility of significantly changing a culture within a school, particularly a school like Pratt which has a professional master's program but now is adding to that in a different way, a different dimension. Perhaps the change in culture is that the students might be competing for jobs and are also trying to get in the same classes, so there is competition for courses as well.

These are all concerns that are present at the creation of any new degree. As a result, ECAC has been very supportive of the idea of creating a central university group to share best practices in the creation of new programs, guide the assessment process and advise the Provost as issues arise. A proposal for this Masters Advisory Council is making the rounds as we speak and will be presented to the Council at a future meeting.

### *Questions*

I asked for questions regarding the MEng. and did not get any. Jeff is here to answer any questions if you have any regarding the Master's of Engineering as it is laid out.

Pat Wolfe (Biomedical Engineering): Actually my question is more for the Provost. Is it true that the Graduate School is not interested in providing the administration for large numbers of masters students on campus?

Provost Peter Lange: No, that is not true (laughter). What is true is that the Graduate School feels that if the number of master's students increases, that its budget will be commensurately increased if it is to provide services. Those costs need to be built into revenue of business models the new master's degrees as they're created.

The MAC, the Masters Advisory Council, that Craig was just referring to, will be doing that, advising new Master's programs about how to do that. These are revenue-generating programs and they need to charge tuitions commensurate with their need to pay for additional services which they are going to require.

A perfect example is English for international students, who were taught in a fairly small group. As we add students, they are going to have to add faculty to teach them. The programs that are bringing those students should in fact be charged for them and they should build that into their project model.

So that is fundamentally the approach that Graduate Schools are taking and I feel like Career Services is another one. And you will remember, last year the

Council supported the development of the Master's in Management Sciences; Fuqua needed career services assistance for these students, Fuqua chose (in my view, wisely) to work through the Career Center and to support as part of that program, and out of revenues for that program, additional services personnel in the Career Center who would be appropriate for providing services to their students. That was built into the Fuqua model.

My central belief is that for most of these things, we don't want the programs, nor the schools associated with these programs that start up to set up their own independent operations to meet these service needs, because we have a lot of expertise at dividing these services and there are economies of scale in providing these services. So it is a much better idea to have them supplied centrally by the Graduate School or this Center that we have, and have the programs pay for them as they require. So that's the full story.

Dowell: Peter, I think that the Grad School is leading some sort of review of all Master's Programs?

Lange: That's what this is. This is an outcome of that review.

Henriquez: Any other questions? I'm not going to let Jeff get off scot-free. I have a question, I already asked him so he has an answer already. As I mentioned in my intro., there is a possibility of creating a cohort of students who will be competing for the same jobs as the undergraduates. Do you see this as a concern for this masters program?

Jeff Glass (Electrical and Computer Engineering): I think this is a very good question. Our experience so far, especially with Engineering Management Students, which I think will have a lot in common with the Master of Engineering Students, is somewhat the opposite. That is, to attract companies here, we need as robust a student body as possible. Many companies cite the fact that we don't have enough graduates to warrant their time and effort to come here. So although certainly there will be some kind of competition, depending on the company and organization, some organizations will call out Master's, others will call out Bachelor's and Master's together. When they call out Bachelor's and Master's together, presumably there would be competition. But we think that is more than offset by the attraction of having more students available for those companies. And we work very closely, LaTondra in particular and Brad in the past as well, with those companies and with the Career Center in the same model that the Provost just mentioned, where we have Career Center counselors that are funded by the Masters of Engineering Management and future Masters of Engineering but sitting in the Career Center working collaboratively across the boundaries.

Henriquez: May I have a motion to approve the creation of a Masters of Engineering degree? [The motion was passed by voice vote without dissent.] Thanks everyone and congratulations Jeff and good luck to the Pratt School and we look forward to hearing about this degree as it gets underway.

## *Division of Orthopedic Surgery change to Department*

Next, we will hear from Dr. Michael Cuffe and Dr. James Nunley regarding the School of Medicine's proposal to transition Orthopedic Surgery from a division in the Department of Surgery into a separate Department of Orthopedic Surgery. As with all such proposals to the Academic Council, this one has been vetted through various review processes and oversight committees. We will vote on this at next month's meeting and today we are going to hear about it so that it can be considered by the Board of Trustees in May.

