

Minutes*

**Senate Research Committee
Monday, October 21, 2013
2:00 - 4:00
238A Morrill Hall**

- Present: Maria Gini (chair), J. Michael Autry, Jayne Fulkerson, Daniel Habchi, Philip Herold, Seung-Ho Joo, Michael Kyba, Frances Lawrenz, Tucker LeBien, Hinh Ly, Amanda Maxwell, Richard Nho, Suzanne Paulson, James Orf, Emily Saunoi-Sandgren, LaDora Thompson, Kathleen Thomas, Thomas Vaughan, Kyla Wahlstrom, Joel Waldfogel
- Absent: John Bischof, Arlene Carney, Goran Hellekant, Brian Herman, Brian Johnston, Scott McIvor, Michael Schmitt, Lynn Zentner
- Guests: Vice Provost and Dean Sally Gregory Kohlstedt; Professor Scott Lanyon (chair, Special Committee on Graduate Education), Professor Karen Ho (Special Committee on Graduate Education, Subcommittee on Graduate Student Financing)
- Other: Belinda Cheung (Office of the Vice Provost and Dean of Graduate Education); Associate Vice President Pamela Webb (Sponsored Projects Administration)

[In these minutes: (1) update on Graduate School issues; (2) Special Committee on Graduate Education: graduate student financing]

1. Update on Graduate School Issues

Professor Gini convened the meeting at 2:00 and welcomed Vice Provost and Dean Kohlstedt to the meeting.

Dr. Kohlstedt related that Professor Gini had asked her to discuss fringe-benefit rates and whatever else she deemed useful, and observed that her office and the Committee have a lot in common in that both are concerned about students and research. At a research university, engaging students in research is central and there are two groups (in addition to the faculty) that are important in research: graduate students and postdocs.

With respect to postdocs, responsibility for postdocs is moving from the Office of the Vice President for Research (where Associate Vice President Lawrenz has done a tremendous job in working with postdocs) to the Office of the Vice Provost and Dean of Graduate Education, Dr. Kohlstedt reported. This aligns the University with the locus of such responsibility consistent with most of its peers.

Dr. Kohlstedt also reported on a grant from NSF's Alliances for Graduate Education and the Professoriate to the CIC "to develop, implement, and study innovative evidence-based models and standards for STEM graduate education, postdoctoral training, and academic STEM career preparation that eliminates or mitigates negative factors and promotes positive practices for Under-Represented

* 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.

Minorities. . . . The initiative will develop mentoring networks across CIC universities, with support and professional development for both mentees and mentors. At the same time, it will explore how faculty search committees can be educated to think more holistically and objectively in making hiring decisions to broaden participation in the academy." While there will not be much money for each institution, the grant serves as a reminder of how important postdocs are, not only because of the research that they do but also because of the message they take away from their experiences at the University. It is important that they recall their time here positively as many of them will stay in academe.

She mentioned the fall orientation for graduate students and provided copies of a brochure that was written to provide them information about institutional resources available to them.

Dr. Kohlstedt said that she gathered data on funding for graduate assistants, fellows, and trainees for the period FY09-FY13, and discovered that there has been an erosion of support for graduate students. While there has been a modest increase in overall funding (\$156 million to \$161 million, or 3.3%), it has not kept up with inflation. The amount of central (O&M) funds has actually decreased by 2.3%; sponsored funding increased by 6.7% but that was due primarily to federal stimulus funding, which has now run out. While other funding (foundations, etc.) increased by 15.2%, that is a volatile source of support. She said she wished to bring this information to the attention of the Committee and others at the University and said the same analysis can be done for any specific graduate program.

Professor Vaughan said the analysis should include why the changes have occurred; one of them may be that graduate students cost as much as postdocs. Dr. Kohlstedt said that they have been wrestling with the issue of support for graduate students and the research that they do. They are seeing a decline in support and that may relate in part to the reality that tuition and fringe benefit costs are going up. . She said it would be helpful to know what other funds departments have for graduate students beyond those captured in her data.

