

Minutes*

**Senate Research Committee
Monday, December 17, 2012
2:15 - 4:00
238A Morrill Hall**

Present: Melissa Anderson (chair pro tem), Arlene Carney, Jerry Cohen, Benjamin Fuller, Greg Haugstad, Mats Heimdahl, Frances Lawrenz, Richard Leppert, Timothy Mulcahy, Kathleen Thomas, Kyla Wahlstrom, Lynn Zentner

Absent: Linda Bearinger, Brian Johnston, Seung-Ho Joo, Tucker LeBien, Hinh Ly, Federico Ponce de Leon, LaDora Thompson, Thomas Vaughan, Karen Williams

Guests: Sarah Waldemar (Office of the Vice President for Research)

Other: Associate Vice President Pamela Webb (Sponsored Projects Administration)

[In these minutes: (1) annual report on research; (2) update on responsible conduct of research]

1. Annual Report on Research

Professor Anderson convened the meeting at 2:15, reported that Professor Bearinger was out of town, and noted that this would be the last meeting of the Committee at which it would be joined by Vice President Mulcahy.

Dr. Mulcahy said he would review for the Committee the annual report on research, a report he presented to the Board of Regents last Friday and that his office is required by Board policy to deliver each year. In this report he made year-to-year comparisons as well comparison between 2005 and the present; it was in 2005 that the University set out on its strategic planning initiatives and also the year that he came to the University and was given metrics by President Bruininks. Two-thirds of the current Board members are new since 2005 and only four members of the senior administration are still here, so he thought it would be important to have both groups understand the significant progress that has been made.

That progress was dependent on two factors, Vice President Mulcahy said: The success of the faculty and the staff in the Office of the Vice President for Research, who deserve much credit.

Dr. Mulcahy reviewed a number of slides with Committee members and began with the 2005 Research Report Summary.

Research Awards = \$564M; 7.6% increase

Research Expenditures = \$549M; 4.4% increase

Trending: Research Expenditures 1995-2005

-- National rank dropped from 6th to 10th among publics

-- 49% increase at UMN; 77% average increase among peers

* These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate; none of the comments, conclusions, or actions reported in these minutes represents the views of, nor are they binding on, the Senate, the Administration, or the Board of Regents.

- UMN was one of only 3 universities in the top 100 to report a decrease in 2003
- UMN ranked 15th in growth among 16 universities in its self-selected comparator group

"It is imperative that the University revitalize its research enterprise to achieve its strategic objective." Annual Research Report Dec. 2005

"We were staggering a little," Dr. Mulcahy said.

Dr. Mulcahy recalled that when the University set the goal of being one of the top three public research universities, he did not think it wise to choose a specific number because it is difficult to know what to measure. The only truly hard number is research dollars, which is a measure, but there is so much more done at the University than just generating research dollars. And if an institution drives to be among the top in that number, it could distort the support for education and outreach. He said he warns the Board of Regents every year that no single measure captures a research university.

In FY2012 the research awards totaled \$749.1 million; Dr. Mulcahy provided a pie chart indicating how they were distributed by college. The amount increased significantly over 2005; the distribution by college remained roughly the same. He reviewed the changes by college; almost all saw significant increases. The campuses at Crookston, Morris, and Rochester saw declines, but they are working in a tough environment, Dr. Mulcahy commented, and even a small change in dollar amount can mean a big change in percentage increase or decrease. The Medical School saw only a small increase—but the "AHC Shared" awards increased dramatically, which does suggest the University could look at how credit is given for awards.

Dr. Mulcahy presented the 2011 Research Report Summary (the latest year for which data are available).

Research Expenditures = \$872M

7.9% increase from 2010

- Average increase among top 20 research universities = 6.8%

Ranked 8th among public universities in 2011

- 10th among all universities

2011 vs. 2005

- Rank improved from 10th to 8th among publics (so moved up two positions)
- 59% growth; average of top 20 universities = 45%
- 6th largest growth rate among the top 20; 4th largest among publics

So the University turned the corner from 2005, Dr. Mulcahy commented, and that is attributable to heroic faculty efforts in a terrible grant environment.

The stakeholders' assessments around 2005 were not positive, Dr. Mulcahy said, and he was tasked to increase commercialization of the University's intellectual property.

