

50-100 RESEARCH AND GRADUATE STUDIES INTERIM REPORT
Compiled by the Division of Research and Graduate Studies
Updated on August 7, 2009

The following report was originally prepared in November 2008 by the Research Implementation Committee with input from the Research Council. The current version reflects updates since the first interim report.

The report is organized using the “Research Priorities” identified through the strategic planning process. Each priority was assigned to a committee of the Research Implementation Team, and each committee sought to address each numbered item. Many of these priorities represent large, ongoing projects that will require additional input and discussion; however, the status of each item is addressed below. New or revised priorities recommended by the committees are added at the bottom of each section.

Strive to Increase Quality and Quantity of Graduate Student Stipends

1. Use access funds to expand recruiting of highly qualified students

With input from GPSA President Jessica Lucero and assistance from Norm Bedford and Craig Organek, the committee proposes to design a series of scholarship programs (funded by graduate access monies) to financially benefit diverse groups of graduate students, including graduate assistants. These funds will also be used to support graduate students with need as part of our revamped GA program (see below).

2. Increase grad student scholarship support

With assistance from GPSA President Jessica Lucero and representatives of the UNLV Foundation, we have begun to expand outreach efforts to increase graduate scholarship and fellowship support on campus. The Hermsen Fellowship is the first new fellowship born of this type of collaboration; it will be awarded for 2009-2010. Next steps involve reaching out to college development officers on campus to propose collaboration in the area of graduate scholarship and fellowship fund development during the 2009-2010 academic year. We have prepared and begun distributing high quality documentation that we will make available to these stakeholders.

3. Change formula funding

This was pursued by UNLV during the 2009 legislative session, with assistance from the GPSA, but with limited success largely due to the budget crisis.

4. Establish graduate student housing as a recruitment mechanism

Team members, representatives from Student Life and Student Housing, and the Mid-town UNLV project have met to discuss needs and plans for graduate student and family housing.

We are working with Student Life to add graduate housing information to their website. We are now also working on promoting available housing options and to highlight plans for future graduate housing via the Graduate College website, and to open a campus dialogue on graduate housing needs. If an assessment is deemed necessary, we will conduct a study of graduate students' housing needs. We continue to work with the GPSA on this, as it is an issue of some concern to this group.

Additional Priorities Not Included in the 50-100 List

- **Reorganize and revitalize our GA Program**

Working with the Provost's Office, the Division of Research and Graduate Studies is developing a plan to raise state-funded GA stipends, to better monitor use of GAs, and to reallocate GA funds in order to incentivize FTE generation and critical research activities and areas, including graduating doctoral students. This plan will be finalized in Fall 2010.

- **Promote external research awards as a means to support graduate student research and training**

The Graduate College continues to work to promote the inclusion of graduate assistant lines in faculty grants. The Graduate College Professional Development Committee will be releasing a Research Certificate program, including a grant writing component, to encourage graduate student research activity and funding.

- **Examine how state-funded GA lines are used now**

The committee is collecting and analyzing new data on how state-funded graduate assistants are being used in graduate programs. We will be able to report the number and percentage of graduate students whose roles focus on teaching, research, both, and/or professional development.

Continue to Define our Research Programs As Defined by Focus 50 to 100

1. **Continue discussions with faculty stakeholders to create an inclusive research environment**

Faculty stakeholder discussions have commenced through the 50-100 planning process, as well as the process for planning for occupancy and management of the Science and Engineering Building. This process will need to be expanded to include the larger campus. Also, implementation of the Digital Measures software application is being planned, and recruitment of a faculty project lead is being discussed. The application will create a faculty expertise database that will seek to improve faculty communication about and collaboration in research. Additionally, a campus meeting was recently held regarding funding opportunities related to the American Recovery and Reinvestment Act (ARRA). At this meeting, faculty were encouraged to collaborate in core focus areas such as water, energy,

education, and health. An ARRA website was developed at research.unlv.edu/recovery to identify these opportunities and encourage faculty to pursue them.

2. Publicize research activities more broadly – brand efforts

This effort is currently being addressed through a variety of internally produced media, including *UNLV Innovation*, the “Voices of Research” video, a redesigned research website, *UNLV Magazine*, and numerous publications produced by the colleges. Several colleges (e.g., Sciences) have active campaigns to publicize their research efforts and activities. A few departments publicize their research activities in their departmental newsletters (e.g., ECE Newsletter, 2008). The UNLV Foundation also promotes news of private gifts used to support faculty research in its “Inspiring Achievements” online newsletter. Additionally, with recent concerted efforts by the UNLV Public Affairs Department, media coverage of UNLV researchers and their projects in the local and regional press has been more abundant and more positive in the recent years.

