

To: R. Timothy Mulcahy, Vice President for Research, University of Minnesota

From: Katharine Ku, Director, Stanford Office of Technology Licensing
Carl Gulbrandsen, Managing Director, Wisconsin Alumni Research Foundation (WARF)
Orin Herskowitz, Executive Director, Columbia Technology Ventures

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Dear Tim,

Thank you very much for the opportunity to visit the University of Minnesota's Office of Technology Commercialization (OTC) this week. We appreciated your openness and that of your team during our visit, and commend you for being willing to entertain a frank and honest discussion of the strengths, opportunities, and challenges facing the office currently and in the years ahead. In the past 2 days, we visited with the OTC professional staff engaged in technology assessment and commercialization, and members of the support staff for OTC. We also visited with you and with key professionals of the Office of General Counsel and Sponsored Projects Administration who work directly with the OTC, Deans, Department Chairs and faculty that are served by OTC, and finally, licensees, including a start-up company. We believe that we obtained a fair, balanced, and accurate perspective of the office. We provide a summary of our findings here, and attach a detailed review and series of suggestions in Appendix A.

First, by almost any standard metric, the University of Minnesota (UM) has an outstanding track record of accomplishments that put it at the highest ranks of university tech transfer offices. UM's tech transfer revenues place it consistently within the top 10 universities in the country, even though (like most of its peers) UM's revenue derives significantly from a single patent license. 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. And the current rate of invention submissions per research dollar is well within the normal range for AUTM schools. Even more impressive, the office has done so on a much more limited budget and staffing model than most of its peers. The University clearly has much for which it should be proud.

Secondly, you are to be commended for the turnaround in the office since Jay Schrankler took over 4 years ago. We heard extremely uniform positive feedback on Jay himself, on the team he has put in place, and on the process improvements he has launched. It is rare to find someone who has both the business experience to get good deals done and the temperament to be able to work well with university researchers and administrators. Jay strikes us as an excellent steward for the office.

Naturally, there are some opportunities and challenges that we would like to bring to your attention as you think about the road ahead. At a high-level, these include:

1. Expiration of a very valuable patent: Like many of your peer schools, UM faces a "patent cliff" as the Glaxo license comes to an end over the next few years. While OTC is projected to still bring in roughly enough gross revenues to cover its current operating and patent budget, after distributions to other university stakeholders, OTC will almost certainly be facing a significant budget deficit of ~\$6 – 7M per year. We strongly believe that UM needs to find a way to continue to support at least the current level of operations from an alternative budget source even after the cliff arrives.

It may be tempting to Central Administration to look for shortcuts here. For instance, one might

think that OTC should simply increase its focus on generating near-term revenues in order to make up the shortfall. However, it is widely understood within the tech transfer industry that generating significant increases in near-term revenue is nearly impossible, especially at the scale which UM would be required to do. Even assuming that the OTC team received a future “blockbuster” biopharma patent today, statistically it would take between 3 – 6 years before that patent was sufficiently developed to be able to license it, and another 8 – 12 years before a licensed therapeutic made it through clinical trials. Even within the information technology space, royalties or equity from any current patent would likely take 4 – 6 years or more to achieve. Emphasizing the generation of near-term revenues can create perverse incentives for tech transfer officers, such as demanding inappropriately high upfront fees, at the expense of future earned royalties and can also limit the number of deals that end up getting done.

It may also be tempting to slash the office’s budget during this period, in order to limit the annual deficit. We would encourage you to avoid this road. At a minimum, cutting an already lean office and patent budget will sacrifice potential future returns, since the office will be unable to maintain patents and market those patents that could be the blockbusters of the future. More importantly, as the National Academies report appropriately highlights, there are many objectives for a tech transfer office that go well beyond revenue creation. Having a strong tech transfer office is increasingly critical for local economic development, for faculty recruitment and retention, and for attracting industry sponsored research and collaboration. Cuts to the tech transfer office will undoubtedly cause serious problems for faculty service, start-up creation, and deal turnaround time.