Commercialization: A Contact Sport, December 2004

Structural issues impede interdisciplinary research
Faculty frustrated by admin and regulatory burdens
Complex organization, difficult to navigate
Work with B&I and technology commercialization are not valued
Lack of training about commercialization and entrepreneurship
Misaligned expectations regarding role of technology commercialization
Lack of scientific and business expertise in tech transfer office
Lack of marketing strategies; cradle-to-grave responsibilities
Lack of licensing expertise

ITASCA, February 2005

Urgent need to improve commercialization of technologies
Forge better strategic partnerships with corporate partners

Between 2005 and 2007 the University did its own assessment and in 2007 re-engineered its technology commercialization operation. With these results from FY2007 to FY2012, Dr. Mulcahy said:

Disclosures increased from 193 to 321, which suggests that the faculty have restored confidence in the Office of Technology Commercialization.

New U.S. Patent filings increased from 51 to 115.

New licenses decreased slightly from 77 to 71.

Start-ups increased from 4 to 12. All of the groups that assessed the University said it had an anemic start-up volume; now, compared nationally, it is competing with the elites.

Current revenue-generating agreements increased from 281 (in FY2008) to 426 in FY2012.

Gross revenues changed from \$65.2 million to \$45.7 million.

Non-Glaxo revenues increased from \$8.5 million to \$10.74 million, an increase of 25%, which is a very good job in the world of technology commercialization.

Dr. Mulcahy reviewed briefly the innovations in the Office for Technology Commercialization.

Technology and marketing strategists
Stage-gate technology evaluation process
Express licensing
Internal business units
Startup workshops for faculty, post-docs and grad students
Annual inventor recognition event
Entrepreneurial leave program

Minnesota Innovation Partnership (MN-IP)
MN Ventures, a new initiative introduced to the [Board of Regents] last week.

On the last one, Dr. Mulcahy said, other institutions are doing the same.

The University conducted an external assessment of the Office for Technology Commercialization in June, 2011, Dr. Mulcahy said, and the comments by the directors of the Stanford, Columbia and Wisconsin Alumni Research Foundation (WARF) tech transfer offices were these:

". . . by almost any standard metric, the University of Minnesota has an outstanding track record of accomplishments that put it at the highest ranks of university tech transfer offices."

"UM's volume of start-ups, when adjusted for the university's research base, place it at roughly the same rate of start-up creation as Stanford, Columbia, Harvard, University of Wisconsin-Madison, and other peer schools."

"UM's OTC is an office at or near the top of its peer group, and should be considered an exceptional success story over the past 5 years."

So it is doing very well, Dr. Mulcahy concluded. When he suggests that the University use a different objective than seeking to be number three, he says he likes to hear Minnesota recognized as at the top of the game—and doesn't care if it is ranked 3 or 5 or 8.

In terms of collaboration between Minnesota companies and the University, Dr. Mulcahy said he heard two major complaints when he came here. One, the University is so huge that it is impossible to find what is needed. Two, when a company tries to sponsor research at the University, the University is so focused on negotiating unrealistic royalties that the company gives up and goes elsewhere. A December 2005 report contained suggestions to improve the situation. The University should:

- Re-examine IP policies to make collaboration more desirable to industry
- Refocus admin practices to foster business applications of the U's knowledge base
- Promote more interdisciplinary research by lowering existing departmental barriers
- Incentivize faculty to value industry collaboration as a priority
- Stay abreast of the needs, strategies and talent needs of companies in MN
- Create strategic partnerships with MN research companies

He has been working to articulate a different view of corporate partnerships, Dr. Mulcahy said, and his office has undertaken several initiatives.

- Established the Office of Business Relations
- Founding member in the NAS's University:Industry Demonstration Partnership (UIDP)
 - VP Mulcahy served as national VP (2008), President (2009), Past President (2010)
- Minnesota Innovation Partnerships (MN-IP)
- Increased staff focused on Business and Industry collaborations
- Played a leadership role in ideation and run-up to the recently announced Medical Device Innovation Consortium (MDIC)
- Collaborated with Life Science Alley to launch the Optimize Productivity Project

Contributed significantly to the planning, promotion and legislative creation of the MN Science and Technology Authority

-- VP for Research serves on the S&T Authority Advisory Council

The University is now playing a big role that it did not play before.

