

Boldness by Design Task Force Improving Research Opportunities

Introduction and Background

The Task Force on Improving Research Opportunities, consisting of faculty, students and administrative personnel, has been asked to develop a discrete set of high priority recommendations to advance the imperative, *Increase Research Opportunities*. In considering this charge, the task force has considered the prior recommendations from the CORRAGE Report and their outcomes (see Appendix). It also considered the results of a committee constituted by the Office of the Vice President for Research and Graduate Studies charged to consider how that office could improve research productivity. The Task Force members want it understood that we had a very short period of time in which to consider a very large, complex and important topic.

In considering this background, the Task Force recognized that research at Michigan State University is driven by and directly dependent on the productivity of its faculty. The faculty are expected to be research driven and to create research opportunities. Since the awarding of tenure within five years of the start of an academic career in effect guarantees that a faculty will remain with the Institution for the rest of their career. An environment which encourages and supports high quality, innovative and productive research and which has a strong institutional commitment to creating and maintaining a vibrant research environment is a critical element in increasing both research opportunities and faculty research productivity. It is critical that we develop and promote a culture that promotes excellence in research at MSU. In making recommendations, it will be imperative to follow up on implementing the recommendations and to measure the expected outcomes of implementation of such recommendations.

As the Task Force considered the types of recommendations that could be implemented and short-term and long-term outcomes that such recommendations would have for improving research opportunities, the group was mindful of how the various pieces of the Boldness by Design (BbD) initiative fit together while focusing on enhancement of research. The group agreed that research productivity should not be simply equated with enhanced grantsmanship, but that we should look at research and scholarship more broadly. Furthermore, there is not a one-size-fits-all plan to enhance research but the group suggests a more differentiated approach.

Recommendations to Increase Research Opportunities at Michigan State

1. Climate, Culture and the Promotion of Research

The Task Force has the sense that the University should continue to promote a culture and climate that supports and rewards research. To advance our research agenda, the University is challenged to promote excellence in research as part of our culture in communications with external and internal audiences (on our web pages, in the local and national media) – as a way of showing that we value and

produce excellent research, and that MSU places a strong focus on scholarship. The University's public image should have a complete make-over, and put forth a more complete and engaging presentation of who we are and how we are uniquely valuable to the community, both locally and world-wide. To achieve this, the University needs to develop a strategy to competently communicate research to diverse audiences. One short-term action might be with a University-wide seminar series featuring eminent campus scholars.

We should look for ways to reward excellence in research and scholarly activities, not just with the limited University awards. The University should consider ways to support flexibility in balancing faculty teaching loads for research-intensive faculty. We recommend increased central support to help faculty in their development of major collaborative grants, including center and program project grants, as well as training grants. The rewards to the key leaders of such proposals are sometimes seen as small but the value and importance to the University is significant; thus mechanisms to provide incentives or rewards for such activities should be developed.

In developing this culture, the University should seek to inculcate and reward high-quality research across the entire University, while also setting priorities and identifying core areas of strength. One short-term action would be to establish a research advisory council comprised of key faculty and administrators to help set research priorities. This advisory council could be comprised of research associate deans, e.g., a sub-set of the Science and Technology Committee, but might also include distinguished research faculty. For example, the Biomedical Research Advisory Committee (BRAC) served such a function several years ago.

The development of a University-wide culture that shows the value of the research and scholarship activities may entice programs and offices supporting researchers to be more user-friendly, pro-active and less focused on risk aversion.

2. Consider ways to improve the research infrastructure and improve or expand resources that support faculty driven research.

There is an urgent need for seed funding to initiate research programs, especially translational and multidisciplinary research projects. This need was also recognized by the CORRAGE report, but its recommendation was only partially implemented (funds were provided to the OVPRGS, but not to Colleges and Departments). The University should continue to support the development and expansion of core research facilities and equipment that serve a significant fraction of the research community and the key research strengths of the University.