3. Focus faculty hires on high needs areas

This process has been under way in units such as chemistry (e.g., materials chemistry and radiochemistry) in the last few years. However, budget constraints may delay pursuit of this goal, as limited faculty hires are anticipated in the next biennia and possibly beyond. It should be noted that the delay in addressing this goal makes it increasingly important for the university to place emphasis on high quality programs in research focal areas. Increasingly, the university must work to acquire and utilize external funding to build faculty in key areas. This is already occurring in certain areas. For example, as part of the NSF EPSCoR project, there will be three targeted faculty hires starting in Fall 2010 and 2011 in Urban Affairs, Science, and Engineering related to climate change. Additionally, a new biomedical hire was made in Life Sciences in 2009 through the NIH INBRE program; our renewal proposal requests two additional biomedical hires in the next several years.

4. Develop quality of the existing graduate programs

The Graduate College and the Graduate Council continually seek to improve processes to enable graduate coordinators and students to focus on the quality of the academic experience rather than administrative/business practices. A variety of electronic initiatives have been launched in the last two years that have streamlined processes immensely, including electronic storage of records, creation of a portal for graduate students to track their progress, and enhancements to the online application process. Program review protocols have been recently updated and improved, and the Graduate College is heavily involved in the accreditation process. Assessment of quality of graduate programs is a continuing process as well. Resources are being dedicated to support graduate student professional development and their research endeavors through programs in the Graduate College and GPSA. Finally, the Graduate College is researching numerous strategies to improve support for graduate assistants in an effort to recruit and support the best and brightest students, who make up the backbone of our graduate programs.

Additional Priorities Not Included in the 50-100 list

- **Continue discussions to specify research focal areas that are responsive to the needs of the community, state, and Intermountain West region.**

These discussions might well be guided by the 2008 Brookings Institution report, titled “Mountain Megs: America’s Newest Metropolitan Places and a Federal Partnership to Help Them Prosper.” In this report, the Las Vegas metropolitan area, as part of the rapidly growing Intermountain West, was urged to address the infrastructure issues of water availability, transportation, and renewable energies, as well as the social/cultural issues of health, education, and immigration. Also, of obvious importance is growth and diversification of the economy. The argument could be posed that these critical issues should guide the university’s primary research agenda and that the university should serve as a leader in a collective response to the documented challenges associated with these critical issues. To that end, UNLV recently hosted a campus meeting, titled “A Bridge to Somewhere: Nevada’s Summit on Federal Priorities,” to begin addressing these issues. Approximately 80 business, government, and community leaders attended the event to participate in discussion of public priorities in the aforementioned areas.

Additionally, a new partnership with The Brookings Institution will be announced in September that will establish the Brookings Mountain West Initiative at UNLV. This initiative will bring the institution’s core mission of conducting high-quality, independent, and impactful public policy research to the Mountain West and will foster significant interaction between Brookings scholars and UNLV faculty, staff, and students.

- **Encourage faculty to develop innovative and transformative research**

Funding agencies such as the National Science Foundation and the National Institutes of Health are now evaluating research ideas on a relatively new criterion: the ability of an idea to transform the discipline. “Transformative research” is generally defined as research that has the potential for a major paradigm shift in a field of study. NSF defines this as a research idea that “has the potential to change the way we address challenges in science, engineering, and innovation.” NIH defines this as research that is “innovative, original, or unconventional research that encourages researchers to seize unexpected opportunities and cultivate bold ideas regardless of the anticipated risk.” Given the relative recent commitment to this criterion, UNLV faculty must be made aware of it and encouraged to use it as a guide for developing and conducting their research. Two NSF proposal development workshops were held in June and July 2009 to help faculty develop high quality proposals and address NSF requirements regarding intellectual merit and broader impacts.

Develop Mechanisms to Promote Research Collaboration

1. **Use Digital Measures to create a research expertise database**

One of the uses of the Digital Measures software application is as a faculty expertise database. Faculty will be able to enter information on their own expertise areas and search out others who share those interests. Negotiations with Digital Measures are still under way; however, some delays may alter previously projected timelines recommending that piloting of the system begin in late 2009. The implementation team will continue to coordinate with the Digital Measures task force.

2. Creative incentives that encourage collaborative research

Past President's Research Awards (PRA), Research Infrastructure Award Program (RIAP), and the EPSCOR programs have required collaborative research with faculty from multiple units. (The PRA and RIAP have been discontinued, however, due to lack of funding.) In addition, the recent Urban Sustainability Initiative Urban 21 Seed Grant Program supports interdisciplinary research teams. Focal areas of research are being developed to align with community needs such as those identified in the Brookings Institution's aforementioned "Mountain Megs" report. It is anticipated that new initiatives related to The Lincy Foundation and the Brookings Institution will further encourage collaborative research.