The White House said that higher education needed to do better in innovation and entrepreneurship; 135 presidents signed a letter that said they would. Unusually, the Department of Commerce followed up later by asking what they had done. The Department was excited about what the University of Minnesota was doing and invited President Kaler, one of five presidents invited, to talk about initiatives here. Nish Acharya, Director of the Office of Innovation & Entrepreneurship and Senior Advisor to the Secretary of Commerce, wrote that

"I found the overhaul of the technology transfer office in recent years to be an excellent best practice that helps to spur the effective commercialization of new technology."

"The Minnesota Innovation Partnership . . . is another forward-thinking practice in terms of making it easier to market university technology and get it commercialized quickly while also helping to foster a stronger relationship between the university and businesses."

"A discussion of how the University of Minnesota has revolutionized the technology transfer procedure and how the licensing strategies that have developed have helped to build a more fruitful partnership between the University and appropriate industries would be especially valuable to the panel."

The Office of Innovation and Entrepreneurship in the Department of Commerce has asked to feature the University in the NACIE report:

As part of the President's National Council on Innovation and Entrepreneurship (NACIE) efforts to highlight what universities are doing to encourage innovation and entrepreneurship on their campuses we have compiled a report with the top trends and ideas. The report has been based on our findings and highlights information gathered from different universities.

University of Minnesota has many ground breaking ideas in the area of technology transfer and industry collaboration; therefore we would like to highlight your university in our upcoming report.

Again, it does not matter if the University is 1 or 2 or 3, Dr. Mulcahy said; what is great is that it is being held up to its peers as a good example.

Dr. Mulcahy next reviewed some regulatory reforms and advances that have been made at the University.

Management of the Certified Approvers program

Annual SPA symposium, attended by ~450 grant administrators

SPA advanced SPECTRUM training program for grant administrators, with certification

Successful back-to-back full AAALAC accreditation of animal care and use program; first time in 15 years

Three-plus years without a finding by USDA inspections of the animal care and use program

Five-year AAHRPP accreditation of the human subjects protection program; one of the first

- programs to be so recognized
- Staff incentives for professional certifications
- Led the campus-wide risk recalibration initiative; OVPR piloted the process
- Launched eProtocol, an integrated electronic submission and compliance tool for faculty and staff.

What has also changed is the strategic role of the Vice President for Research, Dr. Mulcahy said. The most important point he wished to share is that the change in the role is attributable to this Committee and other faculty governance groups. When he took this position, it had nothing to do with strategic planning; he raised the question but only made progress when two chairs of this Committee sent letters to the president saying that the Vice President for Research needed to be involved in strategic decisions. That has been the case for the last four years or so and he expects that his successor will play the same role. Dr. Mulcahy outlined the elements of the vice president's role:

- Significant contributions of strategic, administrative and academic resources in support of the successful CTSA application
- Collaboratively leading efforts to integrate the numerous support functions and services vital to clinical and translational research
- Financial resources to support the unique research and scholarly work of faculty at each of the system campuses
- Effective partnership with the VP for U Services and the General Counsel to protect the university's vital research interests during light rail construction and operation
- Brokered collaborative arrangements to stabilize the budgets of key core research facilities
- Led efforts to assess and support critical research infrastructure
- Member of the Budget group
- Administrative home for major research centers

After noting the emerging trends in research, which he spoke about at the last meeting, Dr. Mulcahy provided his parting words:

"Open your arms to change but don't let go of your values."
-- His Holiness the Dalai Lama XIV

"Live long and prosper."
-- Lt. Commander Spock

I have been, and shall always be, your friend."
-- Captain Spock

Dr. Mulcahy said he told the Board of Regents that this is a great university that has much to be proud of, it is a trend-setter in many areas, and it owes no one an apology. But it is so understated, which is cultural, but there is a fine line between being honest and being obnoxious. It is not necessary for the University to be humble and it needs to tell its story—if it does not, no one else will.

Professor Anderson told Dr. Mulcahy that the Committee needs an opportunity to let him know what it thinks of him. She has been on the Committee for seven years and served as chair for two years; she teaches higher education, and her students are incredulous when she tells them that governance is

different at Minnesota because of the strategic partnership between the administration and the governance system. "You are an exemplar of that partnership," she said, and thanked him for everything that he has done.

Professor Leppert remarked that the administration of large public research universities is endlessly complex, providing altogether too many opportunities for failure, in light of which Dr. Mulcahy's successes reach well beyond being merely commendable. Talented administration makes a critical difference to the health of the institution, and although is sometimes invisible to the larger community it is no less real on that account. He thanked Dr. Mulcahy for his service.