The news is not all doom and gloom, Dr. Kohlstedt commented. There are once again, if only temporarily for the next two years, travel grants for graduate students. She would like to see that funding made permanent. These are competitive grants of up to \$2500 for domestic research and up to \$5000 for international research for Ph.D. students who have passed their preliminary orals by the time of the application deadline. These grants enable preliminary research and, while such funds may not support someone going abroad for several months, they will enable hem take an initial trip and then write a longer proposal for an NSF, NEH, or NIH grant or for national fellowship competitions. Thus such travel grants may be seed funds. There are also Bridging Funds to supplement tuition and health insurance that exceed the financial award in cases where a student has been granted an external competitive and prestigious fellowship. All of these funds, Dr. Kohlstedt said, are to help students advance their research—and get it done.

Professor Ly asked if the bridging funds are only for domestic students and noted that there are students who win international awards who also do not have enough money. Dr. Kohlstedt said the grants are not restricted to domestic students but any award a student receives must be genuinely highly competitive.

Professor Thomas asked if there is any chance of bringing back the Thesis Research Grant. They were not large grants but they helped students fund some of their research. Dr. Kohlstedt said it was a good question and that she would talk with the Graduate Education Council about them. The emphasis of

the Council has been on the Doctoral Dissertation Fellowships, providing Ph.D. candidates the chance to devote a year to full-time research; they carry a stipend of \$22,500, tuition for up to 14 thesis credits each semester, and subsidized health insurance. The president and provost added funds for Doctoral Dissertation Fellowships, but only for three years. Stabilizing the base DDF funding is a high priority of the GEC.

Committee members discussed training grants with Dr. Kohlstedt, who observed that from the standpoint of graduate education, they provide tuition dollars to the college and grants for students. That fact should help offset the argument that they offer no or low overhead.

Dr. Kohlstedt turned to the issue raised by Professor Gini regarding tuition and fringe benefit costs for graduate students. These are, she noted, a cost often nearly equal to the stipend. In 2005 there was a decision, with tuition going up at double-digit rates and putting pressure on positions, to establish a 10% discount on RAships and TAships, which amounted to \$2.4 million, and those funds have been recurring. The problem is that the amount has remained the same but tuition has nearly doubled in the intervening years, so the tuition fringe pool has gone from being -\$345,000 in FY09 to -\$1.138 million in FY13. The result is a growing deficit; the costs are being paid but the problem is a persisting one.

Professor Gini agreed that there is a deficit but said that the University receives tuition revenues from grants and moves money around to cover it. She said that when the tuition model was changed to stay within the NIH salary cap, graduate students started taking all their courses in the first two years of their graduate program instead of spreading them out. By reducing the number of years students take courses the tuition cost per semester increased. As a consequence, the programs lost the flexibility they had to have students taking fewer courses each semester and spreading them over multiple years. Educational decisions are now driven by the financial side. Her question is if there is a plan to change the tuition model.

Vice Provost Kohlstedt said there has been a lot of attention to the issue of rising tuition and its impact. Intensifying the concern about the full cost of graduate assistants is the fact that in many fields, postdocs do not cost a researcher much more than graduate students. If a graduate student costs as much as a postdoc but a faculty member can get much more work done with a postdoc who takes no classes and brings advanced skills, the incentive to hire the latter is high. Some would like to change the model; what are the options? There is no quick fix, Dr. Kohlstedt said; 25 years ago there were tuition waivers, which some of the University's peers still have. Another option is that all students pay the same tuition for 5-6 years so that there would be no differential; yet another is that the University make up the difference and increase the subsidy so that there is no accumulating deficit in the graduate tuition fringe pool. Solutions affect different colleges differently, she noted. There is a real problem, Dr. Kohlstedt concluded, and the Committee's raising the issue will lead her to attend to it with the administration. What advice does the Committee have?