I have learned a few things from the committee meetings that I have attended discussing this proposal. I learned that one out of every three hospital visits involve the musculoskeletal system, so orthopedic surgeons are very busy these days. I also learned that the School of Medicine at Duke has created a set of criteria for conversions of divisions to departments — so not every division that wants to become a department can do so, they actually have to meet a set of criteria.

Last year Dermatology made this transition after approval by Academic Council. The criteria, as I understand them, are related to whether there is a national model for a department status, whether there is a significant clinical practice, whether the research is in the top 10 of funding in like departments in the country, whether there is an approved graduate training program, and whether the impact of the transition, primarily financial impact, on other departments and the school as a whole can be appropriately mitigated. Dr. Cuffe will tell us more about Orthopedic Surgery's reasons for pursuing this transition from division to department.

Michael Cuffe (Vice Dean, Medical Affairs, School of Medicine): I will try to be brief. As was noted, this is a rare event for the School of Medicine. We have only 12 departments, seven are original, from our founding, and the last two Cardio and Oncology in 1970 and 1991, about a twenty-year cycle. And by a twenty-year cycle we came back with Dermatology last year, so we are about nineteen years too early.

We did, as many areas have had, had a lot of areas clamoring to be their own Department, and so in 2006 and 2007 we conducted a very thoughtful review and created the criteria and have been measuring against that. We were here about a year and a half ago with Dermatology. I appreciate your vote of confidence very much. We now have a new Department of Dermatology, it's doing very well.

Orthopedics was also in this mix, and as we talked about before at this body, a department for us exists in three separate legal entities. The University and the School of Medicine, before, the physician practice [PDC], which some of you know as a for-profit, wholly separate entity, and over the last several years, they have changed their bylaws so that they will follow our practice, the University practice.

And finally the hospital, and other accreditation bodies commission the rest, and so it's theoretically

possible to accredit a department in the Hospital that's not mirrored in our academic departments, and we do not do that. So we would take the lead of the University and mirror that in the other two entities as we move forward.

Orthopedics had presented their case and we have had it under discussion for quite a period of time and I just wanted to cover briefly the key criteria as they were outlined. We have a very large Department of Orthopedics of now fifty faculty members. They have grown tremendously, about 180% growth over the last several years, and are really operating quite autonomously right now, but are a division of our Department of Surgery.

They have 240 employees and about \$20 million a year in clinical-practice revenues, as well as a robust research portfolio. As we have considered those criteria, are there national models? Yes, in fact it is extraordinarily unusual *not* to have a Department of Orthopedic Surgery. There is only one major institution that could even be considered our peer — within our peer group of sort of the top forty institutions — whether ranked their academic weight and merit, or on their clinical programs, don't have a separate Department of Orthopedics. So it is quite the most common model.

The clinical practice, being strong and robust and independent, they have clearly met that, they are growing, in fact orthopedic musculoskeletal disease is one of our key clinical planks of health system and health-system growth. In fact, Dr. Nunley and his faculty have done an admirer job of growing that mission which is a profitable one for the health system, allows us to support our other missions, graduate medical education, and research in undergraduate medical education in the School, quite well.

Research, this is an interesting case as well. Like Dermatology, they have been under the Department of Surgery, however the research portfolio would easily rank them in the top five, if not the top three departments of orthopedic surgery nationally. They have an NIH as well as an industry research portfolio. They have done quite well

From an educational standpoint, many people think of Orthopedic Surgery as sort of part of surgery, and must imagine that their training is mixed. Indeed, historically that was the case; but now for the better part of two decades their training has been separate. Indeed, right now, if you want to train to be an orthopedic surgeon, you do not train first to be a surgeon, you start your training straight out of medical school as an orthopedic surgeon, so they have separate educational conferences, separate training pathways, and their educational work is entirely separate from the Department of Surgery. Again, that's why most Departments of Orthopedic Surgery are separate in most of our peer institutions.

From a budget standpoint, they are self supporting at this point, and I will talk about the impact of the school in the Department of Surgery, but they have done very well. They have generated a margin, some of that margin is used in the Department of Surgery today, for unfunded and under-funded research. It's not a great deal of money, but it is something that would move with

them over to the Department of Orthopedic Surgery if we receive approval for such.

