

Task Force on Research and Creative Excellence

Final Report
January 5, 2010

***Committee Charge:** Articulate priorities for enhancing areas of excellence in research, scholarship and creative work at The University of Iowa. Make recommendations on the broad interdisciplinary themes that will distinguish the University in the years ahead.*

Chair: Michael Cohen, Professor, Pathology

Co-Chair: Kate Gfeller, Professor, School of Music and Communication Sciences & Disorders

Members:

Matt Brown, Associate Professor, English

Greg Carmichael, Associate Dean, College of Engineering

Alan Christensen, Professor, Psychology

Mary K. (Kathleen) Clark, Professor, College of Nursing (replacing Toni Reimer)

David Depew, Professor, Communication Studies

Vicki Grassian, Professor, Chemistry

Sara Mitchell, Associate Professor, Political Science

Jeff Murray, Professor, Pediatrics

Cheryl Reardon, Assistant Vice President, Office of the VP for Research

Robyn Schiff, Associate Professor, English

Clark Stanford, Associate Dean, College of Dentistry

Peter Thorne, Professor, Occupational & Environmental Health

Ex officio:

Barbara Eckstein, Associate Provost for Academic Administration

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Executive Summary

The University of Iowa (UI) has a long and rich tradition of research and creative excellence spanning diverse areas of scholarship. This reputation is national, and in many instances international, and a reflection of the creativity and effort of the faculty, staff, and students at UI.

The Task Force on Research and Creative Excellence was convened by the Provost in May 2009 to: “Articulate priorities for enhancing areas of excellence in research, scholarship, and creative activities at The University of Iowa, and to make recommendations on the broad interdisciplinary themes that will provide distinction to the University in the years ahead.” Inter-, multi-, trans-disciplinary collaboration (referred to collectively as IDR) has become an essential aspect of contemporary research because many of the problems facing society are complex and require involvement from multiple disciplines and units that cross traditional boundaries. In fact, many of the ‘grand challenges’ facing the world that have been identified by a variety of distinguished organizations, (e.g. the National Academy of Engineering, the National Endowment of the Humanities, the National Institutes of Health, the National Science Foundation, and the Gates Foundation) all require IDR for viable solutions. In addition to the potential research and creative synergies possible through IDR (as noted above), our task force has considered the current fiscal milieu and the importance of extramural support in formulating our recommendations.

Our Task Force focused on five specific charges:

- 1) What is the existing and future infrastructure needed to support research, scholarship, and creative activity? In what ways can the re-conceptualization and rebuilding of the arts campus support research, scholarship, and creative activities?
- 2) What are the barriers to IDR collaborations and how can they be lowered or removed? What factors have been identified as beneficial to successful, high quality interdisciplinary collaborations that already exist on campus?
- 3) How can the University better incentivize the faculty to seek increased extramural support for their research, scholarship, and creative activity?
- 4) How can the University encourage and support research, scholarship, and creative activity that benefit the State of Iowa and its citizens through economic development and community engagement?
- 5) Given current resources and realistic enhancements, what are the 5 to 10 areas of research, scholarship, and creative activity that will provide the University international eminence and distinction in the next five years and into the future?

Recommendations

With respect to these charges, we make the following recommendations:

- 1) Infrastructure:
 - Provide adequate skilled Information Technology (IT) support staff, additional equipment, and expanded central IT facilities.
 - Build and/or purchase physical infrastructure and equipment essential to create vibrant environments for research and creative endeavors.
 - Increase administrative support for pre and post-award administration.
- 2) Interdisciplinary Collaboration:
 - Implement the recommendations of two prior task forces (Apicella and Grassian reports) that have examined IDR.
 - Form an advisory committee that addresses promotion and tenure matters specific to inter-, multi-, and trans-disciplinary activities.
 - Establish an advisory committee to evaluate collaborative centers, proposals, and to provide seed money.

- Establish a facility on the east side of campus (similar to IIBD on the west side of campus) that would facilitate IDR and creative excellence.
- 3) Incentives:
- Develop a university-level policy by July 1, 2010 that articulates formal faculty research incentive plans for each College.
 - Create faculty incentive plans adequately flexible to address differences in culture across academic units.
 - Ensure that faculty incentive plans will incorporate a threshold salary offset model that allows salary offset to be used for program development or direct remuneration.
 - Ensure that faculty incentive plans will be supported by a reallocation mechanism to return a meaningful percentage of the indirect costs to the unit (typically the College) above a base level of faculty and administrative (F&A) support.
- 4) Community and Stakeholders:
- Ensure that engagement and outreach activities are rewarded in review and promotion processes.
 - Produce and maintain a website listing all University of Iowa outreach activities.
 - Include representation of University researchers and scholars on relevant steering and planning committees related to outreach.
 - Develop enhanced educational materials that clarify the role of economic development and technology transfer in the outreach and engagement missions of UI.
 - Establish a panel of experts in community-based participatory research (CBPR) who will guide, educate and support investigators in CBPR.
 - Develop educational programs incorporating community engagement in research and scholarship.
 - Encourage talented faculty and staff to pursue publicly engaged projects, including a program for “public scholars.”
 - Consider civic engagement and public outreach as important evaluative criteria on proposals for new faculty hires.
- 5) Strategic Areas of Emphasis: While the Task Force identified 8 areas of possible research focus (see **Appendix C**), we believe our most important contribution to this charge was the articulation of the principles to guide the selection of areas of focused excellence. These principles could guide the evaluation and prioritized funding of future initiatives. These include:
- A current reputation for or an emerging profile of excellence, including (inter)national recognition and the promise of influence within and beyond academia locally, nationally and globally.
 - Placement at the juncture of two (or more) disciplines; inter (not just multi)-disciplinary, recognizing that the whole should be greater than the sum of the parts.
 - A viable form of sustainable, fiscal support (whether grants, tuition, philanthropy, or something else).
 - An ability successfully to recruit faculty, staff, and strong trainees into the 'area' at UI.
 - A well-timed opportunity, focusing on circumstances unique to UI's environment within the next 5 years.
 - A response to one of the grand challenges of the current historical moment in world history.
 - A new direction in the creation and preservation of new knowledge and/or in the manner of inquiry.
 - Recognition of the importance of globalization/internationalization.

It is our sincere hope that this report will help to guide faculty, administrators, staff, and students at the University of Iowa during the next 5 years as we seek even greater achievements in research and creative excellence.

I. Introduction

The Provost convened the Task Force on Research and Creative Excellence (See **Appendix A**) on May 14, 2009, as part of the University's strategic planning initiative. Our charge was as follows:

“Articulate priorities for enhancing areas of excellence in research, scholarship, and creative activities at The University of Iowa, and make recommendations on the broad interdisciplinary themes that will provide distinction to the University in the years ahead.”

The Task Force identified the following questions as integral to this charge:

- What is the existing and future infrastructure needed to support research, scholarship, and creative activity?
- What are the barriers to multi- and inter-disciplinary collaborations and how can they be lowered or removed? What factors have been identified as beneficial to those successful, high quality interdisciplinary collaborations that already exist on campus?
- How can the University better incentivize the faculty to seek increased extramural support for their research, scholarship, and creative activity?
- How can the University encourage and support research, scholarship, and creative activity that benefit the State of Iowa and its citizens through economic development and community engagement?
- Given current resources and realistic enhancements, what are the 5 to 10 areas of research, scholarship, and creative activity that will provide the University international eminence and distinction in the next five years and into the future?

The issues raised by each of these questions are addressed below. Our work was targeted at providing meaningful input into the strategic planning effort, The Iowa Promise II

II. Existing and needed infrastructure

Adequate infrastructure is essential to research and creative excellence. To help identify critical infrastructure requirements, a subcommittee of the Task Force asked for input on the following questions:

- What is the existing and future infrastructure (including IT) needed to support research, scholarship, and creative activities (including needs specific to interdisciplinary research)?
- In what ways can the re-conceptualization and rebuilding of the arts campus support research, scholarship, and creative activities?

Three specific areas emerged in response to these questions: (a) support in the form of equipment and staffing resources for campus-shared cyber infrastructure, (b) state-of-the-art physical infrastructure and equipment, and (c) support for increasingly complex pre- and post-award administration.

A. Support for cyber infrastructure

Providing additional support for campus-shared cyber infrastructure is critical to many research and creative endeavors throughout the University. Researchers, faculty, central IT staff, and research administrators all commented on the need to increase resources and infrastructure in this area. The themes that emerged from cyber infrastructure support included skilled IT support staff, additional equipment, and expanded central IT facilities. Interdisciplinary collaboration will require resources and support systems that facilitate shared efforts across academic units.

- Highly trained and skilled staff is needed in the following areas: (a) high-performance computing support, (b) storage engineers, (c) domain-specific application developers, (d) specialists in informatics, and (e) discipline-specific technologists including digital arts and humanities.

- Equipment is also a critical infrastructure need. Specific equipment cited includes (a) high speed networking (on and off campus to 1000 MB/s), (b) deep storage and information management, (c) high performance computing systems, (d) specialized applications, and (e) collaboration technology.
- Central Data Center facilities that provide adequate electrical power, cooling and physical device protection are also needed to house cyber infrastructure equipment for high-performance computing, deep storage and advanced networking. Recently, spaces have been renovated in the Lindquist Center and EMRB to meet some short term needs. Some longer term needs will be met after the construction of a new data center at the University of Iowa Research Park (UIRP; also known as the Oakdale or Coralville campus).

B. State-of-the-art physical infrastructure and equipment

Additional physical infrastructure and equipment is needed to create vibrant environments for research and creative endeavors. Listed here are key physical infrastructure and equipment needs, which we recognize will require a significant investment in resources, especially financial ones:

- **Physical Sciences:** Build a state-of-the-art Interdisciplinary Physical Sciences Building. Improve the quality of research space including addressing deferred maintenance concerns and upgrade HVAC systems in research facilities.
- **Animal space:** Create adequate animal space on east, west and UIRP campuses. This would include consolidation and expansion of animal housing facilities to incorporate needs for both research and teaching on the east side of campus. Identify funds to finish out the shelled vivarium in IIBD on the west campus. At the UIRP campus, construct a new multi-species holding and research laboratory facility.
- **Creative/research space in the expressive arts and humanities:** Improve the quality of creative/research space in the expressive arts and humanities including: (a) shared exhibition space, (b) faculty art studios, (c) new space for dance studios, and (d) programmatic support for digital arts and humanities. Build a versatile theatrical production and performance space (in contrast to a single-purpose concert hall) as a replacement for Clapp Recital Hall and complete the writing corridor on Clinton Street.
- **Interdisciplinary space:** Identify space for interdisciplinary intersection of the arts, humanities and sciences, including the Obermann Center.
- **Transportation between research/creative venues:** Identify ways to ease the transportation issues between the University of Iowa Research Park (in Coralville) and the main campus. Traveling between the main campus and the UIRP campus is becoming more difficult due to extensive development in this area.
- **Adequate resources:** As areas of focused excellence are determined, the Provost and VPR should work together to ensure adequate resources are available for specific themes. These resources could include new core research facilities, new instrumentation, new equipment, etc.