Dr. Mulcahy said it has always been his intention to make a positive difference as an administrator. To the extent people feel satisfied about his service, he said there are a large number of people who helped him.

Dr. Wahlstrom commented that she studies leadership and said that while she is relatively new to the Committee, she has been impressed by how approachable Dr. Mulcahy has been. There is no doubt that leaders set the tone in an organization and she said he has humanized his office and set a high standard for ethics and values, for which she thanked him. He will be hard to replace, she concluded.

Professor Cohen recalled that he was on the search committee to identify candidates to succeed Vice President Mulcahy and said they interviewed candidates from all over; all of them said something good about Dr. Mulcahy. Professor Anderson, who also served on the search committee, said that many people had told her that Dr. Mulcahy would be difficult to replace. Professor Cohen said that he has met many vice presidents for research, both while at the University and when he was at NSF, and what Dr. Mulcahy never forgot is that it's people who do research and that faculty members are the basis for most of the research done at the University.

As he looks back, Dr. Mulcahy said, he never felt that he left the ranks of the professoriate. He set out to make people's jobs easier—and if he didn't accomplish that, he was failing.

Professor Thomas said that Dr. Mulcahy's advocacy comes through, something she felt even before she began to serve on this Committee. She echoed the sentiment that Dr. Mulcahy would be hard to replace.

Dr. Mulcahy demurred but urged the Committee to support his successor—but also hold him accountable. Have high expectations, help him meet them, and hold him accountable.

The Committee sang a round of "For He's a Jolly Good Fellow" and gave Dr. Mulcahy a round of applause. He thanked the Committee for its support and wished it well.

2. Responsible Conduct of Research Update

Professor Anderson welcomed Ms. Waldemar to provide an update on the responsible conduct of research.

Ms. Waldemar said she know the topic has been a hot-button item for many so she wished to report on what her office (Research Education and Oversight, or REO) has been doing to respond to

questions and concerns. REO is just finishing making education and training enterprise-wide, so all of the programs are housed in her office, with the goal of providing faculty and staff a one-stop shop for training. She provided a few highlights.

-- They have been working with Training Services and their roll out of the learning management system, a new effort.

-- They have been working with OIT to remove as much self-reporting as they can.

-- They are finishing defining the criteria to allow new faculty members to be exempt from RCR1 (most new faculty members have had ethics training; they will look for validation and then focus RCR1 on elements that are unique to Minnesota).

-- They are looking at purchasing RCR online modules that fit with Moodle and can be personalized (which could eliminate RCR1 in person training).

-- They will offer one session of RCR continuing education each semester through the Office of the Vice President for Research, perhaps more, depending on where they believe training is needed or when there are changes in policies or regulations. A number of colleges and units do an excellent job and they will not interfere with those efforts.

-- They will work with Sponsored Projects Administration and the new export control officer to offer export control education.

-- They are working on a review of compliance with NSF training, something she can review with the Committee next semester.

Professor Cohen said he believed Ms. Waldemar is doing an excellent job. With all the federally-mandated training, there is much expertise on campus; many faculty will not take online training seriously but they will take seriously what colleagues tell them they have to know. He wondered if there could be both online training and faculty presentations in a local environment. They hope to do that, Ms. Waldemar replied; she said she is working with Associate Vice President Lawrenz on the idea and agreed that that is the best way to get high-quality information to people.

Dr. Wahlstrom said that Dr. Lawrenz has done terrific RCR training in her college and it would help if it would be possible to bring that experience to others.

Professor Thomas said there have been grass-roots efforts in a number of colleges to bring together faculty experts in a number of areas.

The idea is to institutionalize the practice, Professor Cohen said. The experts may only see half the audience they should. There is much good in what the University is doing but it is still the case that often people learn by word of mouth.

Professor Thomas said that she believes the information provided in training is consistent, clear, and straightforward. But when the individual cases are discussed, representatives of the IRB may say things that are contrary to the information provided in the training. There have been many improvements

in the IRB process and in training, but that is a lingering concern. Ms. Waldemar invited Professor Thomas to contact her about this point.

Professor Anderson wished everyone a good holiday season and adjourned the meeting at 3:15.

-- Gary Engstrand

University of Minnesota