The impact on the institution's importance: this is a difficult time for a lot of reasons. When you move this out, this actually downsizes our Department of Surgery by 25%. This is fully a quarter of their portfolio in terms of employees and clinical. It is not 25% though of their research portfolio. What's important to understand about our Department of Surgery, in that, historically, strong leaders in surgery had slowed down, if not prevented the separation of divisions like orthopedic surgery, neurosurgery, urology. There are many of our peer institutions that have a dozen different specialty departments of surgery, all independent. We have held them all together here at this institution. So our Department of Surgery is ranked number one nationally in research funding and would remain so by still a factor of two, even as Orthopedic Surgery falls out.

So their educational programs remain intact. Budget-wise, they are quite a profitable department in and of themselves right now. Their research program and ranking will remain intact, and both orthopedic surgery and general surgery and other surgical subspecialties are both in growth phases right now among the clinical missions, which helps support the research and education. And so I am confident in surgery's ability to adapt to this change and be robust.

Finally, as we think about risks, this has, from the standpoint of not moving forward, this has begun to impede our ability to recruit leaders in Orthopedic Surgery; and by leaders, I mean that in all of our missions. We have been growing in the clinical enterprise, but others who aspire to be a department chair or aspire to hold other roles at our Institution have lost over the years, because they have been a division not recognized as a department. It is a bit of a stigma nationally (however they are part of the strongest Department of Surgery in the country).

Finally, the risks of doing it, we do not have, necessarily financial risks, as we think about the two Departments, but we are going to have to create \$250,000 worth of infrastructure, HR and other, in the new department. That savings would come from the downsizing of those same functions in the Department of Surgery, where it is utilizing essential resources.

Some of you may remember in the discussion about Dermatology, Dermatology today is buying a number of these services from its previous parent department. But Dermatology was much smaller, and closer to a quarter of the size of Orthopedics, even smaller actually. And so this would not be one of our smaller departments, were it to begin next July 1<sup>st</sup>, would actually be one of the moderate to larger departments in the School of Medicine clinically. And so we intend to create those structures within Orthopedics, work with surgery to create those savings. However, we believe that the net benefit to the institution is positive, and as both of these organizations are growing and they have clinical margins which are positive and support the other missions, we feel as though it is the appropriate thing to do.

This has the support of the Chancellor and the Dean — the Dean is travelling and I am sorry that she couldn't be here today. As well as our Clinical Sciences Faculty Council, we have presented to the Academic Priorities Committee and met with ECAC in order to appear here today. So, with that I know that your calendar today is full, and maybe I could ask Dr. Nunley to come down and see if there are questions for either of us.

I apologize again for the white-coat theatrics. We both did come from the hospital before we walked over here (laughter). Yes?

### *Questions*

Amy Bejsovec (Biology/ ECAC): Were there any unexpected problems that cropped up with the Dermatology transition and do you think any would be relevant to this?

Cuffe: That is a great question. Indeed, we probably underestimated the difficulty in turning on and making sure the competency and the Departments and their HR systems, their IT systems, the fund-accounting systems and the rest. So we took a ton over a fairly limited period of time. Learning that, we have done two things with Orthopedics at this point. Hoping for approval, we have already taken a senior member of surgery and designated this person as the potential business manager for Orthopedics. That infrastructure is moving forward. Further since last July, we have taken a reversible step, we have been managing the clinical practice, in the faculty practice clinic as a segregated pocket of money so that we well understood what was going on. One knows that many of us as leaders and department chairs in particular, want to view by using one year, we wanted to make sure we had the clearest understanding of how orthopedics was functioning this year, in our transition year, before we would think about moving forward.

We also had a review in December to make sure they were performing to date for six months as expected in all of their missions and they were doing quite admirably.

Steffen Bass (Physics): Can you elaborate a little bit more on the issues of faculty retention or attracting new talent? By retracing through the summary, between the lines, I read a lot that that it might have been a bigger issue than what was written here, that you are competing for the top talent in the country, and they have had some setbacks for not being a department?

Cuffe: We have both lost serious leaders who aspire to be a department chair and left to be a department chair elsewhere. Not all of them could have been a department chair here, but it is one of the things that holds people here is the possibility. I think it is a little less common because the Department of Surgery is so well thought of nationally that we've not lost many recruits, but I do think that for senior academic recruits, who have a really robust research portfolio, standing or coming in as a senior scientist of a Department of Orthopedic Surgery is much more attractive.