C. Research administration and enhanced communication

Increasing expectations and requirements by sponsors, faculty, administrations, and the public for transparency, compliance, and streamlined process has added additional burden to the research/creative enterprise. To properly address these compliance pressures, the University of Iowa needs to provide resources to ensure appropriate support for pre- and post-award administration and also for growth in research/creative enterprise that will enhance our competitiveness. This would benefit faculty researchers/creative scholars who are currently required to spend an increasing proportion of their time and resources on grant management and administration. Such necessary support includes:

- Implementation of a robust and integrated research information system for pre- and post-award administration. An integrated system would simplify the processes and reduce the amount of effort required for grant management and administration.

- Identification of strategies to assist researchers in the area of pre- and post-award administration and research compliance. This includes support for compliance with regulatory and information systems requirements such as human subjects use, animal use, chemical biological and radiological hazards, blood borne pathogens, fume hood certification, shipping, export controls, and DEA-controlled substances. The strategies developed should facilitate collaboration across academic units.
- Provision for additional mentoring and training for researchers and research administrators for pre- and post-award processes as well as in-house support for the development of major interdisciplinary proposals. The Office of Research Development, along with the collegiate research development network have made significant progress in this area, but additional resources are needed to support major grant development.
- Expanded support in scientific editing services to researchers across campus to reflect that currently available to select faculty in the Carver College of Medicine. Additional resources, grant writers and editors would help ensure high quality grant development.

III. Factors that impede or foster inter-, multi-, trans-disciplinary research (IDR)

Interdisciplinary research (IDR) and collaborative creative endeavors have been an integral part of research and creative excellence at Iowa for decades. Sustaining current efforts and enhancing future initiatives requires organizational structures, policies, and practices that foster rather than impede collaboration. A subcommittee of our task force examined the following questions:

- What are the barriers to multi- and inter-disciplinary collaborations and how can they be lowered or removed?
- What factors have been identified as beneficial to those high quality interdisciplinary collaborations that already exist on campus?

While a number of IDR groups have flourished on our campus, there has been a long-standing awareness that barriers exist. The reports from two previous task forces have identified problems and made recommendations. We, therefore, reviewed these reports on IDR chaired by Professors M. Apicella and V. Grassian, respectively. The subcommittee made inquiries in order to determine the status of recommendations that had been forwarded in their reports. In addition, we sought input on current conditions from interdisciplinary researchers on campus, DEOs, collegiate deans, and other administrators whose oversight is related to IDR and creative activity.

Many informants in this process noted that IDR and creative activity of the highest quality evolves naturally around shared interest in exciting ideas that require different disciplinary perspectives and methodological approaches. The best interdisciplinary teams often have a particularly strong leader(s) and a mix of individuals who have an interest in taking some calculated risks and sharing credit for their research work. While most of the best collaborative efforts seem to develop from the bottom up, administrative leadership that helps to create an optimal environment is also essential.

A review of prior reports paired with contemporary observations indicates several persistent barriers to collaboration. Among the problems are (a) issues related to University infrastructure and resource sharing, (b) promotion and tenure policies and practices, and (c), cultural differences.

A. Barriers to interdisciplinary collaboration

1. University infrastructure and resource sharing

Collegiate deans and department executive officers shoulder heavy responsibility for fiscal viability within their respective units. Thus they seek critical resources by vying for general University funds as well as working with their faculty and staff to attract extramural support. Successful acquisition of funding is not only essential to excellence in all aspects of the

academic unit, but is a common indicator when evaluating academic units and administrative success. Consequently, and particularly in times of budgetary shortfall, departmental and collegiate leaders may view the sharing of credit on a research grant as a zero-sum game. This perception serves to inhibit collaboration and cooperation across colleges, departments, and fields. Without incentives for shared credit, meaningful changes in attitude and practice are unlikely to occur.

Problems with shared credit. The most successful interdisciplinary collaborations on our campus have substantial buy-in from administrators. Although IDR activities can sometimes be better off in a central office such as the OVPR or Provost's Office, it is important that credit is given to colleges, departments, and individuals that contribute to the interdisciplinary activity. The Apicella and Grassian reports noted difficulty in assigning "credit" for cross-departmental grants and contracts, and a need for policies and procedures to ameliorate this problem. In a step toward addressing this recommendation, a new electronic routing form from Sponsored Programs is being implemented in the spring of 2010 that will clearly define shared credit and that quantifies Co-PI involvement and Co-Investigator involvement. Routing form and changes in UIRIS will have links to provide internal accounting of shared credit for review by Deans and DEOs. For grants and contract-driven disciplines, better accounting efforts should facilitate assigning credit to individuals, DEOs and Deans. After this new routing system is implemented, it should be evaluated six to twelve months out to evaluate its effectiveness.

Although shared credit on a budgetary level is improving, assigned recognition for participation is not. For example, in some departments, being listed as a participant rather than PI on a grant is considered of lesser value with regard to productivity even when impressive intellectual accomplishments, creativity and productivity result from the collaboration. Recognition should be awarded for outcomes accomplished, not only PI status. Some have suggested that cross-departmental collaboration would be encouraged by returning at least a portion of F&A to all colleges and departments involved where it could be used to support collaborative efforts and provide incentives for IDR efforts.

Teaching and service. Shared credit or resources plays out not only with regard to grants and contracts but also on interdisciplinary scholarship, creative works, teaching, and academic service activities. Faculty members who participate in interdisciplinary programs or projects, and who have achieved considerable success and productivity as part of that collaboration, are sometimes seen as a drain on the missions of home departments. Consequently, faculty members who are committed to IDR and creative activity may be required to cover interdisciplinary instruction or service in an 'overload' capacity. Those faculty members with joint appointments often find the responsibilities of teaching and service in two academic units particularly burdensome. We recommend that all units move toward a model that considers IDR teaching and service activities to be "on-load" with faculty effort adjusted accordingly.

Support for graduate students. Interdisciplinary programs that accept graduate students do not always have resources for student recruiting and support equivalent to that of departments. Some faculty members are concerned that IDR may be threatened by the proposed shrinking or elimination of graduate programs. Loss of an interdisciplinary graduate program means difficulty recruiting and retaining faculty in those disciplines; it also means the remaining faculty members in those disciplines are less embedded in the research culture fostered by the presence of graduate students. Thus, faculty in these disciplines may become less available for collaboration with faculty in the 'more successful' disciplines. This scenario may negatively impact both IDR and teaching activities.

Personality driven challenges. While there is no doubt that strong leadership can be an important driver for building and maintaining strong programs, personality conflicts can also inhibit interdisciplinary efforts. Programs enabled as part of “retention packages” designed around an individual rather than a program are especially susceptible. Individuals will not always be motivated by community goals and can sequester or unequally distribute resources meant for a common good. Personality conflicts can lead to lack of participation by qualified members of the community and in extreme cases alienate the external community as well. Administrators need to be sensitive to these challenges and not accept that one voice always speaks for all. Periodic evaluations and assessments beyond the report of a program leader may be needed.

Administrative support and physical impediments. The increasing load for, so called, unfunded mandates mentioned in sections II and IV of this report have a negative impact on interdisciplinary collaboration as well. Differences in IT across colleges can also impede many aspects of the research and communication processes. Administrative burden is also increased when interdisciplinary submissions include faculty members on different salary cycles (e.g. NIH pays on 12 month salary but some colleges, e.g. CLAS, have a 9 month salary structure). There may also be difficulty establishing interdisciplinary collaborations due to the physical segregation of units on campus, given that transit time is time lost for busy faculty members. Social networking or other e-connection solutions could ameliorate part of this challenge. Recent initiatives involving databases of searchable items will be an important solution to this problem and should be further supported across campus.

2. Promotion and tenure

Joint appointments are thought to be critical to IDR as they allow one to become fluent with faculty and content in more than one discipline. However, criteria for promotion and tenure vary among academic units. Consequently, there are often fears that collaboration will negatively impact promotion and tenure in one’s primary department. Furthermore, because junior faculty members must establish their independence as scholars, close collaborations within groups can create problems with regard to evaluation. When a joint appointment is initiated, there should be an explicit memorandum of understanding (MOU) endorsed by both sets of DEOs and Deans. However, there must also be changes in attitude at all levels (departmental, collegiate, and central) that support such MOUs. Perhaps a Provost promotion and tenure advisory committee could insure there is a more consistent level of rules for promotion and tenure decisions. We suggest that the Faculty Senate and other groups who address policies for promotion and tenure examine this issue.

3. Cultural differences

The cultures in different fields may also act as impediments to collaboration. Differences in departmental expectations for instruction and, especially, the nature of the scholarship (e.g. grant intensive) can create tension for faculty involved in IDR activities. Further, differences in attitudes regarding the value of a joint activity are a problem. Intellectual dialogues that do not directly lead to funding are not valued in many parts of the campus. Many departments base the value of work exclusively on funding. Additionally, levels of salary funding required outside of the GEF can cause problems. In some colleges 50%, or more, of a faculty member’s salary from external sources is required, which may not be true in a collaborator’s department. It is hoped that over time these cultural barriers will decrease.

B. Contributory factors in successful interdisciplinary research

Despite the problems noted above, intellectual excitement and significant advances that are possible in complex endeavors speak to the power of IDR. Benefits that can emerge from properly supported collaborative teams include the unique perspectives/expertise brought by different disciplines to

address a problem; increased opportunities for student experiences across disciplines; dynamic projects and intellectual synergism; good will and excitement-driven programs; increased funding opportunities; synergy bringing together people with common interests, unique interests, approaches, and strategies that set teams apart from other investigators at other universities.

There is no doubt that the personality of the investigator/creative artist is an essential component to success. Being able to work with others who have a slightly different vocabulary but who are willing to be open to different perspectives and approaches is essential. A creative milieu often fosters and enhances these activities. When the ideas and conversations are interesting and covering new ground, and people are safe to indicate what they do not know and learn from one another, there is an excitement and interest in moving forward and taking risks to try things in a fresh way.

Multi-and inter-disciplinary research is greatly facilitated when there is recognition by DEOs, deans and other administrators. When there is clear support, there is an understanding of the benefits of interdisciplinary work and things typically move forward.

Recommendations:

Our task force makes the following recommendations, many which echo those presented earlier in the Apicella and Grassian reports:

- **Joint appointments and P&T.** Although there are some test cases for new faculty with joint appointments and true joint funding, the current university policy on P&T does not yet address these cases adequately. Colleges should submit plans regarding how they will handle joint appointments especially as they relate to promotion and tenure and the allocation of teaching load and service expected in each unit. The Provost should consider an advisory committee that addresses promotion and tenure matters specific to inter-, multi-, and trans-disciplinary activities.
- **Mechanisms for supporting IDR.** Specific mechanisms for the institutional support of inter-, multi-, and trans-disciplinary research remain limited. There has been some improvement with administrative and staff support for such activities. We recommend the establishment of an advisory committee to evaluate new centers, proposals, and to provide seed money. There should be uniform accountability for supported centers and programs to ensure they are meeting their goals and the needs of the University. Graduate student and postdoctoral support for IDR activities should also be a priority.
- **Building infrastructure.** Similar to the subcommittee on infrastructure, we recommend a facility on the east side of campus, similar to IIBD on the west side of campus, which would facilitate IDR and creative excellence.