Dr. Saunoi-Sandgren asked, on the point about hiring postdocs versus graduate students, if there is an underlying assumption that there will be some benefit or value to hiring an RA or TA that will be lost if they are not hired. It not just postdocs, she noted, because one can also hire professional staff for the cost of a graduate student. Dr. Kohlstedt agreed and added that some units are hiring advanced undergraduates rather than graduate students for some of their laboratory teaching. What is the value? This is a Research 1 university and its reputation rides on two things: the quality of the faculty and the quality of its graduate and undergraduate students. If the University does not have a strong cadre of

graduate students, it is not a competitive Research I institution. It must see graduate students as core to the University's mission and in the nature of the institution. And it must attract and retain high-quality graduate students.

Professor Ly said that part of the issue is changing the culture. The University is decentralized financially and cannot dip into a pool of dollars to pay tuition benefits and the like; the PI and the department must pay all the costs. The University needs to do something because the situation is unattractive. He said he had not heard about any endowment funds for graduate fellowships, which some institutions have; does the University have any? The Graduate School itself has virtually none, Dr. Kohlstedt said. Quite a few departments and colleges have fellowship funds; there was a drive several years ago to raise money for them. The 21st Century Fund provided matching money and that proved a significant incentive while the match was in place. The University of Michigan has a large endowment for graduate education that is managed centrally, in concert with departments.

Dr. Kohlstedt suggested one thing the Committee could consider is the effect of tuition waivers. They are more evident at private institutions and with those having a different tuition model. In some institutions, one source of tuition waiver funds, especially for research assistantships, is indirect-cost funds.

There are also headaches because not all graduate programs will bring in the same amounts of indirect-cost funds, so there will likely be inequity in training slot assignments by the Graduate School to the different programs, Professor Ly said.

Many departments are extremely concerned about graduate education and graduate-student support, Professor Thomas said. Dr. Kohlstedt's summary suggests an implied assumption that graduate students only do research if they are appointed as an RA. That is not the only way they can do research, she said. Programs also need to encourage more graduate students to apply for external fellowships so they can do the research they want to do. All graduate students do research, not just those appointed as RAs. Training students to be entrepreneurial is key, Dr. Kohlstedt agreed, and when departments train students to get their own funding, that training helps them in their next position. It is not clear just how much training for proposal writing is occurring across the campus, although the Graduate School does offer some workshops on that topic.

Professor Vaughan agreed that as a Research I university, Minnesota should have among the best graduate students. On the practical side, as a research faculty member, graduate students are very expensive—and it is more than just money because he wants to be sure they have study time and so on. He takes on graduate students as an act of altruism with respect to the competitiveness of his research because of the time it takes to grant them. There needs to be a system that recognizes faculty members for bringing on graduate students, at least some kind of "brownie points." Dr. Kohlstedt said that acknowledging sponsorship of students is a good idea—there is also an incentive for faculty because successful graduate students add to the faculty member's reputation; it is not just altruism and in many cases they also get their name on publications. Those points are equally applicable to good postdocs, Professor Vaughan said. Dr. Kohlstedt said that in her experience, faculty members do not receive credit for postdocs to the same extent that they do for graduate students.

Professor Gini thanked Vice Provost Kohlstedt for her report.

2. Special Committee on Graduate Education: Graduate Student Financing

Professor Gini welcomed Professors Ho and Lanyon to discuss the work of the Special Committee on Graduate Education (SCGE) subcommittee on graduate student funding, which is being chaired by Professor Ho.

Professor Lanyon began by noting that the provost and the Faculty Consultative Committee charged the SCGE in response to growing interest in graduate education, reflected in many conversations last year. The president and provost are also interested in where graduate education are going, so joined with FCC in appointing the SCGE, which has four subcommittees, one of them, on graduate student financing, chaired by Professor Ho, which is providing an update today.

Professor Lanyon said the SCGE is moving quickly and the final report to the provost will be made on December 1. The early due date means that the recommendations can be incorporated in the strategic planning process; Professor Lanyon said he hopes that they can make graduate education front and center as well as provide recommendations that will have an effect for the next cohort of graduate students.