James Nunley (Orthopedics): When I was recruited as a division chief in 2002, there were a number of people that interviewed for the job and would not even consider it unless it came with a department. So they took themselves out of the running at that point and that was eight years ago. In addition, orthopedics is made up of eight subspecialties. Our intention is to create eight individual divisions within it so we will have eight division chairs, which will give the young people the opportunity to have a significant chance...

Henriquez: Thank you very much. We will vote on this next time. If there are any questions that come up, please send them our way and we will forward them to Dr. Cuffe and Dr. Nunley and get their answers and responses at the next meeting.

### *Open-Access Policy*

The next topic on the agenda is the Open-Access Policy which was part of the informational items that you received prior to the meetings. We are going to present this item in an interesting way. Usually we have people come and present directly to you, and we vote on it. This is not really a vote, but more of an endorsement. I think it's actually an opportunity, one of the rare opportunities in Academic Council to actually have an impact on the formation of a new policy on campus and I think this is an interesting one, particularly for faculty.

In March 2009, the Provost, in consultation with ECAC, established a Digital Futures Task Force. The charge to the task force was to explore issues related to the evolution of, and support for, new models of digital information use, management, dissemination, and preservation, including research results presented in digital form, online teaching and learning, the digitization of library collections, as well as publishing, data access, and archiving. The group, advisory to the Provost, is to develop strategic plans to address these issues, and oversee their implementation. The task force is co-chaired by Cathy Davidson in English and Paolo Mangiafico, Director of Digital Information Strategy in the Office of the Provost.

The first product of this task force is before us today, which is the Open-Access Policy for Duke. This policy is based on similar policies at other Universities, such as Harvard, Stanford and MIT, who have already created open-access repositories for the scholarly works of their faculty. The policy effectively provides a legal basis for Duke to create a permanent digital repository of faculty publications and to provide access to others interested in those publications.

We are all familiar with the fact that when we publish in a journal, we are usually required to transfer copyright, so that the publisher has the right to reproduce, distribute, and license the work. Publishers can then distribute a work as widely as possible while protecting the author's work against infringement. Under the proposed open-access policy, the faculty member is not transferring copyright as they do to a journal, but rather

they are granting Duke permission (a non-exclusive license), by default, to put their peer-reviewed publications in a Duke repository and to reproduce and distribute the work for the purpose of open access, as long as the articles are not sold.

The faculty member still retains ownership and complete control and has the ability to opt out on a case-by-case basis. For example, the publisher may wish to limit open access and this situation can be managed under the policy.

The policy is only one aspect of this; there is also an implementation. The implementation part has not been fully developed. There is a full-service model that needs to be thought through, though there is something similar already up and running in the library, mostly for theses and dissertations. The goal is to create a service mechanism that doesn't require faculty to pro-actively think about depositing materials, and provides assistance and enhanced services. So there is the idea that eventually this service model will make it very easy for faculty to do this. Right now, the software and techniques are not all there, but that is the goal: to make this as easy and simple for the faculty.

But we may need to do something actively — for example, we may have to upload a PDF file of our manuscript to the server, we may have to fill out some forms online indicating some of the issues relating to publication or embargo or whether we are opting out of using this online repository.

There are also going to be some real costs associated with creating and establishing this repository and, given these economic times, we need to think about whether or not this is worth it. I should mention — it is actually mentioned in the document — in the future it is possible that Duke may be required by federal funding agencies to create such a repository, that might be housed at the University that has received the research funding — and this may be paid for out of overhead funds.

Even if we are not asked to do it, some of us who have NIH grants know that we are already required to put our publications in an open-access repository. This may be true for all federally funded research. So this is something we need to think about. If this repository and service model is put in place, it is possible that this could make this process much easier for us. In fact, when we put the document in the repository, it could in principle, be automatically fanned out to all the places it needs to go, magically appearing in the repository with the right check-offs and we can just sit by and everything works out wonderfully (laughter). So having this resource available could make our lives easier, but the devil is in the details.

This policy has been discussed with several groups already, such as the Basic Sciences Faculty Steering Committee, Franklin Humanities Institute Advisory Board, Library Council, Clinical Sciences Faculty Steering Committee — as well as APC, and ECAC.

The issue in front of us today is whether we want to support the idea of Open Access at Duke. This is a change of the culture here at Duke, and the first step

would be to set up this policy and allow this legal framework to be in place. And then the steps would be to create an open-access repository and use it as a vehicle to enhance the visibility of our scholarly work.