In summary, several task forces and administrative units have previously examined barriers to IDR. While some recommendations have been addressed, many of the barriers identified by multiple groups remain to be implemented. Importantly, many of these do not require new resources. We strongly encourage the Provost to fully implement these recommendations so that these efforts can flourish on The University of Iowa campus. If focused areas of excellence are to succeed, the University needs to commit to environmental conditions required for success at all levels. The Provost's office is in a unique position to oversee these efforts on campus.

Additional References

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Shen B. Toward Cross-Sectoral Team Science. Am J Prev Med 2008; 35(2S):S240-2.

IV. Incentives for seeking extramural support

Research and creative activities are often reliant on extramural support, and the extent to which faculty and staff will be competitive for those funds is influenced in part by various forms of incentives.

This is a complex question as the University has longstanding traditions of financial organizational structure that occasionally acts as an impediment rather than an incentive. In addition, the revenue streams of administrative units and the expectations of extramural research support for faculty salary differ greatly across the University. For instance, some faculty members have nine-month appointments, with the entire salary drawn from General Education Funds (GEF). Others offset approximately half their salary while fulfilling teaching and service duties supported by GEF funds, whereas, other faculty are expected to offset 100% of their salary with extramural grant funds. In short, a uniform approach to incentives would not reflect the diversity of cultures across the university.

The suitability of specific options on our campus varies depending upon the differing cultures and “business model” within a specific college. Expectations for faculty are very different in terms of service, teaching and research obligations. For instance, in the College of Public Health, faculty members typically have 12-month appointments with 0.5 FTE salary support per position. Thus, there is an expectation that the faculty will garner 50% salary support through grants. In contrast, many faculty members in the College of Liberal Arts and Sciences have 9-month appointments with major funding from GEF resources. Further, research faculty in several colleges may offset salary through clinical service income which further creates complexity in funding streams.

We propose wide latitude in definitions of what constitutes incentives and that incentives should remain locally defined. From our study of incentives used across campus, as well as those instituted at some peer institutions, we identified the following possibilities for incentivizing faculty:

- a) Increased flexibility in teaching or a modification in teaching load in exchange for garnered extramural support.
- b) Increased opportunities to compete for professional developmental leave.
- c) Additional allocation of resources to support professional development, teaching assistant support, post-doctoral fellows, travel or additional/better laboratory space.
- d) Return of some portion of indirect costs garnered from extramural grants/contracts directly to the PI or research team; the COE already has this in place.
- e) Salary increases or bonuses above the cost of living increase.

Our subcommittee sought input from each of the Associate Deans for Research, the UI Foundation, and from research faculty across campus. Data have been obtained and are tabulated below from the COE, COD, CON, CCOM, CPH, and CLAS. There is little consistency across campus. Some colleges have informal plans in place that provide incentives based on salary release that can be used to support PI salaries or program development. For example, the College of Engineering has a program in which faculty commit to a certain percentage of salary support; a review process accounts for extramural research support and the faculty member’s role in graduate student education as a means to review faculty for possible incentives. The Colleges of Pharmacy, Dentistry, and the Carver College of Medicine have formal graduated systems to reward research faculty for extramural research. The College of Pharmacy explicitly outlines IDR and provides specific awards given for meritorious teaching and service to the College as a complement to the conventional extramural research awards (see **Appendix B**). The College of Dentistry has a plan for research intensive faculty (those with more than 50% of FTE dedicated to research) allowing for a return of a portion of salary release dollars to the faculty member as a bonus or for program development in a system that emulates a plan for clinical faculty. The Table provides an overview of differing policies or programs across the University:

College	Incentive Plan?	General Description (see appendix)
Medicine	Yes (BOR approved 5 years ago)	Threshold based bonus or program support based on % FTE supported on extramural grants for basic science dept. faculty
Dentistry	Yes	Threshold based bonus or program support based on % FTE supported on extramural grants
Public Health	No	
Nursing	No	
CLAS	Variable	
Pharmacy	Yes	Threshold based bonus or program support based on % FTE supported on extramural grants. Also provides awards for meritorious teaching and service.
Law	NA	NA
Education	Yes	Travel support to extramural research sponsors, summer bonus based on threshold of support of FTE.
Engineering	Yes	Threshold based bonus or program support based on % FTE supported on extramural grants. Includes metrics associated with graduate teaching.

An analysis of the aforementioned incentive plans on campus, as well as information from peer institutions reveals several interesting points. One is the differing role of salary increases and/or research bonuses tied directly to extramural research dollars garnered and base salary supported. Some Colleges allow salary *offset* to be used as a bonus or in a faculty professional development fund. Criticisms include that these tend to be short-lived programs, may lead to volatile work environments, and result in transitory improvements in faculty morale and productivity. However, other institutions have successfully recruited faculty away from the University of Iowa with attractive offers of return of a substantial portion of F&A dollars to the investigator. For example, the University of Pittsburgh returns 10% of the indirect costs to the investigator as a salary supplement up to a maximum of \$50,000. The University of Washington (Seattle) returns 30% of F&A to the Department for redistribution by the departmental DEO (<http://www.washington.edu/research/main.php?page=indirectCosts#fac10>)

There needs to be further discussion concerning the role of intellectual property (IP) development and patent issues on campus. The University's Intellectual Property Policy (<http://www.uiowa.edu/~our/opmanual/v/30.htm>) addresses ownership of inventions/discoveries eligible for patent protection (processes, machines, manufacture, composition of matter) and works eligible for copyright protection (generally, original works of authorship, including written works, software, and audio, visual, or performed compositions). Generally speaking, the UI owns the patents on inventions

made 1) in the course of an employee's employment/appointment or reasonably related to his/her field or discipline and 2) inventions made with significant use of UI resources. By contrast, although the UI will hold copyright to certain works (see §30.4(b)(2)(b) of the policy), it follows the academic tradition of not claiming ownership in pedagogical, scholarly, or artistic work. In such cases, copyright is held by the individual creator of the work. This distinction in ownership of patented work and copyrighted work creates a conundrum for faculty since creative scholarship (teaching methodologies, educational content, literary writing, creative production be it media, print, sculpture, etc.) are considered the entire IP of the faculty member. This dichotomy can create a disincentive for research-intensive faculty to pursue commercialization of their inventions. One approach could be to designate “pivotal” faculty appointments; term appointments that allow commercial scientists to move into academic collaborations for a transitional period without restraints and academic faculty to do the same with commercial entities (with full disclosure). This may allow certain faculty to stay in academics and create bridges to translational applications and finance capital that they need to commercialize IP.

The lack of consistency from college to college appears to create frustration for some faculty members, especially as it relates to F&A return and the reallocation of salary release dollars. We make the following observations:

- Some Colleges report improved success in garnering external funds by providing travel funds to allow visits by faculty to federal granting agencies to have one-on-one visits with program officers.
- In Colleges that operate on 9-month appointments, the provision of summer salary support for faculty to work on large extramural grant applications (>\$500k) has yielded positive results. This has been found in the College of Education to be of strategic benefit to encourage interdisciplinary work on larger applications.
- In certain units, there appears to be a concern about increasing extramural research grants with a lack of grants management support (refer also to II-C). This was also expressed by some of the Associate Deans for Research in regards to assistance for budgets, justifications and support for the online submission processes. There was also concern expressed about the lack of day-to-day post-award support for some departments. There appears to be inconsistency as to where this grants management should be provided. Some Colleges (e.g., Dentistry) have two or more FTEs dedicated to post-award grants management whereas other Colleges appear to manage this at the individual department level, if at all. A lack of support in both the preparation phase and post-award phase was viewed by some faculty as a disincentive to work on extramural grants. There was a view, especially in CLAS, that this is slowly changing, especially with new faculty appointments.
- Some departments have been creative in changing the culture toward a routine assumption that faculty will work continuously for ongoing extramural research support (i.e., *grants culture*). This appears to be more of a leadership initiative and recruitment of younger faculty (turnover) creating a cultural shift in the department’s attitude and expectations towards participation in and acquisition of extramural research.
- A model of linking the undergraduate experience with research incentives was identified. Research scholars can be incentivized to bring promising undergraduate students into the research or scholarship area through seminar discussions, creative engagement, bench-top inquiry, etc. One form of incentive could be to reward this interaction by equating it to a proportion of the normal teaching load (e.g., teaching a large classroom, relief from course management of large lectures, etc.). If the outcome metrics shows that 1% of the undergraduate class matriculates into a successful creative research career path, would this not be of strategic value to the institution? This has been referred to as the *1% solution* to faculty recruitments. The committee also discussed tuition waivers for students working with faculty members on research or creative endeavors (or at least a tuition waver for the hours of honors credit they work with you). There

are some operational issues to consider in this proposal. Namely, what would be the metrics of tracking and reporting, and what would be the benefits to the faculty and to the student? Incentives that promote and support greater involvement of undergraduate students in the faculty research enterprise could yield the sorts of opportunities for undergraduates to engage in mature and exciting research enterprises that would be less likely at a small liberal arts college. This model, when properly structured, has the potential benefit of highlighting value added in an undergraduate education at a research institution.

Recommendations:

This subcommittee makes the following recommendations for new programs to incentivize faculty research:

- Create a university-level policy that each College will have a formal faculty research incentive plan in place by July 1, 2010.
- Insure that faculty incentive plans will allow latitude in policies but will take into account the impact of differences across academic units that could either impede or encourage IDR, scholarship and creative development.
- Insure that faculty incentive plans will incorporate a threshold salary offset model that allows salary offset to be used for program development or direct remuneration.
- Insure that faculty incentive plans will be supported by a reallocation mechanism to return a meaningful percentage of the indirect costs to the unit (typically the College) above a base level of F&A support.

V. Economic development and community engagement

The Provost's Task Force on Public Outreach and Civic Engagement will address most directly the importance of community outreach as one aspect of the University's mission. The Subcommittee on Economic Development and Community Engagement supports the announced goals of the Task Force on Public Outreach and Civic Engagement [please refer to that TF's report] and highlights several aspects of community engagement that relate directly to the research and creative mission of the University. Our primary aim is to ensure that research, scholarship, and creative activity at the University of Iowa also support outreach and engagement at state, national, and global levels.

Defining the Main Terms. **Engagement** refers to partnerships with communities served, not just delivery of services to these clients. **Civic engagement** refers to partnerships in cooperative learning that both express and cultivate research, scholarship, and creativity as an expression of citizenship. **Economic engagement** refers to partnering with the business community to foster economic growth, develop patents, and generate jobs.

What Has Been Done. The subcommittee on economic development and community engagement recognizes that many persons and units across campus are already actively involved in community-related research in a variety of ways, and it commends those so engaged. The university is well-suited to build on the existing infrastructure.