3. Embed collaborative research into promotion and tenure and/or annual review and merit

Definitions of what constitutes collaborative research must be established, as well as appropriate rewards for such activity. Discussions of these variables must include the Provost, deans, chairs, and the Faculty Senate.

4. Facilitate graduate students working across department boundaries

No discussions have occurred on this topic. The Graduate College, graduate coordinators, the Faculty Senate, deans, and chairs will need to be involved in these discussions. A first step is to compile the requirements from all the graduate programs to see how many limit the ability of students to take classes outside of their disciplines. The appropriate units should then be involved in discussion on how to overcome these barriers. Another step would be to develop and offer more interdisciplinary master's and Ph.D. programs across units. Several of these already exist (e.g., Water Resources Management Program), and several more are in the planning stage.

5. Use SEB to encourage collaborative research

Several of the SEB core labs (e.g., GIS, Remote Sensing, and Applied Geophysics labs) are led by interdisciplinary researchers. An inventory of the labs should be completed, and those that are interdisciplinary should be identified. Periodic seminars planned for the SEB will feature faculty research team leaders who will discuss the work of their teams. This seminar series will serve as a forum for developing collaborations and funding proposals across disciplines; non-SEB occupants will be encouraged to attend. The SEB Faculty Operations Committee that is being created will handle this task beginning Fall 2009.

6. Encourage research that brings practice and basic research closer together (transformative research)

The committee recommends that Priority #6 be replaced by the following two priorities. (Also, it should be noted that transformative research is addressed above. Given that it is not necessarily considered collaborative in nature, transformative research is not addressed in this section.)

- **Develop interdisciplinary research teams that address the needs of community**

New initiatives (involving The Lincy Foundation and the Brookings Institution) are expected to establish greater links between community needs and issues and the research of UNLV faculty/staff/students. Additionally, the request for white papers in FY10 appropriations was aligned with UNLV research priorities and reflected the needs of the community. Faculty were asked to identify how their works fits into hard infrastructure (energy, water, transportation, built environment), soft infrastructure (health care, education, immigration, land use policies), and innovation (commercialization, economic diversity/growth). The current EPSCOR project on climate change addresses the potential impacts in Nevada. The Division of Research and Graduate Studies has led several efforts to bring together interdisciplinary research teams related to healthy communities, regional transportation (e.g., Maglev and Ivanpah Airort), and climate change education (at UNLV and K-12).

- **Encourage collaboration with outside partners**

The Office of Research has been meeting with outside partners to identify ways that collaboration can be facilitated. A memorandum of understanding is being developed for library and computer access for outside partners. In addition, the focus of the Harry Reid Center for Environmental Studies was assessed and the activities are now better aligned with projects by faculty in academic departments. Developing an exchange seminar series with local research-oriented agencies and institutions, such as the Environmental Protection Agency and the Desert Research Institute, may also foster collaboration. Additionally, new relationships with nonprofit agencies in the community are anticipated with a new partnership with The Lincy Foundation to be announced later this month.

Create a Culture of Research Excellence

1. Additional promotion for senior faculty to encourage life-long research

No discussions on strategies to achieve this specific priority have occurred; however, an increased emphasis on the value of research should be incorporated into the faculty reward system in general (annual evaluation, merit, promotion and tenure, research reassignment, sabbaticals, and allocation of laboratory space). The system needs to consistently reward high quality research and creative activity. In addition, cross-disciplinary research should be encouraged, acknowledged, and rewarded. Annual evaluation and merit formulae for such

faculty should then place more weight on research productivity. As a step in this direction, the implementation team began collecting existing policies on rewards in Spring 2009. The committee recommends the colleges and schools form ad hoc committees to determine what constitutes high quality research and creative activity; while based on objective criteria, such a determination must begin with faculty within each discipline.

From the data collected on the merit, tenure, and promotion criteria from various colleges, it appears that all colleges do place high value for scholarly activities and reward faculty through high merit increases, work load reassignment, and promotion and tenure. Individual colleges should determine what high quality scholarly activity is and some colleges have done this already. This issue should be discussed in the Deans' Council for each dean to take appropriate action.

2. Raise funds for endowed chairs and grad scholarships

The Division of Research and Graduate Studies has identified graduate fellowships as a priority for private fund raising and has partnered with the UNLV Foundation on a number of promotional pieces to educate prospective donors about fellowships. Additional discussions with UNLV Foundation (and prospective donors) will be pursued regarding support for endowed chairs. The effort has already produced a new graduate fellowship in the life sciences area, the Hermsen Fellowship, which will be awarded this fall.

A gift of \$14 million is expected to be received from The Lincy Foundation, establishing a new partnership between the university and the community. This partnership is expected to mobilize the best research faculty to address critical community needs in Southern Nevada's urban environment in the areas of education, health, and social services. Support for student and faculty researchers is anticipated through this project.