So what I would like to do now is open this up for discussion. Do people think this is a good idea? Or a bad idea? Or how we may want to move this forward, because this policy is being developed, it's come out of similar policies at other institutions. If the faculty want to do this, we are at the stage where we have to decide if it is a good idea or a bad idea.

## *Questions*

Bass: In physics, particularly nuclear and high energy physics, we have pursued kind of an open-access model since the early 1990s, basically since the creation of the internet. We are using pre-print servers to put copies of our publications up on the server, even prior to submission or acceptance by the scientific journals. This has worked very well, the scientific community has had access to our research up to a year prior to actual publication. And the journals, to my knowledge, have never complained about this process. So this has worked very well, and my suggestions if we adopt this policy is to do this on the pre-print method.

One practical reason why I am suggesting this is that I just looked up online various publishing companies to see what their open-access policies are. For example, if you go to Elsevier and you wait until your article has been accepted for print, they are able to charge you \$3,000 if you want to have that article made open-access. And so doing it with a pre-print elegantly sidesteps a potentially very big issue with the publisher, which is that they then want a lot of money for you to post the PDF which then says Nuclear Physics B on there in your own open-access repository. So that was my comment on the pre-prints.

With regard to books, this may be an even bigger issue. While coming to the more practical issues, which I saw in this draft, that's mostly the cost of the implementation. And the way to do that with the implementation is that this depository has to be a nicely searchable with a good interface — you can ask the Cornell Libraries, who are currently running the nuclear and high energy physics preprint servers, that that costs a lot of money so there is always a persistent rumor that they want to start charging money for it. Of course, that goes totally against the idea of open access.

So two questions: as we mentioned, in this day and age, cost factor is a consideration. Do we know what this is going to cost Duke University? And the second question: since, in the draft it was written that this would be managed by an entity out of the Provost's office, we have a library system which supposedly already has these nice little search interfaces, tools, technology in place for uploading stuff. So why not have the Library handle this open-access depository instead of trying to create something potentially new, and new IT infrastructure and new people to handle this?

Provost Lange: So if I can answer the second question, the Library is out of the Provost's office.

Bass: Okay, it wasn't spelled out.

Lange: No it wasn't. But how exactly we work within the library is a different matter.

Garnett Kelsoe (Immunology): I suspect that the utility of this will vary from field to field and from tradition to tradition, and certainly in biomedicine, the requirement for embargo of public information would actually prohibit the public posting of a pre-print in any form, prior to the release by the journal. That would be very, very, difficult indeed.

The other thing is I teach, and many of you do as well, and I have to put things into Blackboard, as I am sure most of you, and also through this thing called Blue Docs, which we do in the Medical School. The entry pathways are completely different; the ways you load things are completely different. It's quite frankly a pain to do this. To create a new and third process (laughter), to go with my passing the ergonomic quizzes that I have to pass... If we institute this — and I think in principle it's a great idea — but if we institute this and it is difficult for those that do not have Masters of Engineering degrees and Computer Science, it would be *great* if it were simple to do.

Henriquez: That I agree. I think the interface is going to be a critical piece to this. Part of the issue is the process of developing it. We all know that some of us, who have dealt with student services and trying to manage advising, when that system was launched there were some problems with it because we're not sure that it was looked at by real faculty members when it was launched. I think the interface is going to be very critical in the process of engaging faculty, and to make sure that it is simple and easy.

The sort of dream scenario that I mentioned, where you put your PDF and all of the sudden it goes off to all the places in the world and is appropriately logged and tagged, I think is theoretically possible, but making that work is definitely going to be a challenge. There are already models out there which are working and hopefully they can use them in practice, but I don't know the fine details.

Phil Costanzo (Psychology and Neuroscience): There are models, in some sense, and I think that most if not all NIH-funded publications need to be put on PubMed on top of that as a model by which that occurs and is co-extensive with the submission. Seeing that those models could be adopted even for non-medical...

Henriquez: I was commenting with a colleague that one of the challenges with papers going to NIH is you sort of have to break each paper into separate pieces and upload it, because they put it into their own format. The question is, do we do this as just a PDF, which is the simplest, and it just goes up there and then let the software magically dissociate it and send it off correctly, or do we have to put it in a format that is required and that may be different for every different place that we go? That can be somewhat painful. I think implementation is going to be the issue.