Civic Engagement Mission and Example. The University has developed a number of practice-based, IDR networks and innovative long distance educational programs. To cite three examples of many: (a) the College of Public Health has a center dedicated to community engagement and a website that will list engagement activities in each of Iowa's 99 counties; (b) the College of Engineering's initiative to help local communities remove radium from water; and (c) the recent humanities-driven programs on public engagement and the academy (run by the Obermann Center and the Center for Teaching).

Economic Engagement Mission and Example. Economic development efforts at the University of Iowa are critical to driving the economic engine of local, regional and state economies. Research universities provide two major factors in economic success. First, the University focuses significant efforts in building capacity for long-term innovation, technology transfer, and outreach to Iowa and Iowa companies. Second, the University produces an educated workforce.

Over the last 50 years, there are concrete examples of the role of economic development in the local and regional economies. Examples include ACT and Integrated DNA, both of which were created as spin-out companies based on discoveries that occurred at the University of Iowa. Another important historical factor was the adoption of the Bayh-Dole Amendment in the early 1980s. This legislation required universities to facilitate transfer of important technology funded by federal dollars for the benefit of society.

Research is central to the innovation that drives the economy. Extramural funding produced by the faculty and staff create a major impact on local and regional economies through direct job creation. The total University of Iowa research funding was \$430M in 2008. The impact of research funding is dramatic when you apply a commonly held business multiplier of 2x for NIH funding. The 2009 NIH funding awarded to the UI was \$193.4M and the local-regional impact would therefore suggest an economic impact of almost \$400M.

The University of Iowa is a regional asset for Iowans, communities and businesses. Examples include:

- Partnering with communities to help leverage research and educational assets of the University in assisting existing companies and attracting new companies. These partnerships include local economic development entities such as ICAD, Priority One, Dubuque and Quad Cities regional economic development groups.
- Linking Iowa companies with the educational and consulting assets of the University in multiple areas through Iowa Centers for Enterprise.
- Through the JPEC (<http://www.iowajpec.org/>) work with smaller companies to provide business development, market research, finance, conduct entrepreneurial education on and off campus, and link interns with companies.
- Through the Small Business Development Center (SBDC) (<http://iowasbdc.org/regional-centers/iowa-city.aspx>) and Entrepreneurial Development Center (EDC) (<http://www.edcinc.org/>) assist smaller companies with identification of capital.

Recommendations for the future:

Proposed strategies to foster the development of public outreach and community engagement in research and scholarship include but are far from limited to:

- Ensure that all such activity is rewarded in review and promotion committees. Just as our committee has recommended the rewarding of IDR and creative activity through incentives and promotion and tenure policies, we recommend that civically engaged and outreach-oriented work be likewise rewarded.
- Produce and maintain a website listing all University of Iowa engaged and outreach activities.
- Include representation of university researchers and scholars on relevant public outreach and civic engagement steering and planning committees (e.g., the blue ribbon steering committee to guide campus planning for public engagement).
- The OVPR should continue to develop enhanced educational materials for faculty and staff to ensure a greater understanding of the role of economic development and technology transfer in

the outreach and engagement missions of UI. In addition, and beyond, this office needs to identify other mechanisms to enhance ‘tech transfer.’

- Establish a panel of experts in community-based participatory research who will guide, educate and support investigators in CBPR.
- Develop a workshop/educational program incorporating community engagement in research and scholarship.
- Encourage talented faculty and staff to pursue publicly engaged projects, create a program for “Public Scholars” comparable to the Global Scholars and Faculty Scholars Program.
- Consider civic engagement and public outreach as essential evaluative criteria on proposals for new faculty hires under the strategic research initiatives.

Real challenges remain in order to implement these recommendations:

- Costs: resources to send people out to engage with communities will be needed. Economic resources that go into and flow from this sort of activity must be identified and secured.
- Time: Such projects are not a fast-track kind of research and would potentially interfere with the tenure goals of junior faculty. This must be addressed.
- Aligning the reward system with these sorts of engagement initiatives is essential.

By following up on these recommendations, the goals of Public Outreach Task Force, and those of the Research and Creative Excellence Task Force, some of the strategies mentioned above may be realizable.

As the work of our Task Force has evolved, it became increasingly apparent that the issues discussed in Sections II-V must be addressed effectively in order to support excellence in research and creative activity. Several of the issues noted above are particularly crucial to the success of interdisciplinary groups that include personnel from various academic units. Input from across campus and outside sources indicate that excellence in IDR requires appropriate environmental conditions, including organizational structures and meaningful incentives that are suitable for the diverse missions and cultures across our campus. A culture that fosters rather than inhibits interdisciplinarity requires on-going commitment and cooperation from administration, faculty, and staff at all organizational levels.

VI. Focused Excellence

The final issue that our task force was charged to investigate was:

- Identify 5 to 10 areas of research, scholarship, and creative activities for which Iowa can achieve international eminence and distinction given current resources and realistic enhancements.
- Consider the alignment of these areas with external funding priorities and philanthropic opportunities.
- Evaluate whether or not a critical mass of faculty and supporting resources exists in these areas.
- If we were to pursue the “cluster hire approach,” identify strategies for accomplishing this.

Background

Our university currently has many areas of excellence that have been developed over decades. Adequate levels of continued support will be essential in order to sustain and improve these sources of pride and international or national eminence. Consequently, new initiatives for research and creative excellence that emerge as a result of strategic initiatives must be initiated in a thoughtful way that prevents erosion of existing excellence and retains a strong core mission of our university, including undergraduate and graduate instruction.

As we gathered input for this report, we were constantly reminded that our university is comprised of many microclimates of research and creative activity that require different missions, methodologies, and

forms of support. On one end of the continuum is scholarship that requires introspective and solitary effort; at the other end is cross-disciplinary and multicenter collaboration. Our university has always had areas of eminence and distinction; some areas have sustained legacies of excellence, while others have more recently emerged as a result of environmental conditions or outstanding leadership in particular areas of research or creative activity. Given the diverse mission of this university, any university-wide policies or strategies must be adequately flexible to be appropriately applied across different units with distinctly different cultures. In addition, organizational and attitudinal barriers must be addressed if interdisciplinary efforts are to succeed.

Even as we strive for general excellence in all aspects of university life, the economic realities and the size of our university make national or international eminence in all areas unrealistic. Even in times of plenty, setting priorities is essential. At a time of economic difficulty, the importance of prioritization becomes even more apparent. That said, we wish to emphasize that the broad themes that emerged through our committee process do not represent a comprehensive list of existing excellence on campus.

Process for addressing focused excellence

Our task force discussed what constitutes broad themes of excellence, and we developed principles that would be used as guidelines in the preparation and evaluation of proposed ideas. Task Force leaders presented the principles to various constituencies across campus (e.g., Faculty Council-Administration Retreat, Council of Deans, et al), and the Task Force subsequently refined the principles.

Principles to Guide Selection of Areas of Focused Excellence*

- A current reputation for or an emerging profile of excellence, including (inter)national recognition and the promise of influence within and beyond academia locally, nationally and globally.
- Placement at the juncture of two (or more) disciplines; inter (not just multi)-disciplinary, recognizing that the whole should be greater than the sum of the parts.
- A viable form of sustainable, fiscal support (whether grants, tuition, philanthropy, or something else).
- An ability successfully to recruit faculty, staff, and strong trainees into the 'area' at UI.
- A well-timed opportunity, focusing on circumstances unique to UI's environment within the next 5 years.
- A response to one of the grand challenges of the current historical moment in world history.
- A new direction in the creation and preservation of new knowledge and/or in the manner of inquiry.
- Recognition of the importance of globalization/internationalization.

(*Not all principles need to be met by any one area of focused excellence.)

After the principles were developed, our task force sought broad input on possible areas of focus through the following methods: (a) generation of ideas by members of the Task Force, (b) solicitation of input from the collegiate deans and collegiate executive committees, and (c) a campus-wide e-mail memo soliciting proposals from the faculty and staff.

Individual faculty members as well as representatives of academic units or existing research groups or consortia submitted seventy-one proposals. In accord with the established principles, the task force members ranked the proposals.

Because our mission was to identify themes that would require collaboration across disciplines and academic units, we discussed those proposals with the highest ratings, seeking common or similar focus

across those proposals that could constitute a broad theme. We also took into account the diverse missions and cultures of academic units across the university. A list of 10 broad themes emerged, and each of those themes was discussed with regard to the principles noted above. Task force members were then asked to reflect on the themes and task force discussion, and to submit independently to the committee chairs a list of the 5 to 8 broad themes/areas of focus they considered strongest. Those results were analyzed and discussed once again in a subsequent meeting focusing more explicitly on implementation (e.g., adequate infrastructure). The emerging themes were then discussed with the Task Force on Graduate Studies given that research and creative excellence is closely tied with graduate education.

These potential areas were also presented at two open forums, which prompted additional input from various constituencies. Concerns expressed by the University community fell into several basic categories:

- a) IDR is not inherently superior, and excludes areas of excellence across campus.
- b) The establishment of areas through strategic planning is often too “top down”; initiatives should reflect naturally-occurring interdisciplinary groups that have established records of excellence. Excellence evolves as a result of individuals with naturally-evolving common interests and who are well suited toward interdisciplinary endeavors.
- c) The broad areas chosen by the task force are too broad and may fail to offer meaningful guidance for focus of resources.
- d) Only a few areas of focus should be recommended in order to achieve meaningful results.
- e) Specified themes are not representative of current or potential strength.
- f) Directing the bulk of available faculty lines toward new initiatives, particularly given existing financial difficulties, could dangerously erode existing strengths and the basic educational mission of the university (including undergraduate success).
- g) The economic model for supporting cluster hires through increased undergraduate enrollments and retention is overly optimistic.
- h) Current organizational policies and structure could undermine success of interdisciplinary groups and must be addressed before instituting large-scale adoption of cluster hiring.
- i) The direction of funds toward interdisciplinary groups should be implemented with caution, building in a review of the process and resulting success of the initial cluster hires in order to inform subsequent initiatives.

Our task force considered these varied perspectives, followed up with additional inquiries, deliberated further, and then chose eight broad areas for focused excellence. They are broad enough in scope (arguably too broad) to enable a number of strong existing or developing interdisciplinary groups on campus to forward detailed proposals for consideration should central administration launch a (competitive) process. In making these recommendations, we do anticipate refinement of these focus areas by the Provost in consultation with the Deans in one or more of the following areas:

Biomedical discovery, communication sciences, developmental and aging studies, the expressive arts, global health, sustainability, transformative technologies, and writing and scholarly engagement. A brief commentary on each area appears in **Appendix C**.

