Critical Research Investments for UWM
Report of the Research Excellence Panther Team

February 2016

Preamble

UWM is Wisconsin's urban, public research university. It serves the region through its educational programs, research activity, and engagement with the community. Its underlying strengths as a research university are critical to its larger mission because research excellence attracts the scholars who bring the insights that inform outstanding instruction and the depth of understanding that drives effective engagement. Research includes a broad range of creative activities throughout the university; all share an underlying commitment to scholarly excellence.

The recent Carnegie Classification of Institutions of Higher Education placed UWM among the Doctoral Universities-Highest Research (R1) Universities. This recognition reflects the University's success in developing an exceptional research profile with national and international recognition. This accomplishment was the result of sustained, exceptional work across our research spectrum and institutional investments in research support.

In the face of ongoing budget challenges, the institution must prioritize its future investments to continue to advance its research mission. To slow progress at this point could fundamentally change the course of the university and negate the commitments and accomplishments of literally decades of work. Chancellor Mark Mone asked an ad hoc Research Excellence Panther Team to recommend key investments for advancing UWM's research infrastructure and productivity. The team included members of the Top-Tier Research University Thematic Team (TTRUTT) from the campus strategic planning work, augmented by other faculty and staff members (Appendix A). In developing its recommendations, the team reviewed past research plans (Appendix B) and discussed current needs for sustaining and enhancing the University's research activities. The team met twelve times between August 2015 and February 2016.

Past reports identified about 75 potential actions, and the TTRUT team highlighted about twenty (see reports listed in appendix B). This report identifies the most critical actions in which UWM needs to invest its time and resources to enhance its research activities.

Recommendations

The team identified six recommendations. All are important, but the most critical is to increase graduate student stipends to competitive levels.

1. Increase graduate student stipends to competitive levels

National data indicate that the average stipend levels for both teaching assistants (TA) and research assistants (RA) are approximately $15,000 (50%, 9-month rate), and considerably higher in some programs (particularly in natural sciences and engineering disciplines). Many of

our students are initially supported on TA positions with current salaries of $11,838 (master's) or $13,732 (doctoral). The Chancellor Graduate Student Awards were designed to help mitigate this gap, but are not sufficient to bring stipends to competitive levels. The result is increasing difficulty in attracting high-quality students. This threatens both our instructional and research success because of the critical role of graduate students in these activities.

The team's primary recommendation is to implement the recommendations of the 2012 study on graduate assistantships. The major points are to:

1. Establish a base stipend rate for all assistantships of $15,000 (50%, 9-month rate);
2. Make stipends equivalent for all assistantships (TA, RA, PA) within a program;
3. Recognize that some programs will require additional resources due to competition with other universities (this can be implemented through a salary increase or a supplementary fellowship), and that the supplements need to be based on national data;
4. Review stipend levels every 2-3 years to ensure that we are competitive with national averages; and
5. Provide fellowship funds to all programs for recruiting outstanding students.

The team recognizes that RA stipends were adjusted in 2013 and TA stipends increased (most recently for Fall 2015), but strongly recommends the full and immediate implementation of the recommended changes. The estimated cost is $1.25 M.

Three additional recommendations emerged from discussions:

1. The "Program Assistant" or PA title should only be used when a student is providing intellectually and disciplinarily appropriate administrative or academic support to a unit. Graduate students performing largely clerical or other work that could be done without an advanced level of expertise should be employed through other mechanisms (such as student hourly or limited term employee appointments).

2. Tuition paid by graduate assistantships should be distributed to the units in the same manner as other tuition payments, as envisioned in the new budget model.

3. A tuition rate of $4000 per semester should be adopted for graduate RAs and PAs to be collected from external awards or the appointing units (if the students are not funded by a grant). Once implemented, tuition increases should be indexed to changes in the in-state (instructional portion) graduate tuition. We are undecided about whether (a) tuition for graduate TAs should be treated in a similar way or (b) graduate TA tuition should be waived.