Question: Has there been a duplication of effort here? Because I think it began in biological fields, all NIH grant-funded papers have to go in from every university into PubMed, so who is this going to serve? Because it seems to me that doing this twice, when already there is a much, much larger entity out there that's worked this out.

Henriquez: Right. So NIH is part but there are a lot of the folks who have NSF-funded work, or even those with work that is not funded federally, and this would provide open access for all articles. It wouldn't prohibit that, it would still allow that, but it would be a Duke site, and it would be searchable at Duke, and provide visibility, to my understanding. So the idea would be that this would be complementary to those other sites, and the hope is that you wouldn't have to do this four or five times to meet the obligations of the compliance; that you only had to do it once and it would be sent out. I think that's the hope. I think the point is not everyone has this sort of open-access capability for the work that they create.

Question: So who is the target audience then? Who are the people specifically and how big is that?

Henriquez: Well, I guess it is all of us. I don't know how big it is. Paolo is here. He didn't want to answer questions now, but he could answer that question. The idea is that there are a lot of folks who generate scholarly work who want to get their work out there. This would enhance visibility of that work. It's not just NIH-funded researchers, although a large fraction of the journal articles probably come from NIH-funded researchers. Want to make a comment Paolo?

Costanzo: A naïve question: how is the library going to help us with this...? It will allow access to multiple articles thrown together at Duke, or the services whereby you can index virtually any article through Duke sites. Is that it? Is that adaptable to the model?

Deborah Jakubs (University Librarian): I don't think so. Paolo probably knows the ins and outs of that better than I do. The reason that systems are being created is independent, is that it has to do with the constraints of our system.

Harold Erickson (Cell Biology): I have experience with the NIH system. I think it's a terrible failure and I would hate to see us try to duplicate something... The problem was that when it was voluntary and nobody deposited their articles. Then congress passed a law and said you've got to if you want to get your grant, and people started doing it. The first time it probably took me thirty minutes to an hour to figure it out. Then I wrote a tutorial, and now if I use my tutorial, I can do it in five minutes. But then, it's a failure because after you deposit your article, you say, ok, release it in twelve months, because that's what the journal requires, or it's the easiest. It turns out that the journal releases it in twelve months; most journals in the biosciences release all of their papers after twelve months. So it has accomplished almost nothing and it requires a great effort. I would hate to see Duke add on another layer.

Joel Meyer (NSOE): A small add-on to that. I am wondering if there is data — given that some universities have already done this — in terms of number of hits and

downloads, because the other thing I don't like much about the NIH system is because it is not the media format. It's really hard to read. So the bar, "I actually have to download this and read it carefully," is much higher if you happen to be interested in that article.

Henriquez: That's right. That's what is proposed here, a sort of pre-publication version that the author presents, just like they do in NIH, rather than the nicely formatted version that we are used to reading... This would be the author's pre-publication version, which is variable in terms of quality.

Kathy Franz (Chemistry): Just to follow on that. We put a lot of effort into making things look a certain way. And for scholarship to go out in the pre-print version, it takes that away. I don't like that part, I don't like that NIH requirement that you lose all of this effort that you put into making something appealing to your readers. Many of us keep our own publication lists and our own websites, and people find them and contact us for a PDF, and most of the journals tell us they can't post the PDF on the website, although that happens frequently, but we can share them. So if there were a way to collate all of that systematically, where that information there in PDFs and could go out. I can't imagine that they are going to be overwhelmed with numbers from other academic institutions. They don't have access to a lot of the scholarship to begin with, but it would be convenient to have that kind of streamlined where we are not all uploading our own things... I want them to be read the way I want them to look...

Jakubs: I will just address the helping people get to the materials, regardless of the format. The Libraries have established a group to look into the service model that we could put into place to minimize the work of individual faculty to do this. So this group was named about two or three weeks ago and we are preparing that, and figuring out what this would mean to make this as easy as possible.

Pat Wolfe (Biomedical Engineering): It seems like we might put a lot of money into this, and a lot of time, and a lot of effort and in five years it might be all done publicly anyway. It just seems like this could be a waste of money and time. That just sort of hits the negative side (laughter). How much is this going to cost? Do we have a number? It seems like there would be a big start up cost.