3. Change department cultures with clustered research hires

Discussions on this subject have not yet occurred. The Division of Research and Graduate Studies will need to engage deans in a new hiring paradigm that allows cross-disciplinary hires in key focus areas, rather than the historical FTE-based hiring to meet teaching needs within departments. In addition, clustered research hires within departments may be used to refocus a group or department on research.

Some of these types of hires have already been made, including:

- Scott Abella was hired (non-tenure track) by the Public Lands Institute with a negotiated 20 percent appointment in Life Sciences. His current academic appointment is in Environmental Studies, but he is still mainly associated with the PLI.
- Bo Bernhard was hired several years ago as a cross-disciplinary faculty member and now has tenure in two academic departments (Sociology and Hotel Administration) from two separate colleges.

This issue should be discussed in the Deans' Council and a plan should be developed in cooperation with the VPR for future hires.

4. Maintain low loads for research-active faculty

A workload policy for reducing course loads for research active faculty is already in place in the College of Sciences and College of Business. Other colleges, especially the Howard R. Hughes College of Engineering, should be encouraged to adopt a similar policy. The current policy allowing for buyout of a course with grant funding is excellent and is in use in the College of Engineering and College of Sciences and should be encouraged across the university. A more comprehensive policy will need to be implemented before this can occur across the whole campus. See above discussion regarding priority #1 of this section.

5. Incentivize competitive grant writing

This goal was addressed for a limited time through the now-discontinued President's Research Awards, which supported faculty acquisition of competitive awards. Meanwhile, new expectations of appropriations request awardees have been established; they require awardees to pursue competitive funding after receiving appropriations. Competitive grant writing (independent of the outcome) should be rewarded with merit, workload reduction, and tenure and promotion. Three grant writing workshops (ARRA, NSF) were conducted in Spring and Summer 2009.

Improve Research Infrastructure

1. Use Hobson's Index for Grad Student Tracking

The Graduate College has expanded use of the Hobson's Enrollment Management Technology Solutions system to enhance the ability of the Graduate College and graduate coordinators to track graduate student progress. The students also now have a portal through which they themselves can track their progress. The Division of Research and Graduate Studies has also developed a system for online reporting for admissions/enrollment reports. In January/February, the next phase of the Hobson's system will be implemented with the introduction of an enhanced online application process, called "EMT Apply Yourself." This new product will provide students with greater convenience and ease in applying to graduate school, as well as provide the Graduate College with a much more effective means of communicating with prospects and applicants. Finally, this system will offer tremendous support for graduate coordinators and graduate programs by shifting some of the application processing from their offices to the AY portal managed by the Graduate College.

2. Improve grant writing support

This is being partly addressed through more focused and unit-specific pre-award support through the Office of Sponsored Programs. At present, there are no centralized “grant writers” on the campus staff; however, the Division of Research and Graduate Studies does provide a pool of off-campus contract grant writers who can be utilized by faculty, and the division also provides funding to hire them. To date, four campus units have utilized this service, and the division plans to continue to offer it. Several colleges also provide grant writing support to the faculty.

3. Restore campus F&A recovery

This has already been planned in our F&A (facilities and administrative) negotiations with the federal government. UNLV has negotiated a timetable for submitting our next F&A proposal, which will allow sufficient time for our two new buildings (SEB and Greenspun Hall) to open and to be fully occupied, and for sufficient operations data to be produced to elevate our F&A rate to a level comparable to our pre-2007 rate.

Additional Priorities Not Included in the 50-100 list

- **Fast-track technology commercialization**

The Division of Research and Graduate Studies is aggressively moving to protect IP through filing of patents and provisional protection through off-campus counsel.

- **COI and Export Control**

The campus has initiated conflict of interest training for all academic units, as well as an official campus-wide reporting structure to meet nationally recognized standards in this area. Similar structures are currently being established for export control guidelines.

- **Electronic protocol service for IRBs, grant routing for sponsored programs, and other electronic initiatives**

A significant effort has been undertaken over the past year to effect a fully electronic (paperless) system for Institutional Review Board protocol submission and processing through the Office for the Protection of Research Subjects, and for internal grant routing and agency proposal submission through the Office of Sponsored Programs. We anticipate both of these important processes to be fully electronic by spring 2010. We are also rolling out an electronic “time and effort” reporting system for sponsored programs that will streamline that process and improve our compliance in that area. The division is also moving forward on having research-active emeritus faculty assist in campus IRBs.

- **Biosafety**

This issue has been partially addressed through the formation of Biosafety and Chemical Safety committees and the application for a Type A Radiation Safety license.

- **Building Support**

The division hired a director and dedicated operations manager for the Science and Engineering Building, UNLV's new state-of-the-art interdisciplinary research facility.