Summary

In closing, the Task Force reiterates these recommendations:

- The adoption of new initiatives should be balanced with efforts to sustain general quality of research, teaching and service across the institution.
- The organizational policies and infrastructure issues addressed in Sections II-IV of this document must be addressed across all levels of the University in order to support successful interdisciplinary collaboration. The culture must change at the departmental unit, but those changes must be facilitated and endorsed by central administration.
- While our committee has identified some potential areas for excellence, the establishment of any cluster hires within those areas could evolve out of existing interdisciplinary groups with well-established records of success and stability who can compete for new resources through clearly outlined procedures. We envision that this process will be driven by the Provost in consultation with the Deans.
- Given the diverse cultures within the University, the concept of cluster hires should be flexible and allow for hiring of groups of different size and different collaborative models. For example, scientific research is likely to coalesce around those areas supported by major granting agencies; creative arts collaborations are more likely to evolve around expressive initiatives (e.g., performances, exhibitions) supported through ticket sales and gifts from donors.
- A proportion of new faculty lines should be designated for areas of exceptional excellence that do not naturally fit within the interdisciplinary model, but that would achieve particular eminence as a result of targeted hires.
- Because student recruitment and retention is seen as an important source of revenue for additional faculty hires, there should be a balancing of faculty hires for research and creative endeavors with areas of enrollment pressure associated with the undergraduate teaching mission. One cannot assume that undergraduate enrollments and majors will naturally follow areas of focused excellence. Unless additional dedicated resources are secured to support the undergraduate teaching mission, faculty lines must be retained to cover areas of excellence and high demand in undergraduate education.
- In order for cluster hires to complement the Undergraduate Success initiative, we recommend that each proposal for a cluster hire would include a plan for contributing to the instructional mission (e.g., course offerings, undergraduate learning communities, undergraduate research experiences, etc.) for undergraduates and undergraduate success.
- A process of evaluation should be established for cluster hires in order to continually refine subsequent hiring procedures as well to assess outcomes on a number of indicators (e.g., retention of hires, fiscal viability, research productivity, eminence, and other outcomes).

In addition, our TF has identified several key issues that are essential to maintaining and increasing the quality and competitiveness of our research and creative activities. These include:

- Enhanced physical and IT infrastructure based upon identified priorities;
- Policies and procedures that support successful appointments and promotion and tenure of interdisciplinary faculty members;
- Improved and more clearly articulated policies that incentivize faculty to seek external funds;
- Policies and procedures that provide adequate reward for engagement and outreach activities.

These issues are all essential if research and creative efforts, including key areas of IDR, are to flourish on our campus.

Finally, there are a few points that we would like to specifically comment on that are meant to be thought provoking as some recommendations are implemented, especially during this time of fiscal constraint:

- First, and not unique to the recommendations of only this TF, the University needs to better recognize the contributions of faculty, staff, and students that are not easily assessed by traditional means. For example, if community engagement is valued it should be appropriately rewarded at the time of promotion and a tenure decision. The same is true for IDR. In short, there should be consistency and clarity regarding criteria for P&T.
- We wish to emphasize that while there are many valid merits to IDR, as noted in our report, it is not inherently better than other types of research or creative scholarship. How the University balances ‘independent’ and IDR research and other forms of scholarship will require broad input from the campus at large.
- Related to the previous point, where will UI strike the balance in investing in existing programs and new ones, even already excellent ones?
- There is a difference of opinion about how to develop successful IDR. At one end is the opinion that one must hire the ‘best athlete’ and let her/him develop the program. At another end is the cluster hire approach. While these two approaches may not necessarily be mutually exclusive, the importance of ‘interpersonal chemistry’ (personality driven changes, see above) cannot be underestimated. One cannot legislate (administer) successful collegial and collaborative interactions.

Finally, we wish to emphasize the complexities involved in balancing the demands associated with enlarging the undergraduate student pool and retaining excellence in graduate education while maintaining congruence with faculty recruitment and investment in IDR. There will be a need for ongoing evaluation and give and take in order for the university to sustain overall excellence.

Acknowledgement:

The Task Force would like to recognize and thank Ms. Carol Lammer for her excellent support on our behalf.

Appendix A
Participants and Processes

Task Force Membership

Michael Cohen, (CCoM) Pathology (Chair); Kate Gfeller, (CLAS) Music, Communication Science & Disorders, (Co-Chair); Matt Brown, (Graduate College & CLAS); Greg Carmichael, Engineering; Alan Christensen, (CLAS) Psychology; Mary K. Clark (replacing Toni Reimer), Nursing; Barbara Eckstein, Associate Provost; Vickie Grassian, (CLAS) Chemistry; Sara Mitchell, (CLAS) Political Science; Jeff Murray, (CCoM) Pediatrics; David Depew, POROI/Communication Studies/Rhetoric of Science; Cheryl Reardon, Office of the VP for Research; Robyn Schiff, (CLAS) Writing Program; Clark Stanford, Dentistry; Peter Thorne, Public Health; Carol Lammer (staff support)

Sources of Information and Procedures Used in the Development of this Report

Documents:

The following documents were reviewed:

- Intercollegiate Task Force on the Organization of Research and Education in the Life Sciences (2007, chaired by M. Apicella)
- Report on the Issue of ID Research and Shared Credit (2006, chaired by V. Grassian)
- GEF Task Force Report (2004)
- Report to the Provost on the Interdisciplinary Committee on Faculty Issues (2001, chaired by A. Nagel)
- The Iowa Promise (2005-2010)
- Policy on Faculty Appointments to Non-Departmental Units (2001)
- Guidelines for Faculty Appointments in non-departmental Units
- Report on Criteria for Institutional Enhancements and Reductions (1997)
- Miscellaneous reports and articles from sources such as *The Chronicle of Higher Education*, *Higher Education*, etc.

Input obtained through the following meetings:

- Annual Retreat of the Faculty Council-Central Administration
- The Council of Deans
- Chairs of each of the other strategic planning task forces
- Executive committees of the College of Business, College of Education, and College of Liberal Arts and Sciences
- Two all-campus open forums

Input through surveys and e-mail inquiries to the following administrative units or categories of leadership:

- Office of the Provost
- Office of the Vice President for Research
- Collegiate Deans
- Associate Deans of Research
- ITS leadership group
- Research Council
- UIHC/CCoM IT leadership group
- Research Development Network
- Research Administrators
- AHI advisory Group
- UI Foundation staff
- Relevant administrators from other CIC institutions

- DEOs (with input from faculty members)
- Leadership of the following arts units
 - Pam White, Director of the Museum
 - Chuck Swanson, Director of Hancher
 - Leighton Pierce, Head of Cinema
 - Samantha Chang, Head of the Writers Workshop –
 - Chris Merrill, Head of IWP

In addition to seeking input regarding focused areas of excellence from academic units and administrative offices on campus, our task force distributed a campus-wide e-mail soliciting proposals.

Inquiries focused on the following issues:

- What existing and future infrastructure (including IT) is needed to support research, scholarship, and creative activities?
- In what ways can re-conceptualization and rebuilding of the arts campus support research, scholarship, and creative activities?
- What are other infrastructure needs?
- What are current incentive plans from each College, Center and Institute Units; which plans are in place, and how are outcome metrics being tracked?
- What incentive plans are in place at other CIC institutions?
- What are the barriers to multi- and inter-disciplinary collaborations and how can they be lowered or removed?
- What factors have been identified as beneficial to those high quality interdisciplinary collaborations that already exist on campus?
- To what extent have recommendations from the task forces on IDR chaired by Apicella and Grassian been implemented?
- What are practical issues that must be considered in establishing focused areas of excellence---in particular with regard to cluster hires?
- What areas of research and creative activity should be identified as areas of excellence?

Appendix B
Supporting Documents Related to Incentives

University of Iowa Plans:

1. Carver College of Medicine
2. College of Dentistry
3. College of Pharmacy

Non-University of Iowa Plans:

1. University of Louisville School of Medicine
2. University of Pittsburgh School of Medicine
3. University of Virginia School of Engineering and Applied Science

Additional Reference:

Drnach, MJ: Designing an incentive plan for researchers (Case Study), *Journal of Research Administration*, July 2002

Carver College of Medicine
Incentive Program for the Basic Science Departments
Dated: July, 2003

I. Background

The Carver College of Medicine (CCOM) basic science departments consist of the departments of anatomy, biochemistry, microbiology, pharmacology and physiology. Dean Robillard and the basic science department heads are working to immediately address projected financial challenges. This situation demands that the College continue to grow its extramural funding sources and become increasingly cost conscious and cost efficient. Prudent management requires a more austere budgeted faculty salary policy for Fiscal Year 04 than has been experienced in quite a long time. Consequently, budgeted faculty salaries for FY04 have been held at their current levels with the exception of salary adjustments for those being promoted to the ranks of Associate Professor and Professor. Faculty is being advised that with potential tighter financial times it is possible that in FY05 some individuals may once again experience no salary increases or possibly decrements. Faculty members in the basic science departments have twelve (12) month appointments rather than the traditional nine month academic appointments.

The basic science departments have had non-salary incentive programs that reward faculty who generate significant proportions of their salary from extramural research awards. Typically, departments “return” a portion of the faculty member’s salary into an enrichment account for research activities. The amount of salary recovered and returned to faculty has varied amongst departments.

In an effort to encourage incremental extramural funding during these difficult economic times, the College is proposing a modification of existent basic science department incentive programs that reward faculty who generate extramural salary support.

The proposed new plan would create a uniform approach for the basic science departments to reward faculty performance. This program would replace the five different enrichment account programs currently utilized by the basic science departments. A new feature to be added would be the establishment of lump sum incentive payments for faculty who generate 50% or more of their salary from extramural grants/contracts.

Funds previously distributed to faculty in the enrichment accounts would not be affected by this new plan. Those accounts would remain until the funds are depleted in accordance with existent departmental policies and practices.

This proposal will be evaluated over the next two academic years to determine if this pilot program is successful. The review will include an analysis of extramural funding trends and faculty productivity.

II. Proposed Plan

Concept

The concept of a basic science productivity-based incentive plan rests on the faculty member and the department achieving certain goals or productivity and achieving targets in the missions of

research and service. This new plan would continue to recognize faculty whose extramural awards provide significant salary support, and in addition, would recognize faculty with high level awards that provide minimal or no salary support due to funding entity restrictions. The plan would also recognize those who spend a considerable amount of their time and effort contributing to important teaching administrative activities in their department. The new plan is intended to be an incentive that would lead to a substantial increase in research productivity and subsequent salary return for departmental uses, for example, visiting speaker's seminar series, purchase of shared equipment, start-up funds for new faculty, bridging funds for faculty who experience an interruption of extramural support, etc.

Faculty having less than 50% of their salary funded through extramural sources, but 35% or more, would be eligible for "enrichment account" contributions. Faculty with 50% or more of their salary on extramural sources would be eligible for lump sum payments.

The lump sum bonus payments would be in addition to and unrelated to yearly merit salary increases. The basic science productivity incentive payment would be given in early November based on attainment of the previous academic years' goals or targets. Accordingly, basic science productivity incentive payments will not be a permanent part of the faculty member's salary for those who participate in this plan. If the faculty member fails to meet the goals agreed upon, a basic science productivity payment will not be given.

This plan is consistent with the current expectation that all tenure track faculty in the basic science departments support a minimum of 40% of their salary through extramural grant/contract funding. This plan would be applicable to tenure track faculty including department heads of the basic science departments.

The initial year of this basic science productivity incentive plan focuses on research dollar generation. For the obvious reasons, that incremental money will assist in reducing the financial stress of individual basic science departments. It is our hope that future versions of this plan will incorporate provisions that reward extraordinary teaching effort and/or accomplishment along with recognizing faculty service to departments, the College or University.