Professor Ho provided copies of an initial draft report, the outcome of a series of meetings (which are not complete). The overall comment and recommendation is this:

If we are going to be major research university, we need a paradigm shift that reframes the discourse of the "cost" of graduate education to one that fully recognizes that the investment in and support of graduate research leads to an expanded research portfolio, and such a result is the reward, which is also central to our mission. We recommend the removal of the various disincentives at the college and departmental levels to train graduate students. The obvious example is that "postdocs cost less," but are not as central to our mission. We believe that colleges and deans should be accountable to and have a strong mandate to support graduate education. As such, more revenue needs to be raised in this important enterprise, but the solution cannot be on the backs of graduate students.

The subcommittee has developed an initial list of recommendations, not listed in order of priority:

- endowment funds for graduate education
- summer funding for graduate student research
- mentor awards
- a Senate Committee on Graduate Education
- graduate student fee changes
- infrastructure changes and incentives for external grants
- the question of "the best and the brightest."

Professor Ho reviewed briefly the rationale behind each of the recommendations.

Professor Gini said she would like to see a tuition decrease for graduate students because there is a real problem with funding for the; the costs to the units are as much as the graduate students are paid. Hiring graduate students was easier when tuition was lower. Professor Ho said the subcommittee will be

discussing that issue; all departments recognize that tuition is going up but fellowship funds are flat—and that is a huge issue.

Professor Lanyon commented that there is a tendency to equate graduate and undergraduate education, especially with respect to the University's budget model, but graduate students do much for the University that is often not taken into account (both in scholarship and providing undergraduate education). There is a financial disincentive, however, for a major part of the University's mission.

If they provide service to the University, why not pay them, Professor Vaughan asked? It must be done in some way, Professor Lanyon said, and it requires real money. It is in the best interests of the University to solve the problem, but it is not easy and it isn't apparent that any institution is doing it well.

What is the object of the SCGE, Professor Ly asked? Increase the number of graduate students? Increase the quality of their training? Respond to the perception that the University is training too many graduate students who cannot get jobs? Those issues are being addressed, Professor Lanyon said, but not by Professor Ho's subcommittee; there is another subcommittee dealing with enrollment issues. The intent is to respond to concerns expressed by FCC and the provost as well as issues raised in the survey last April. Among the major questions they are addressing is how to right-size graduate education and how to right-size the costs of graduate education.

Professor Thompson asked if the Graduate School is thinking about a link or connection between undergraduate and graduate students. This connection would be important because it will have the potential to distinguish the University of Minnesota from other colleges and universities, as 'online' education becomes popular and there will be minimum need for residential campuses. In other words, if undergraduate and graduate education are linked, the experience of students is improved. Professor Lanyon said he hopes that the institution is providing an experience that requires people. One central question about the future of graduate education is what is in the best interest of graduate students. That argument would be non-existent if the University does not provide something more at the undergraduate level, and it could be graduate education.

Professor Orf said that the SCGE can look at what is going on at the University of Minnesota but it cannot ignore what is going on elsewhere; could the University select areas of excellence and send students away in other fields (e.g., to Wisconsin)? Professor Lanyon said he did not know how far the subcommittees will go on that kind of question. In graduate education the University is training the next generation of scholars and also helping faculty be more productive in research, and at the same time graduate students help deliver undergraduate education. If the University downsizes in some area of graduate education, would that mean faculty members in that area would not have graduate students? That is a challenge.

Another topic that comes up, Professor Lanyon said, is that some graduate programs say that there are not a lot of academic positions but that there are non-academic positions that their graduates can take. Then one must ask if the programs are training their graduate students for those kinds of positions. Right-sizing should be based on career prospects and appropriate training. Professor Orf suggested that what is needed is real-time assessment to see whether students can get positions at that time.