We urge you and your new President to consider maintaining and in fact enhancing the budget for the office during the difficult period ahead, and to feel comfortable that your investment will generate both economic and non-economic returns for many years to come.

2. We believe that the office’s current budget limitations have already led to a suboptimal resource allocation that should be fixed immediately. Stanford, Columbia, and WARF all file at least provisional patents on 50 – 75% of our incoming inventions, while UM files on only 33%. We feel that this is pennywise and pound foolish. Provisional patents are relatively inexpensive (~\$2 – 7K per), and buy the university an extra year during which it can properly assess the invention and better determine what data the faculty can generate. Increasing the filing rate from 33% to 66% may cost an extra \$500K per year for the office, but would avoid the very significant risk that UM is failing to file on patents that might have turned out to be very important both economically and to society. It would also allow faculty inventions to be marketed more effectively to industry, since it is extremely difficult to get industry to license unpatented inventions even if those inventions had independent merit.
3. On the other hand, there are areas where OTC may be able to reduce current expenses. The Venture Center has been a very aggressive and promising experiment for the past years, investing heavily in providing large seed grants, recruiting and managing CEOs-in-residence, and other efforts aimed at fostering start-up companies based on promising research. However, this effort is quite expensive, and has not generated significantly more start-ups than have emerged more organically from local entrepreneurs and local and national venture firms. We recommend that OTC consider refocusing the Venture Center, emphasizing entrepreneurship education, boot camps for faculty inventors, collaborations with the business school, and connections to local angel, seed, and VC investors. Doing so could reduce OTC’s budget by ~\$750K per year, while potentially increasing service to the broader community.

4. There appears to be a significant opportunity for OTC to increase both the quality and frequency of communication to all of its stakeholders within and outside of campus. To the extent the OTC office was criticized by the stakeholders we talked with, such criticism can be ameliorated by improving communications. We address the specific recommendations in Appendix A, but broadly speaking, the office can do a better job at providing recurring information about inventions, patents, licenses, and revenue to the Deans and Department Chairs; more frequent updates about patent analysis, licensing activity and revenue distribution to faculty; more reliable invoicing and performance report requests to licensees; and more consistent messaging about the office's successes to the university, to the community, and to the legislature. Doing so would increase trust in the office, enable stakeholders to take a more active role in their intellectual property, and drive more investors, entrepreneurs, and industry partners to collaborate with the University.
5. The ability to provide the communications mentioned above appears to be significantly hampered by the state of the IT systems within the office, as well as the staffing levels around administrative and operational support. While we did not do a deep dive into this area, we understand that the current state of the data, as well as the InfoEd database, does not allow for many of the routine types of communications such as easy re-invoicing for accounts receivables; providing automated royalty reporting to faculty; allowing faculty to view their inventory of inventions and patents. In other areas, a lack of operational infrastructure has led to negative feedback from faculty and even senior administrators that responsiveness within the office varies widely, with some staffers simply not returning calls or emails. We believe the office should urgently address the IT issues (even if it means further investment) to immediately turn on the various reporting and invoices capabilities that have been flagged. We also recommend instituting a zero-tolerance policy for responding to inquiries from faculty, Sponsored Projects, and outside parties, and possibly the creation of more rigorous SOPs for managing such inquiries in a timely manner.
6. Finally, we understand that the Conflict of Interest (COI) policy was not part of the scope of this report. However, we would be remiss if we did not mention the significant confusion and frustration surrounding UM's COI policy and implementation that we heard from all corners of the university (OTC, faculty, senior administration) and from external stakeholders. In most universities with which we are familiar, the COI committee reports into the VP of Research, precisely so the objectives and policies can be synchronized across OTC, Sponsored Projects, and the COI Committee. With appropriate oversight from the General Counsel's office, this can be done in a responsible manner, while providing a clear and consistent message for faculty. We would urge the University to consider ways to provide this transparency in the years ahead.

We want to emphasize that 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. Any suggestions herein are aimed to help the office improve further, but Jay and his team have built an extremely strong base upon which to continue to grow. We wish you, Jay, and the rest of the office all of the best in the years ahead, and if we can be of further service, please don't hesitate to let us know.

Sincerely,

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