The following defines the lump sum payment amounts associated with the acquisition of extramural awards that provide salary support, extramural grants that provide limited or no salary support and teaching/administrative service productivity payments.

Research Basic Science Productivity Incentive Payments

Extramural Awards that provide salary support:^{1, 2}

Salary offset of:

- 35%- 39% - \$1,000 enrichment fund contribution
- 40 – 49% - \$2,000 enrichment fund contribution
- 50 – 59% - \$5,000 lump sum payment
- 60 – 69% - \$10,000 lump sum payment
- 70 – 79% - \$15,000 lump sum payment
- 80 – 89% - \$20,000 lump sum payment
- 90% and above - \$25,000 lump sum payment

¹ Carver and other internal seed grant awards that originate from external sources are not considered extramural awards.

² All incentive payments will be based on the ratio of total extramural salary support of an individual faculty member as a percentage of the individual's total salary payments in the previous fiscal year.

Extramural Grants that provide limited or no salary support.^{1, 3, 4}

- If the PI has \$350,000 - \$450,000 in such extramural research support per year, the productivity incentive payment will be determined by the department head and may be up to \$5,000.
- If the PI has >\$450,000 in such extramural research support per year, the productivity incentive payment will be determined by the department head and may be up to \$10,000.
- The PI for a training grant may qualify for an incentive payment of up to a maximum of \$10,000. Determination of payment amount will be by the department head and /or Dean depending on the type, scope and duration of the grant.

Teaching/Administrative Service Incentive Payments

- If a faculty member assumes the directorship of a course identified by the department as particularly intensive of time and effort, or assumes a significant administrative burden in the department, the incentive payment will be determined by the department head and may be up to \$10,000. Each department will identify a course(s) and/or departmental service(s) to which this incentive applies.

Eligibility Requirements

The incentive payment program is applicable to tenure track faculty having their primary appointment in a basic science department of the Carver College of Medicine.

In addition to the above requirements, a faculty member must be on the Carver College of Medicine payroll at the time payment is made. The only exception to this requirement is noted in the below paragraph addressing the eligibility of emeritus faculty.

Faculty in phased retirement will be eligible in year one of their phased retirement based on their performance in the previous fiscal year. Phased retirement participants will be excluded from participation in the incentive pay plan upon completion of the first year of their phased retirement.

Emeritus faculty will not be eligible for an incentive payment except during the first year of their emeritus status based on their performance in the previous fiscal year which is utilized for calculating the incentive payment amount.

Operational Guidelines

The maximum payment in FY04 for an individual faculty member is capped at \$25,000.

The development of procedures for implementation of this program will be the responsibility of the basic science department heads with the Dean, Carver College of Medicine, having final decision authority for the overall program, including adjudication of any interpretation issues, complaints, and/or grievances related to program policy.

This program will be conducted in a manner consistent with applicable personal income tax regulations and laws.

³ Faculty are expected to maximize salary return on such grants to be eligible for productivity incentive payments.

⁴ **May include shared instrumentation and training grants.**

Research Intensive Faculty Incentive Plan
College of Dentistry
University of Iowa
March 2007

We are proposing a new plan that would provide more rapid rewards for faculty who are releasing salary from extramural funding than our previous proposals. The qualifying level is when a 'research intensive' faculty member (i.e. faculty appointed with greater than 50% dedicated research time) brings in salary release greater than 10% of their salary. At this level, 25% of salary release in excess of the 10% trigger point will be returned to a fund in the name of the faculty member. All external grants that release salary are eligible for this plan.

The fund can be used to support research related activities such as attending meetings, buying computers or other equipment, hiring extra assistance etc. Alternatively, the money can be allowed to accumulate and once it exceeds \$10,000, additional dollars can be used as a non-recurring salary bonus. Such bonuses are one time payments, do not increase the base salary and are paid in the fall following the year in which they are generated.

For example. If 20% salary release is obtained and salary level is \$100,000— first 10% to Admin (\$10,000) —then next 7.5% to Admin (\$7500) and 2.5% to faculty account (\$2500). Would need four years to accumulate the \$10,000 and be eligible for bonus.

Likewise, if 50% salary release, first 10% to Admin (\$10,000)—then 10% to faculty (\$10,000) and 30% to Admin (\$30,000)—total 50% or \$50,000. Would be eligible for bonus after one year of accumulation.

**Continuation of Incentive Supplemental Compensation Program
College of Pharmacy
University of Iowa
March 2007**

I. Background

Like all other Units at the University of Iowa, the College of Pharmacy has been working to try to address three major issues: (1) a need to stimulate an increase in funded grants and contracts, (2) broaden our non-general fund financial base to allow us to continue to deliver the high quality professional, graduate and research programs of the college, and (3) respond to the reality that our salaries have slipped substantially in relation to our peer institutions and competitors. In the latter context 4 years ago our average salaries for all faculty were at the 75th percentile of all colleges of pharmacy and about at the 50th percentile relative to the colleges of pharmacy who we consider our benchmarks, including the Big 10. As a result of 4 years of minimal increases our salaries have dropped in comparison leaving us continually vulnerable to loss of key faculty as we try to build our programs. This is not only devastating from the perspective of losing key people, but also requires even great resources to recruit, compensate and provide start up for replacement faculty appointments.

II. Assessment of Pilot Phase

The College piloted the initial phase of this program over the period 2004-2006, and some initial data collected to date are provided in Table 1 below. We have used fiscal year 2003 for comparison, i.e., the year before implementation of the pilot phase. As seen in Table 1, the pilot program seems to have had a significant effect on increasing the number of faculty members in the college who have greater than 20% of their effort paid from extramural grants and contracts. When examining the UIRIS data for faculty in academic divisions of the college (note: this only includes grant applications where the principal investigator (P.I.) is in the College of Pharmacy), there were increases in numbers of applications and total dollars of applications. Since faculty in the College of Pharmacy routinely collaborate on research projects where the P.I. is located in another college, we have also included within Table 1 a listing of the total of all extramural grant and contract dollars into College of Pharmacy academic divisional accounts during each fiscal year – one measure of success by faculty in obtaining research grants that incorporates involvement as both P.I. and co-investigator (Co-I).

Table 1. Evaluation of Incentive Compensation Program for Extramural Research^a

Indicator	FY03 (Before ISCP)	FY04	FY05	FY06
Number of Grant Applications with COP P.I. ^b	55	55	92	77
Total Dollar Value of Grant Applications with COP P.I. ^b	\$7,109,995	\$9,590,118	\$13,388,993	\$13,002,316
Total Grant Dollars Awarded with P.I. in the COP ^b	\$3,109,694	\$3,564,088	\$2,574,166	\$3,294,820
Total Grant Dollars received into Academic Division Accounts with either P.I. or Co-I in the COP ^c	\$3,214,042	\$3,470,439	\$3,731,786	\$4,284,375
Number of faculty with 20% or more salary paid from extramural grants	6	12	11	9

^aAcademic divisions of the College of Pharmacy only

^bData from UIRIS for academic divisions only (i.e., data on service divisions were excluded).

^cData from total grant dollars into academic division accounts in the college

In addition to supplemental compensation based on research, we have paid supplemental bonuses related to our outstanding teaching awards that are given annually in the College of Pharmacy, as well as several instances of supplemental compensation due to outstanding service to the college during the previous year. In recognition of the outstanding teaching awards, 5 supplemental bonuses were paid in FY04, 3 in FY05, and 4 in FY06. There were 2 service-related bonuses in FY04, 3 in FY05, and none in FY06.

III. Proposal to Modify and Regularize the Program

Despite the simultaneous down turn in overall federal funding with a particularly difficult period being endured at the NIH we feel the data collected during the pilot phases warrant the adoption of this program in the College of Pharmacy. Grant applications and total dollars generated are up, faculty interest in capturing salary to offset time spent and this program has clearly shown benefit in terms of recruitment and retention of faculty. In addition over this period we have determined that many of our peer institutions have begun to adopt similar programs thereby increasing the creating a more challenging competitive position and requiring us to be responsive in salary opportunities for the excellent faculty we currently have and plan to recruit in the future.

The College currently has a *non-salary* incentive program that reward faculty who generate significant proportions of their salary from extramural awards. Typically, the divisions “return” a portion (up to 50%) of these recovered funds directly back to the faculty member for enrichment account for research activities and retain a portion to provide infrastructure funding for the Divisional graduate and research programs.

The proposed plan would continue the program where we create a pool funds from grant and other sources for purposes of providing supplemental *non-recurring salary* to faculty who meet specific criteria achievement in research, teaching and service within the College. Thus salary supplements would be awarded the year after achievement of these required accomplishments as a lump sum compensation or as program support for teaching and research at the discretion of the faculty member.

IV. Proposed Plan

The concept of this productivity-based incentive plan rests on the faculty member and the divisions achieving certain goals of productivity and achieving targets in the missions of research and clinical service. This new plan would continue to recognize faculty whose extramural awards provide significant salary support or contracts for clinical service revenue, and in addition, would recognize faculty with high level awards that provide minimal or no salary support due to funding entity restrictions. The plan would also recognize those who spend a considerable amount of their time and effort contributing to important teaching/service activities in the college. The plan is intended to not only reward exemplary teaching and service but also to be an incentive that would lead to expanded scholarship of teaching within the College and a substantial increase in grant and contract productivity and subsequent salary return for departmental uses, such as visiting speakers seminar series, augmented graduate student stipends, purchase of shared equipment, start-up funds for new faculty, bridging funds for faculty who experience an interruption of extramural support, etc.

The lump sum bonus payments would be in addition to, and unrelated, to yearly merit salary increases. The productivity incentive payment would be paid in early November based on attainment of the previous academic years’ goals or targets. Accordingly, productivity incentive payments will not be a permanent part of the faculty member’s salary and vary year to year based upon the previous year’s productivity.

An option would also exist to have this bonus provided for direct use to the faculty in support of their research programs rather than as nonrecurring salary.

This plan is consistent with the current expectation that all tenure track faculty in the College support a minimum threshold level of their salary through extramural grant/contract funding and that all clinical track faculty strive to generate appropriate revenue for their clinical services. The following defines the criteria for achieving these supplemental payments:

Research Grant and Contract Productivity Awards

Salary Offset as a % of Salary Support:

- 20% - 29% \$ 2,000
- 30% - 39% \$ 5,000
- 40% - 49% \$10,000
- >50% \$15,000

Exceptions and circumstances where faculty have significant extramural grants/contracts that provide limited or no salary support

- An exception to the policy would be the acquisition of a Career Development award that pays full or nearly full salary and specifically excludes faculty from participation in teaching and other regular activities during the period of the grant. In that situation a portion of the salary offset will have to be utilized to fund others to participate in the regular teaching program and in the case of faculty with service obligations to offset the cost of providing that service during the period of the grant. If this is the only grant support for the faculty member in question and the salary exceeds 50% then the Productivity Award will be limited to \$5,000 in any one year the grants is in effect.