Special attention should be paid to improving the University's cyber infrastructure. The University anticipates an increase in the number of new faculty who will have computationally intensive research projects. There is a

need to invest in suitable space that can support the expansion of the computer systems. Also cyber infrastructure on campus is very unevenly distributed and largely inadequate in key areas that are increasingly important to funding agencies.

Research faculty are increasingly important at MSU and at peer institutions to pursue emerging research opportunities with agility and vigor. We propose to examine the various existing forms of research faculty positions at MSU and to develop an institution-wide strategy to enhance the profile of these positions and to provide a more uniform level of institutional commitment to faculty in these positions.

The costs for supporting postdoctoral research associates on research grants at MSU has become much higher than some of our sister institutions because of the SI system, high health care costs and because of the requirements for enrolling in the retirement plan. Recent considerations of the health care benefits have led to a proposed decrease in the fringe costs for research associates. The University should assess (in the context of peer-institutions and national trends) and then restructure position descriptions for postdoctoral personnel including research associates and non-tenure stream faculty position; consideration should be given to the development of a classification, which is time-limited and not required to have retirement benefits. The University should increase its efforts in increasing funding for endowed postdoctoral students and graduate students.

3. Consider ways to expand student research experiences

The task force recommends that increased resources be made available for graduate student support. This recommendation was also made by the CORRAGE report, and while the University Distinguished Fellowship program was funded, more improvements need to be made, but only modest improvements were made. The University has very few graduate training grants and the University should consider ways to expand the number of these applications. We should gather data to determine if fringe and tuition costs for research assistants on grants and on external fellowships is high compared to peer-institutions. We recommend that the University provide out-of-state tuition waivers for graduate students who have an externally-funded fellowship package worth at least \$20K/yr (when including stipend and in-state tuition). This would improve the quality of graduate education by increasing the competitiveness (and therefore the number) of externally funded fellowship support packages.

The University should also support the expansion of research opportunities for Undergraduates. The Colleges and University should encourage and promote NSF Research for Undergraduates (REU) proposals. One suggestion is for the University to provide undergraduate student research stipends to complement graduate student fellowships in support of the mentoring of undergraduate research projects.

4. Provide more uniform pre-award assistance

Some departments and colleges provide extensive pre-award assistance to faculty. However, support for faculty in grants development is very uneven across the University. In addition, with ongoing budget cuts the number of unit personnel who can help with grant preparation has been significantly diminished. And finally, faculty time is best spent considering the scholarship of a proposal and staff can provide more efficient assistance in developing the boilerplate of the proposals, and assuring compliance to the guidelines and regulatory constraints of the funding agencies. Since regulatory constraints on research is an ever-growing issue, attention to and an understanding of the latest regulations might most effectively be carried out by the research administrative staff at the college or University level. In addition, development of large center and training grants by a large group of faculty requires facilitation and research administrative professionals within the Colleges and/or the OVPRGS can assist with the development of such projects.

It was also noted that there is a need for better targeting of information about funding opportunities. There needs to be a good network of research administrators where data bases of research expertise can be matched with funding opportunities. Several colleges are developing their own databases of expertise, grants submitted, grants awarded, etc., because the present systems are not robust. It is recommended that, with the development of the new financial information system, the data on grants submitted and awarded will be more robust, complete and can be used to extract reports and that this will be maintained centrally for efficiency.

5. Improvement of processes and procedures that create barriers and implement policy and process changes that could advance research activities at MSU

To consider what changes are needed to improve research opportunities, a longer-term recommendation is the implementation of a year-long, comprehensive assessment of present practices, policies and procedures by an MSU task force. Resources from outside the institution should be made available if needed. From this assessment, possible changes in policies and procedures should be considered. Such an assessment might also suggest some restructuring of the research support/administration continuum related to sponsored projects from Departments to Colleges to Central Administration. Approaches for implementing any of the recommendations might be developed by an internal task force assessment that interfaces any recommended changes with the changes being proposed for the FIS-HRIS systems.