Professor Vaughan said the previous exchange gets to the objective of graduate programs. Some want it as an extension of undergraduate education, some want it to be more like the European experience

(where one talks to an adviser once in awhile but otherwise works independently), some want TAs—there can be nothing or a great deal expected of graduate students. He said he would like to see more focus on the definition of graduate programs; are they grooming students to be useful rather than just educating them, handing them a degree, and wishing them good luck?

Professor Nho said that some PIs face external competition and hire a postdoc in order to do more work. He also asked how the SCGE might establish incentives for hiring graduate students. Professor Lanyon said that he did not personally believe any incentives would work right now; the problem is the cost of graduate education. If postdocs are more expensive and more productive, that is something they could think about. Right now postdocs are cheaper than graduate students. Professor Thompson said the University could make postdocs more expensive. Professor Lanyon observed that salaries are set by NIH and NSF, but the University can control the cost of graduate education. It could also make the decision to be a postdoc institution rather than one that delivers graduate education.

In the end, the discussion is all about money, Professor Waldfogel said. In parallel to the strategic planning discussion, will the SCGE talk about getting out of some fields but not others? Professor Lanyon said that the SCGE is the first part of the strategic planning process; the later part will take what the SCGE provides. Higher education does not do a good job of sun-setting programs; this is an issue all must deal with: when there are limited funds, some money must be freed up for new investments.

Some students emerge without debt, some do not if they do not get a job, Dr. Wahlstrom said. The SCGE needs to talk about equity, because some students can move forward more quickly. If they do not get a prime spot, they pay out of pocket.

In terms of a number of the proposals from the subcommittee, Professor Ho said, there is a discontinuity between mission and actual practices or what the incentives are to actually do. If graduate education is really part of the mission, then the institution has to put money behind it. This is part of the institution's averseness to risk. Professor Lanyon agreed and commented that it is not as if the University is lagging behind in dealing with the issues; they are thorny issues that no one has figured out and that are a result of historical decisions. But because graduate education is so large, it will be very expensive to fix. There is an opportunity, however, and the president and provost are very interested in doing something to address the problems.

Professor Fulkerson said that although this is the Senate Research Committee, which focuses on research, when someone says that postdocs fit the University mission better than graduate students, that is not accurate because there is not just one mission at the University. It has a teaching mission as well as a research mission. Professor Lanyon agreed but said that the cost structure is out of alignment. Professor Fulkerson agreed with Professor Lanyon but said that she supports graduate students in her research because that work also fulfills the teaching mission; she weighs the missions when she makes decisions about who to employ.

Does the University need to put more money in undergraduate education in areas not covered by other institutions, resulting in more tuition in those areas and thus more total tuition, so there are more opportunities for graduate students in the unique areas the University serves? But if there is nothing beyond or different than the current situation, how does the University go about serving its mission as the

research university for the state of Minnesota? That has been talked about a number of times, Professor Lanyon said, and is complicated.

Associate Vice President Lawrenz asked if there has been any work by the SCGE on change in the national agenda (such as raising the salaries of postdocs, which are abysmal). If the NIH would recognize the value of paying a living wage, that would make hiring students easier. The cost of postdocs is not controlled by the University and the low salaries suggested by NIH support the rest of the science enterprise on the backs of people who are poorly paid.

Associate Vice President Webb pointed out that NIH will not fund, and indicates that the institution should not pay, compensation for graduate student in excess of the stipend received by a postdoc with 0 years of experience performing comparable work. "Compensation" for a graduate student includes salary, fringe, *and tuition remission*. Thus, when a large portion of graduate student compensation is tuition remission, this reduces the amount that is available to be paid to the student as salary and fringe benefits. If the University were ever to choose an institution-wide policy of "waiving" tuition so that it never needed to be calculated into a graduate student's compensation package, this could "free up" dollars that could be paid directly to NIH-funded students while remaining compliant with NIH regulations.