Clinical Service Productivity Awards

In the absence of an approved faculty practice plan for clinical service in the College of Pharmacy, the program described for research will be extended to cover funded faculty time providing clinical service activities which generate reimbursement that comes back to the college and can be used to offset general fund salary.

Reimbursed returned as a % of Salary Support:

- 10% - 19% \$ 2,000
- 20% - 29% \$ 5,000
- 30% - 39% \$10,000
- > 40% \$15,000

Excellence Awards in Teaching

Because excellence in teaching is also an important goal for the College, faculty can qualify for consideration of an excellence award and incentive compensation in teaching as well. It should be noted, that receipt of an Academic Excellence Award in Teaching does not disqualify a faculty member from receiving supplement if they meet the criteria under research or service as well. Four categories of teaching awards have been defined as follows:

1. By receiving an external teaching award during the relevant fiscal year. Acknowledgement of teaching excellence at the national level (e.g., through AACCP, APhA, etc.) represents a rigorous peer review of teaching performance. **Faculty who receive such an external award will qualify for a \$3,000 Academic Excellence Award in Teaching during the following year.**
2. By receiving a University of Iowa Instructional Improvement Award. Faculty selected by the UI Council on Teaching for special funding to support instructional initiatives for the Pharm.D. program will **qualify for a \$2,500 Academic Excellence Award in Teaching.**
3. By receiving a College of Pharmacy teaching award during the relevant fiscal year. Teaching excellence, as identified by our students, also should be rewarded. However, recipients of College-based awards are not subjected to the type of rigorous peer review that is associated with external awards. Consequently, faculty receiving the Collegiate Teaching Award in a given year will receive **a \$3,000 supplement and faculty receiving the other class teaching awards will receive a \$1,500 award in the following year.**
4. By being recognized for teaching innovation by an internal peer review process. Awards of **\$3,000** may be awarded to individual faculty who have had an unusually positive impact on the PharmD. or Graduate educational program of the College. More than one award may be made for each fiscal year. Faculty may be nominated for this award by Division Heads, colleagues, students or self. A brief (2 page maximum) written statement describing the innovation and the methods used to accomplish educational goals will be submitted by the nominee. This statement may include contributions the nominee has made to the intellectual environment and/or scholarship of teaching of the College, as well as any innovative or special instructional methods he or she uses.

A review panel, consisting of the Director of the Pharmacy Teaching Center, faculty who have received external or College of Pharmacy teaching awards during the previous year and an external reviewer with expertise in education will review and rank-order nominated faculty in any given year according to the following criteria:

Innovation – Does the nominee employ novel concepts, approaches or methods? Does the nominee challenge existing teaching paradigms or develop new methods or technologies?

Internal Impact – Does the nominee demonstrate how the innovative program or course adds to the quality of the curriculum in the area that this course or innovation fits?

External Impact – Have the teaching methods or results been subjected to peer review? Have the teacher's efforts been described in a poster presentation or publication?

Each of these points reflects a specific aspect of instructional competence. It is not necessary for a nominee to demonstrate outstanding characteristics in each of these areas, although the strongest nominees will be those who portray these characteristics.

**Louisville School of Medicine
Research Incentive Plan
FOR EXTRAMURAL SALARY RECOVERY FUNDS
School of Medicine, Effective July 1, 2003**

The Schools of Dentistry, Medicine, Nursing and Public Health (“HSC Schools”) benefit from an infusion of extramural funds. The HSC Schools expect faculty to include salary support on grants and contracts when appropriate to their discipline and faculty work assignment. While some baseline of extramural funding is expected for many HSC faculty, obtaining funds in excess of that baseline is the objective of this plan. This document outlines an incentive plan to encourage faculty to achieve additional extramural funding.

A broad definition of eligible grants and contracts will be used during the first two years of this plan. Afterward, the plan will be evaluated to determine the appropriate qualifying awards and contracts. Eligible sources during the first two years are grants and contracts that equal or exceed the offsite Facilities and Administrative rate (currently 26%). For junior faculty (Instructor and Assistant Professor), all extramural grant sources with salary release will qualify.

The incentive plan is funded from realized salary recovery. These funds are controlled by the Deans of the HSC Schools. In recognition of faculty success, the Deans will provide an award that will be paid either as a twelve-month supplement or as an equivalent dollar value return to lab budgets. Faculty may choose between these two options.

For the School of Medicine (SOM) the incentive policy is as follows:

In order to be eligible, faculty must meet the following criteria:

1. Recover the component of one’s salary, “expected portion from grants,” which should be clearly stated in written form by the chair. **Faculty must ask for a written statement from their chair regarding salary expected from grants prior to requesting an incentive award supplement.**
2. Recover an additional 25% of “total compensation” (i.e., base salary plus supplement), or 50% of the annual work assignment percentage in research, whichever is greater. This additional percentage is referred to as the “SOM baseline expectation.”

The incentive award will equal 50% of the salary recovery that exceeds the “expected portion from grants” plus the “SOM baseline expectation.” The remaining salary recovery funds will be returned to the department chair to support research activities. Faculty members eligible for the incentive award must notify their department chair whether the award should be made as a supplement or as an addition to a lab budget. Any faculty member desiring to participate in this incentive plan must notify his/her department chair of the intent to participate in the plan.

If a faculty member receives a research incentive supplement, and is then awarded an additional grant with salary release, the “total compensation” used to calculate an additional incentive supplement will include the amount of the initial research incentive supplement.

Research incentive awards are renewable annually assuming the faculty member continue to qualify.

Some may assert that this plan is detrimental to faculty who have heavier teaching requirements, especially those that have taken a heavier load to free up another faculty member's research time. To remedy and address this issue, 20% of the amount equal to excess returns to the department generated by this incentive plan will be set aside to be used to create financial teaching awards.

CHANGES TO INCENTIVE PLAN: Following discussion at Medical Council yesterday, the School of Medicine expectation for all faculty from 25% of their total compensation as now stated, to a minimum of 25% of their total compensation or 50% of their annual work assignment percentage in research, whichever is higher. Thus all faculty will be expected to secure 25% of their compensation if they would like an incentive payment and, for example, a faculty member with 80% research will be expected to recover at least 40% of their salary on grants before becoming eligible for an incentive. Departmental bars can be above this baseline expectation. Individual contracts can set bars above this baseline expectation.

EXAMPLES

Annual Salary (A12)	Salary Paid from Non-Grant Funds	Salary Paid by Grants	Incentive Award	Return to Department
\$100,000 (example #1)	\$100,000 (\$0 expected portion from grants)	\$25,000	\$0	\$25,000
\$100,000 (example #2)	\$100,000 (\$0 expected portion from grants)	\$50,000	\$12,500	\$37,500
\$100,000 (example #3)	\$75,000 (\$25K expected portion from grants)	\$25,000	\$0	\$0
\$100,000 (example #4)	\$75,000 (\$25K expected portion from grants)	\$50,000	\$0	\$25,000
\$100,000 (example #5)	\$75,000 (\$25K expected portion from grants)	\$75,000	\$12,500	\$37,500

Explanations for these examples:

(#1) The faculty member is bringing in 25% of the annualized base but no more. This is the SOM baseline expectation and therefore no award is given.

(#2) This same faculty member with the entire base covered by non-grant funds (\$0 expected portion on grants) is bringing in 50% of her salary on grants. She would get \$12,500 as a research incentive award. The first \$25,000 covers the SOM baseline expectation, the excess \$25,000 is divided, half to the faculty member (\$12,500) and half to her department (\$12,500 plus the \$25,000 SOM baseline expectation).

(#3) The faculty member is expected by her chair, as part of her base compensation, to bring in \$25,000 from grant or other extramural funding sources. She is doing that but no more, and thus no incentive

award is given. All of her salary on grants is used towards actual base and so the department does not get anything either.

(#4) The faculty member is covering the part of her base expected portion from grants as specified by the chair, but in excess of that, she is bringing in another 25%. The department gets the excess 25%, but because that is the SOM baseline expectation, the faculty member gets no incentive award.

(#5) The faculty member is covering her base (\$25,000 expected portion from grants by the chair) and she is covering the baseline expectation of the SOM (\$25,000) but she is also bringing in an extra \$25,000 beyond that. Here the incentive award is available the faculty member gets 50% of the extra \$25,000, resulting in a \$12,500 incentive supplement (the department keeps the other \$12,500 as well as the initial \$25,000). Her salary would increase by \$12,500 due to the research incentive award and be maintained as total university compensation as long as the faculty member continues to support 50% of total university compensation with extramural funds.

University of Pittsburgh School of Medicine, Office of Faculty Affairs

University of Pittsburgh

Research Incentive Plan (Effective 7/1/02)

⌘ **This policy remains in effect through 6/30/10 for all faculty hired prior to 7/1/09.**

As a means of encouraging active participation in competing for extramural support for research projects, an incentive plan for full-time faculty in the School of Medicine has been adopted. The plan provides for a salary supplement to those principal investigators who have been awarded a competitive research grant or contract from outside funding sources. The guidelines are as follows:

1. The plan is limited to full-time faculty with primary appointments in the School of Medicine.
2. The award must designate the University of Pittsburgh as the awardee organization and must be assigned to one of the departments, or major institutes in the School of Medicine to be eligible. With the exception of Program Project Grants (P01 or similar grants), awards processed through other schools of the University, or organizations affiliated with the University do not qualify.
3. The investigator or investigators on a grant must match their percent of University salary on the grant with the percent effort on the grant to be eligible for the research incentive.
4. The incentive will be determined by calculating an amount equal to 10% of the indirect cost recovery. The principal investigator will be paid a salary supplement equivalent to 10% of the actual indirect cost recovery earned during the quarter on any and all research grants. Payment will be made during the quarter following the quarter in which the actual indirect cost recovery was earned. When there are co-investigators, the incentive supplement will be paid to each in accordance with an agreed upon proportion of the 10% amount. In all cases, there will be signed agreements by the parties defining the distribution of the incentive payment. The agreement must be approved by the respective department chair prior to the submission of the application. If there are any unsettled disputes concerning the distribution, the department chair shall adjudicate the differences. If disputes arise between departments, the Dean will adjudicate the differences.
5. All research incentives will be paid through the faculty member's primary department. Organizational units responsible for funding the research incentive will pay the incentive amount to the faculty member's primary department, including any fringe benefit amount.
6. This incentive is limited to a \$50,000 cap annually per investigator which includes all grants and/or contracts.
7. Incentive plans for clinical department chairs will be individually negotiated, which may or may not include a research incentive. If a research incentive is included, a cap will be specified, but will be no higher than \$50,000.
8. A principal investigator for a designated project of a program project grant (P01 or similar grants) will share in the incentive in an amount equivalent to 10% of the indirect cost recovery of the separately budgeted project. If there is more than one principal investigator for a designated project, the share attributed to the project will be distributed according to an agreed upon proportion as described in item 4 above.
9. While it is expected that all departments will participate in this incentive plan, a department may

apply to opt out of this plan if the department finances are such that the department cannot afford to have this incentive plan. A department cannot, however, have a different research incentive plan. This plan is intended to be the standard research incentive plan for the school. The approval of the Dean and the President of UPP is required for a department not to participate.