Recognizing that successful research proposals are a shared responsibility of researchers and research administrators, we recommend that mechanisms be put in place to create a feeling of partnership between stakeholders and to resolve emerging issues quickly.

We recommend that the University develop systemic sustainable processes and structures that are adaptable and responsive to researchers' needs. Over 15 years ago the CORRAGE report recognized that processes and procedures in Contracts and Grants Administration needed to be streamlined, and progress has been made. However, based on more-recent input from faculty and administrator focus group as part of the OVPRGS study, CGA is viewed as understaffed, inefficient and not service oriented. We recommend that CGA implement a mechanism with which it continuously measures customer satisfaction and with which stakeholders are informed of bottlenecks.

Faculty groups also indicated concerns with the delays in processing through the Office of Intellectual Property, and there is a concern about processing animal use and human subjects approval forms – that the processes are laborious and slow. And finally there was some concern with the procedures required by purchasing.

Conflicts that cannot be solved could be brought forward to an appropriate representative in the Office of the Vice President for Research and Graduate Studies for mediation and resolution.

The policy for distribution of overhead credit on multi-investigator, multi-unit and multi-college proposals can create significant barriers to grant development. Different units and programs have developed different policies for distribution of credit and negotiating agreements among these various units can create huge obstacles for grant development. A common policy should be developed by the University, but one which can be modified, upon agreement of the principle investigators, chairpersons and deans.

This is a critical time to consider improving these processes and procedures. First, all of the federal funding agencies will eventually require proposals to be submitted through grants.gov. This on-line submission process is cumbersome and fraught with problems and potential delays. Secondly, the University is in the process of reviewing present policies and procedures related to financial systems and human resource systems and considering what practices should be changed with the implementation of new software support systems.

Appendix

The Council on the Review of Research and Graduate Education (CORRAGE) was constituted and developed a report targeted at improving research and graduate education at Michigan State University. In 2000 there was a review of the CORRAGE

recommendations, to determine the outcomes of these proposals. In the section on research, the recommendations that were reviewed and their outcomes are summarized:

1. Recommendation: Increase research facilitation grants (RFG's) to colleges, departments and the VPRGS was not implemented.
Outcome: Was not completely implemented. RFGs increased to VPRGS only
2. Recommendation: Establish a "CORRAGE fund" of \$5-\$7 M/year to support graduate education, examine assigning revenues to MSU Foundation and use these to support research and graduate education
Outcome: Funding to graduate school and for various internal fellowships was provided from general funds and reassigning Graduate School operating funds.
3. Recommendation: Strengthen research infrastructure and increase faculty input into space and other resource allocations
Outcome: Support for research facilities was expanded by the VPRGS. Student information and technology fee raised to \$50/semester, which is presumed to support cyber infrastructure in addition to the special, \$10.4M TLE fund.
4. Recommendation: Establish a Dean of the Graduate School and Assistant Provost for Graduate Education (one person?)
Outcome: Implemented
5. Recommendation: Establish a TA training and orientation program
Outcome: Implemented
6. Improve recruitment of graduate students
Outcome: Umbrella recruiting in the life sciences implemented to a degree. Other aspects in progress

One additional recommendation from CORRAGE was to "streamline contracts and grants procedures". The outcome was that the Gift and Grant form and the Transmittal form were combined. Also subsequent year funding on continuing projects is now accepted without a new transmittal form. CGA was reorganized with 4 section leaders, each with signature authority. "Advanced accounts" were created for awards that take longer to finalize, the CGA Director has come under the VPRGS staff to encourage communication and feedback. CGA now can review both FAX and email budgets prior to walk-through. Finally CGA developed a robust web page.

Thus it can be seen that some of the recommendations made in 1990 were implemented, but a number of critical issues still need attention. The task force has attempted to focus on those issues which are particularly critical for improving research at MSU.