At the national level, are postdoc salaries low because of an oversupply, Professor Gini asked? Are there a lot of biologists willing to work for small amounts? That isn't the case in engineering. The question is whether institutions are producing too many students, but some fields have a greater demand than supply. It may be underlying market forces that make postdocs cheap in some areas, making it hard to push NIH on the salaries. Dr. Lawrenz agreed but said that NIH is holding salaries down artificially. Professor Kyba disagreed; he said NIH was holding the salaries up. If they increase, PIs will start hiring technicians and the like instead of postdocs. He said he supports postdocs; they are trainees and there is nothing more satisfying than to see a postdoc take a position. They are part of the same educational mission as graduate students. The reality is pressure, Professor Nho said, so PIs hire postdocs.

Professor Ho said it was not necessary to position one against the other; she questioned whether this is a zero-sum game.

Professor Gini asked about another issue: are Masters and Ph.D. students all graduate students? Sometimes the Masters programs are seen as critical and some of them generate tuition revenues. Is the SCGE discussing them? Professor Lanyon said the charge to the SCGE is to focus on Ph.D. programs that are evaluated by the National Research Council. In the last ten years there have been many committees have talked about graduate education at the University and many of their recommendations have been implemented; for the SCGE, however, the provost recognized that graduate AND professional education was too broad a charge so asked the SCGE to focus on piece, one that relates to the national visibility for the University. But the work of the SCGE will not be the last discussion of the topic.

Professor Orf commented that the University is the land-grant university and the research university in Minnesota so there are some things it is expected or required to do that are not necessarily recognized by the National Research Council, and that must be kept in mind. Professor Lanyon responded that they are not saying the University should only offer Ph.D. programs evaluated by the NRC, only that that is what the SCGE was charged to look at. A question to be addressed later is what role the Graduate School should play in professional education. He also emphasized that graduate

education does not have visibility; when people think about education at the University, they think immediately of undergraduate education—or Law or Medicine. Many do not understand the role of graduate education and the difficulties are compounded if they get mixed together, so SCGE is focused.

Professor Gini asked about the number of departments that offer Masters degrees. Typically they pay back students in their job and can become a glorified undergraduate degree. Dr. Saunoi-Sandgren disagreed; she noted that the Humphrey School only offers a Masters degree (in public affairs) and graduates go into public careers that are not necessarily that lucrative; they embrace people who want to obtain more education and go into lower-salaried jobs. They also lose students to other institutions that offer better packages; she said she cannot imagine how some of their students make it if they leave with a degree and debt.

That is part of the dilemma, especially because it can become a question of equity, Dr. Wahlstrom noted. Her research center may offer either a single 0.5 research assistantship or two assistantships at 0.25. The latter will help two students defray debt versus allowing one to walk away with no debt. Those considerations factor into their decisions, especially since their graduates often go into lower-paying jobs in the social sector.

Dr. Autry said it is a major change in postdoc administration to move it from the Office of the Vice President for Research to the Graduate School; he inquired about the details. Dr. Kohlstedt said that historically there has been no money put into postdoctoral research but the Vice President for Research did put some funding into the postdoc association. It is not clear what will happen and they will look at what they need to do to support postdocs. As they look around the country, they do not see a lot of programming for postdocs, but it is a continuation of their education. This will be on her mind, she promised, and they hope to do at least as much as Dr. Lawrenz did for postdocs.

Professor Orf said that if postdocs are going to an academic institution, they need an opportunity to teach so they can demonstrate that they have the experience. Right now postdocs only do research. That could be something to think about, because many graduate students do receive teaching experience. That varies across the University, Dr. Kohlstedt said; some units offer postdocs teaching opportunities. Dr. Lawrenz added that the postdoc association also provides professional development programs. That is different from teaching experience, Professor Orf said.

Professor Gini asked if postdocs are allowed to take classes. They have to pay for them, Dr. Lawrenz said, but the postdoc professional development funds may include a grant to pay for a class.

Dr. Kohlstedt said she has had faculty members ask what more they could do to recruit postdocs. She said she would like to think about programming that would make the University of Minnesota attractive and build its capacity, which is important to build up.

Professor Gini thanked Professors Ho and Lanyon for their report and adjourned the meeting at 3:45.

-- Gary Engstrand