2. Reconfigure and increase funding for internal support programs

Several past internal studies have highlighted the need to develop larger research programs at UWM, including both interdisciplinary[1] topics and "team science" projects. These are difficult to support because they generally span academic units and require sharing of resources. At the same time our internal support programs are almost exclusively used for projects with one or two PIs.

The team <u>recommends</u> reconfiguring the internal support programs to address this campus need and to increase funding over the next several years. The proposed array of internal programs (including two new ones) would be:

- Faculty Research Travel (currently restricted to Arts and Humanities, $25-30k/yr): increase funding to make this available to all faculty and research staff. Target level: $200-400k/yr to provide travel support on an annual or biannual basis.
- Research and Creative Activities Support (currently $225k/yr due to short-term budget cuts): increase to $360k/yr to support approximately 20 projects.
- Research Growth Initiative (currently $1.6-2M/yr due to short-term budget cuts): retain for projects with 1-3 PIs with an ongoing funding of $3M to support about 30 projects.
- Collaborative Grant Development (new): support for developing large multi-investigator proposals, including those with regional collaborators. Funding would ramp up to $250-400k/yr to support development of about 10 proposals.
- Research Center Growth Proposal (new): support to develop selected teams and centers in critical areas with the potential for sustained research excellence. The goal would be to initiate two teams per year for 3-5 years at the level of $200-500k/yr, so approximately $3M/yr would be needed when fully implemented (which would take 3-5 years).

Fully implemented, these programs total about $6.6M compared to $3.7M allocated in the current budget (if short-term budget cuts cease). The recommendation is to reconfigure the current funding, and phase-in additional support over several years if the new programs are successful.

3. Assess our research progress and investments using a clear set of campus metrics

The University lacks well-developed processes or mechanisms for assessing its research progress over time or the impact of investments. This is not unusual. UW-System, for example, has traditionally counted external research funding as its sole metric. Increasing calls for more accountability have led to broadening in metrics that measure university performance, as reflected in the current effort by UW-System to develop an expanded set of performance metrics. Beyond these pressures, UWM needs a more robust approach to monitor its progress over time and to assess how we use our resources.

The team <u>recommends</u> the adoption of a set of campus-wide research metrics that balances both inputs (RAs, funding) and outcomes (publications, creative activity, graduated students). The metrics need to capture the breadth of research activity that occurs on our campus. A draft list of basic metrics on the quantity and impact of research activity is presented below. (See the TTRUTT report for a fuller discussion of metrics related to research outcomes.)

Basic metrics of research activity (both inputs and outputs)
- Number of articles, book chapters, books, conference publications, exhibits, live performances, recorded work, and original creative works
- Number of citations
- Number of publications in "top journals" (and similar)
- Number of PhD and "thesis" masters students graduated

- Number of patents, licenses, and startup companies
- Dollar amounts of research and public service expenditures from external support
- Number of faculty and scientists
- Number of national academy members and faculty awards[ii]
- Number of post-docs and RAs
- Number of undergraduates involved in research
- Research-based community metrics (needs development); possible examples are
  - Number of community partners (particularly those lasting for five or more years)

The team notes that some of these metrics will require a campus commitment to report information (such as number of articles, books and creative performances), and to put systems in place to gather other data (such as citations).

4. Increase funding to the Library

UWM's scholarly activity depends heavily upon Library and information resources, and these resources are increasingly in digital formats. Our current acquisition budget is approximately $3.4M; this should be increased to $7-10M, the level of peer urban research universities. This should include expanded access to online resources and building base collections in areas of new or expanding research activity.

5. Change HR policies to accommodate more flexible research positions

UWM needs policies and process to allow more flexibility in hiring researchers. Three needs that are difficult or impossible to satisfy under our current HR systems are:

- The ability to hire researchers on 3-5 year appointments in a timely manner.
- The appointment of research positions primarily funded by external awards ("soft money").
- The adoption of a "Research Professor" title (actually an academic staff position) for researchers whose responsibilities are limited to research. It could be used as a "working title" aligned with Scientist appointments. We recommend this because the research professor title would have a broader application than in the sciences, is widely recognized within academia, and would be more defined (and thus attractive) to potential hires. Performance reviews would focus on research preeminence due to the expectations related to such a position.