Henriquez: I don't think we have a number

Lange: We don't have a number because we don't have the architecture yet. There are multiple architectures we could use. Just listening to the discussion here. I mean first of all, we are hearing only from the scientists and engineers, which is an issue, because they live in a different publication culture than most of the rest of the University. So, I just want to make that observation. Until we know the architecture, and until we have thought through how much of this depository is a real depository, and how much is a virtual depository which is built off of the fact that people have already uploaded this into places where we can then essentially borrow the space where the publication is already in place.

There are lots of ways to do this, but until we have the architecture, we won't really be able to begin to estimate the cost. I don't think this is going to happen tomorrow, but what is being asked for here is a commitment to a philosophy of open access, and to the fact that our university will, through one or another architecture, make it easy for faculty to live up to the institutional commitment of open access. I think that is really what is being raised at this point. Paolo's up there, and he has been centrally involved in this, will you agree with that characterization Paolo?

Paolo Mangiafico (Provost's Office): I think what this does, as you said, expresses a commitment to it, but it also gives us the legal basis, as Craig was saying, to do this without asking for every individual paper and individual license what we can and can't do. One of the questions earlier about which journals allow this already, or pre-prints and so on, different journals have different policies, and this would create a prior license before you sign over the rights to a journal. So it would allow Duke to do some things. The mechanism still has to be developed, and a lot of things that have been raised here are questions that we have been discussing in the Task Force with the Library and OIT about how we can set up the mechanisms to make this be as easy as possible and not be an additional labor.

Franz: So far, the discussion has focused mostly on the scholarship, and I am wondering if the idea is to broaden it to course work? I know at least MIT has OpenCourseWare, is that part of it?

Henriquez: My understanding, and Paolo can correct me, is right now the plan is to start small with the scholarly publications, but eventually there could also be a requirement that all data has to be preserved for a certain period of time and archived for a certain period of time, all digital data, or all data that you create in your laboratory. Coursework is another possibility. So all of this is being thought about by this task force, but right now they are going to focus on publication but the whole gamut of information and digital archiving is on the table.

Bass: Forget about the data. There are some departments here which are generating data on the scale of several petabytes per year (laughter).

Henriquez: I agree.

John York (Pharmacology and Cancer Biology): Speaking of archiving, is there a plan to then make...so for those of us who are scientists and have lab notebooks that now range in the number of hundreds. What we have done for our lab is actually just purchase a high-throughput scanning device, but it would be great if the University put in some plan for archiving through a centralized office some of these things and then depositing them.

Henriquez: Yes, I absolutely agree with that.

Warren Grill (Biomedical Engineering): Is this entirely voluntary, so if I am a faculty member, do I have an obligation to put all of my publications into this depository, or can I chose to or not?

Henriquez: Maybe Paolo can answer this better than I, but it was a sort of default, you already were in,

and you can opt out, but I think you have to do it by a case-by-case basis.

Mangiafico: I think the intention is to set up a service that will do all of this for you and you can choose not to have your papers involved or participate if you want to. It's an opt-out. It sets the default to make it open for where you don't want it to be. That is the intention.

Grill: So if we're compelled to do this already by our sponsor, it's a redundant service, (laughter) but we wouldn't have to do this twice?

Mangiafico: That is correct. The system implementation that we are looking at and planning on is if you have already deposited something before, some disciplinary depository, we will get copies from there and deposit that for our purposes so that it won't be an additional step for you, except we'll ask you to confirm that we retrieved the correct publication.

Henriquez: That idea made it compelling to me. If that could get it worked out — just submit it to Duke, and avoid having to write a tutorial on how to submit, and it would all be done through Duke and it would be perfectly straightforward. If that is the way that it is set up and makes it very attractive because it is done once and is done everywhere. Again, that depends on the implementation. And we know that creating software to do all of this stuff is challenging.

Costanzo: In terms of the informational component of this, individuals knowing about the scholarship at Duke. It seems that a small way to begin to do it initially, which would be non-controversial in terms of journals, by publishing either abstracts or summaries of published work for all Duke investigators and all Duke scholars from the humanities, science, social science, engineering, and each published piece has some summary which could give a sense of what scholarship is here at Duke, and where to get it. From that abstract one can get to the full article. I don't know if that solves it, it's not archiving, but in terms of information about the sweep of scholarship and institution...

Henriquez: That's the way to do it...