We recommend developing or changing current policies and procedures to meet these needs. A working group may be needed to determine if there are additional issues related to research appointments.

6. Reconfigure post-award activities

The current arrangement of post-award grant management places the responsibility on the PIs and their local budget office. This has resulted in a variety of problems because of the

complexity of grant expenditure requirements, and the potential mismatch of available staff support to research needs (consider a PI who receives the first federal award in a unit).

The team recommends developing a shared service model for post-award budget support that retains the distributed nature of local support with a centralized office that can shift staff time as needed, provide more uniform processes and training based on best practice, and provide better service for investigators. We recognize that other changes will be required, including (1) development of a common grant management tool for campus-wide adoption, and (2) better controls on the use of Purchase-cards linked to award budgets.

Implementation

The Research Excellence Panther Team strongly recommends establishing a team to facilitate implementation of these recommendations. The implementation team should also consider the other key recommendations of the TTRUTT report on improving the research infrastructure at UWM and how they could be implemented.

Members of the Research Excellence Panther Team would like to form the core of the implementation team because of their background in developing the recommendations and the broad perspectives represented by the members.

[i] The Committee on Facilitating Interdisciplinary Research, Committee on Science, Engineering, and Public Policy (2004) report *Facilitating interdisciplinary research* provides a useful definition: "Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice."

[ii] This metric speaks to the university's ability to recruit and retain the most competitive faculty members. The memberships and awards capture a range of disciplines: American Council of Learned Societies Fellows, Beckman Young Investigator Awards, Burroughs-Wellcome Fund Career Awards, Cottrell Scholars, Fulbright Scholars, Getty Scholars in Residence, Guggenheim Fellows, Howard Hughes Medical Institute Investigators, Lasker Medical Research Awards, MacArthur Foundation Fellows, Mellon Foundation Distinguished Achievement Awards, National Academy Members, National Endowment for the Humanities Fellows, National Humanities Center Fellows, National Medal of Science, National Medal of Technology and Innovation, Newberry Library Long-term Fellows, NIH MERIT (R37) Awards, NSF CAREER Awards, Pew Scholars in the Biomedical Sciences, Presidential Early Career Awards for Scientists and Engineers (PECASE), Robert Wood Johnson Health Policy Fellows, Searle Scholars, Sloan Research Fellows, Woodrow Wilson Fellows

Appendix A: Members of the Research Excellence Panther Team

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    David Crass, Research Cyber Infrastructure
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    Mark Harris, chair, Geosciences and Office of Research
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    Kathleen Koch, Research Initiatives (Office of Research)
    Michael Liston, Philosophy
    David Petering, Chemistry
    Nigel Rothfels, Office of Undergraduate Research
    Rachel Schiffman, Nursing and Office of Research
    Brian Thompson, UWM Research Foundation
    Cindy Walker, Educational Psychology
    Dietmar Wolfram, SOIS and Research Policy & Advisory Committee

Appendix B: Internal UWM reports

The team members drew upon their collective experience and those of colleagues. Many had participated in past internal studies that provide some of the background for the team's recommendations. Some are listed below (with the sponsoring agent). These reports can be accessed through the Office of Research website http://uwm.edu/officeofresearch/osp/research-resources/

    2005 Self-Study Report (for UWM Accreditation – see section on Criterion 4: Acquisition,
        Discovery and Application of Knowledge
    2006 Research Growth Strategies (Graduate School, Provost)
    2011 Strategic Planning for Research (Graduate School)
    2012 Preliminary Report of the Graduate Assistantship Working Group (Provost)
    2013 Report of the Research Futures Study Group (Provost)
    2014 Report of the Top-Tier Research University Thematic Team
    2014 UWM Strategic Plan (draft)