President Brodhead: My experience is that the different disciplines abstract their work in ways that are highly intelligible to members of that discipline, but often quite incommunicative to people outside of it (laughter). So if you really want to create the version which has the point of to open the world of knowledge to others. You would have to have a group who learned how to abstract or, you could write a tutorial on how to abstract, in a way that was communicative, rather than incommunicative, or coded communication, which is what we have a lot of.

Bass: So there is another aspect for which I am not sure. What about FDS, Faculty Data Systems, where we all are supposed to enter at least once a year, a list of all the scholarly work which we have done? Is there a way to tie that in? Streamline it? Now that's a pretty big chore.

Mangiafico: Absolutely. We have thought of that and talking with them, and there is also a new faculty system that is under development. The steering committee has been appointed a couple of weeks ago by Peter.

The intention is to have those processes be at a single point so you don't have to worry about that. In fact, we are trying to automate those things so that they are easier to do than they are now. The system could go out and look at bibliographic sources which are already published and get metadata from there, look at the journal licenses in an automated way, and so on. You would get an email with a link to the page that says "here is what we think your data is. Correct it or opt out."

Wolfe: Would the intention be to only put material in there that is published elsewhere? You mentioned putting pre-prints in there. Would it count for tenure? If you're on the Duke website (laughter). Would it be considered published at that point?

Henriquez: If you actually created an in-house document? They do that. I know Computer Science does that.

Lange: There are all gradations. When we read vitas in APT, the vitas contain papers and working papers, and APT reevaluates those at whatever level it wants. But no, from the standpoint of APT, something that you put into the depository would not necessarily be considered as published; certainly not if it's not peer-reviewed — unless you want to say, "I gave it to a couple of my colleagues!"

Henriquez: It is possible that something like that, an internal report that is created within a department, could go out on the web and be looked at by hundreds of people who thought it was the most important thing. Eventually it got published in another form, but that may be the article that they referenced for whatever reason, as people have a tendency to reference the first thing they see.

Bass: That is precisely why open-access, which has been around for a while, has not superseded our current publication culture because the peer-review process is the quality control on all the scientific work which we do. Ultimately, when you have a pre-print which is given by a pre-print number if that doesn't have a journal reference within a reasonable amount of time, say a year or so, then you will start wondering, "what's wrong with this pre-print?" But it still provides you with a way to disseminate your research in a much quicker way — and in a way independent of requiring a journal subscription — to the outside world.

Wolfe: What I'm just wondering is, is the plan right now only published work that is published elsewhere?

Henriquez: Right now it is peer-reviewed publications...is my understanding of what it will be.

Mangiafico: There can be services for other kinds of materials. The library already has a repository that does this. That's not covered under this policy. If you wanted today or tomorrow to post other kinds of materials, where the owner of the license is clear, you can do that. What this is covering is making a licensing situation that allows Duke to do this for materials that you are going to publish somewhere else.

Question: I just want to understand this licensing issue. Because this might be a problem. Is this to allow Duke to publish, say, a peer-reviewed and published ar-

article ahead of when NIH or when the publisher releases the embargo?

Henriquez: Yes, I know what you're saying.

Question: If the idea is that we get a license that says, because journals may say to us, well you can't.

Henriquez: I don't think that's the case. It could be deposited before that process takes place, and it would just be held up and not made publicly available until the journal let it go.

York: What Steffen was saying about the pre-print, the unedited version, is something that the journal doesn't typically have. They do make frequently comments and requirements that if this work has been published anywhere on the internet, they have the right to refuse final publication. So it could be accepted, peer reviewed, and then you publish it out there and then the journal says, "we're not going to publish it" and then that creates a serious problem.

Henriquez: Right. And that is very discipline-specific.

York: Not to me. But that has happened to people. In fact, *Science*, the publication *Science*, says if your work has been published anywhere on the internet, they want to know about it. Or they will find it. So that can have some implications.

Henriquez: All right. This was great. This is a lot of information. Paolo will digest it, and run a little computer program to analyze it (laughter) and come back next time. Please read it, if you haven't done so already, the FAQ is fantastic and answers a lot of questions, and Cathy and Paolo will be here next time to answer any more questions before we either approve or not approve.

I'd now like to call our meeting into **executive session**. Those who are not members of the faculty, we kindly ask you to leave. This is our last item for discussion, so you're actually free to go.

Respectfully submitted,

John Staddon

Faculty Secretary, March 12, 2010