Contact Info

- Office of Faculty Affairs, University of Pittsburgh School of Medicine
- facaffairs@medschool.pitt.edu
- 412-648-9060

University of Virginia
School of Engineering and Applied Science
2007

Background: The School of Engineering and Applied Science introduced a *voluntary* faculty incentive bonus plan for the 03-04 academic year. It was to be reviewed periodically to determine its effectiveness, its fiscal soundness, and the merits of the distribution algorithm. In order to make the plan available to more faculty and hence increase its effectiveness as a tool to attract and retain tenure and tenure track faculty, while at the same time striving to ensure that the plan remains affordable and cost neutral, the following revised plan will be implemented for the 07-08 fiscal year.

Eligible Faculty: To participate in this plan, faculty members must be tenured or tenure track (T3) in a department of the School of Engineering and Applied Science and *in residence* at the University. The Dean may approve participation of other faculty in the School in consultation with the appropriate department chair and/or center director.

Faculty Duties: Care must be taken by those participating in the plan to fulfill their other responsibilities including teaching, committee work, administration, advising of undergraduate and graduate students, and the administrative duties of chairs and administrative faculty. Chairs should maintain an equitable balance of faculty duties in their departments so as to maximize the benefits of the incentive plan.

Maximum Level of Incentive Bonus: In all cases, the maximum level of academic year support from extramural sources will be limited to 4.5 months, i.e., half of the 9 month academic year (62.5 % for the 12 month fiscal year) unless specifically approved otherwise by the Dean.

Eligible Extramural Sources: Sources of faculty salary support that will be recognized for purposes of the incentive plan include:

1. Sponsored research grants from federal government, state, foundation, and corporate sources.
2. Other qualifying income from extramural sources--as determined by the Dean of the School of Engineering and Applied Science.

The dean of the School of Engineering and Applied Science will make the final determination of the eligibility of all salary funds.

Base Salary Consideration: Most School of Engineering and Applied Science faculty hold 9-month appointments. The school also has a 12-month (fiscal year) appointment for faculty with sufficient salary support from research. Per SEAS policy, to qualify for a 12-month appointment, T3 faculty are required to provide 40% of their 12-month salary from research (this is equivalent to 4.8 months of research support, 3 months for the summer and 1.8 months during the 9 month academic year). The 12-month appointment provides a full 12 months of university retirement contributions. Twelve-month faculty are also eligible for the incentive plan as described below.

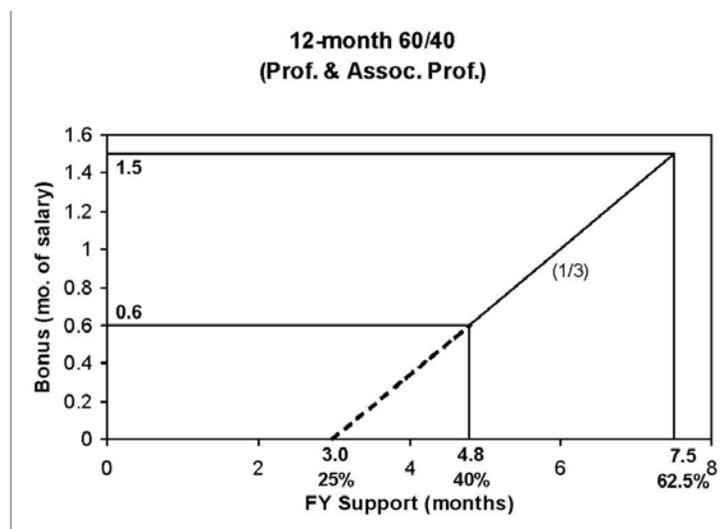
To participate in the incentive program, 12-month faculty must support at least 1.8 months of their academic year salary from extramural sources. It is recognized that this is much more challenging for junior (assistant) professors, who must build their research program over time, and thus a modified program is included in the incentive plan for them. In a major change to the original incentive plan, 9-month faculty can now qualify for this revised incentive plan by providing a minimum of 0.5 month of their 9-month academic year salary. Finally department chairs and deans can also qualify for this revised incentive plan as explained below.

SEAS Salary Incentive Plan

The SEAS Salary Incentive Plan addresses the following faculty groups: 1) 12-month associate and full professors participating on a 60/40 fiscal year basis, 2) 12-month assistant professors, participating on a 75/25 fiscal year basis; as well as 12-month assistant professors during their first two years of service, 3) 9-month faculty who support at least 0.5 month of their academic year salary from eligible extramural sources, 4) department chairs, and 5) administrative faculty. The dean of the School of Engineering and Applied Science must approve all bonuses or distributions under this plan.

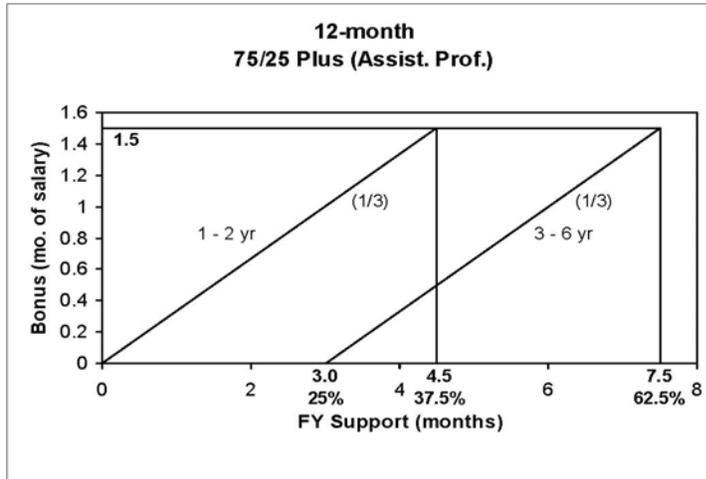
1) Twelve-month 60/40 Plus (Associate & Full Professors):

A 12-month appointment for associate and full professors requires a minimum of 40% fiscal year salary support from extramural sources, i.e., 1.8 months of academic year buyout plus 3.0 months of summer support, per SEAS policy for 12-month appointments. This minimum level of research support also qualifies the faculty member for the incentive plan. Any academic year buyout will result in an end-of-year bonus equivalent to 1/3 of the total academic year buyout, e.g., 4.8 months of fiscal year support provides 1.8 months academic year buyout which results in a 0.6 month bonus. The school will split the 2/3 portion beyond the qualifying 4.8 month threshold with the departments.



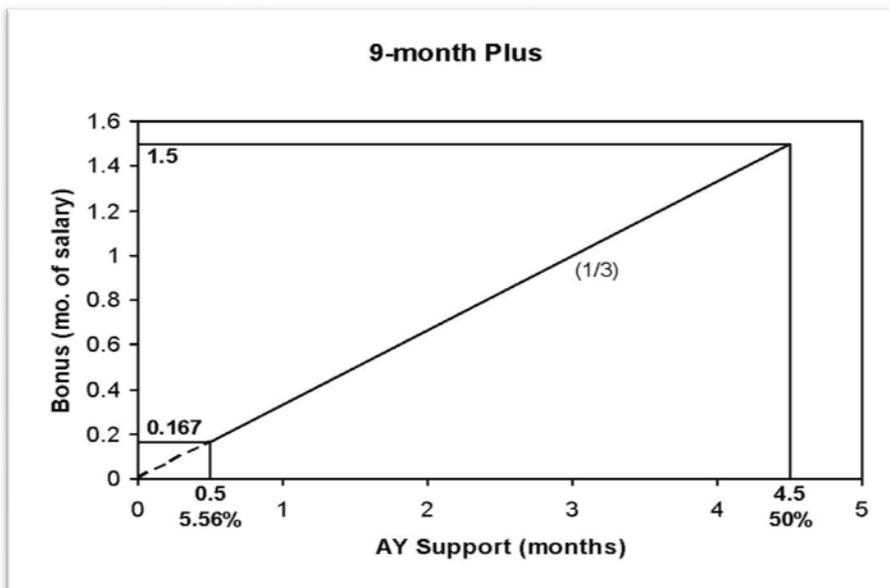
2) Twelve-month 75/25 Plus (Assistant Professors):

Assistant professors with two or more years of SEAS service who provide three months of summer support, regardless of whether they provide academic year buyout, will qualify for a 12-month appointment and receive a full twelve months of retirement benefits. Any academic year buyout will result in an end-of-year bonus equivalent to 1/3 of the total academic year buyout. The school will split the 2/3 portion beyond the 3.0 month qualifying threshold with the departments. Once promoted to associate professor, the faculty member will be eligible for the standard 60/40 *Plus* plan. Thus a plan to increase his or her total grant support to the 60/40 level by the time he or she is eligible for promotion to Associate Professor is encouraged. Assistant professors with less than two years of SEAS service will be placed on a 12-month appointment and any fiscal year research support will be split on a 1/3-2/3 basis, i.e., 1/3 to faculty member and 2/3 to school, and returned as an end-of-year bonus. The school will split the 2/3 portion with the departments.



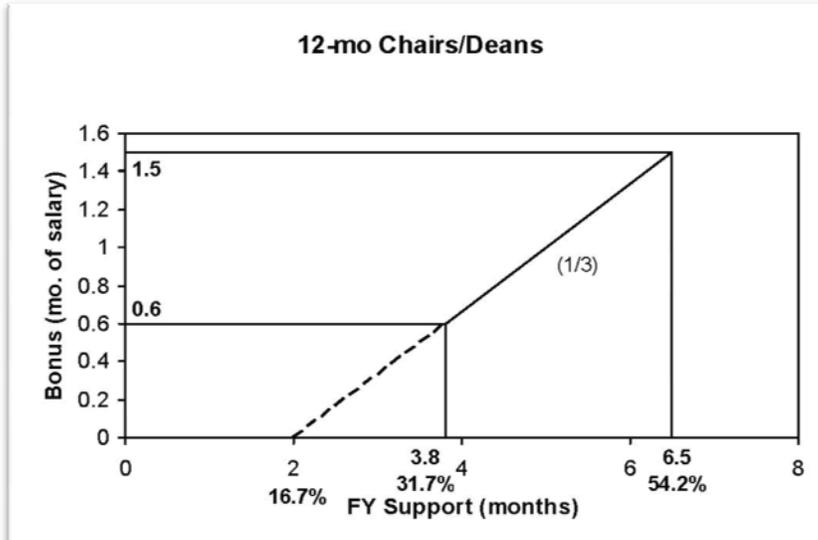
3. Nine-Month Plus:

Many faculty, because of funding agency restrictions, or fluctuations in their research funding, are not able to participate in the 60/40 *Plus* plan on a regular basis, even though they can often cover three summer months of salary support. Such 9-month faculty will be eligible for the incentive plan if they provide a minimum of 0.5 month academic year research buyout. In these cases, any academic year buyout will be split on a 1/3-2/3 basis, i.e., 1/3 to faculty member and 2/3 to school, and returned as an end-of-year bonus. The school will split the 2/3 portion beyond the 0.5 month qualifying threshold with the departments.



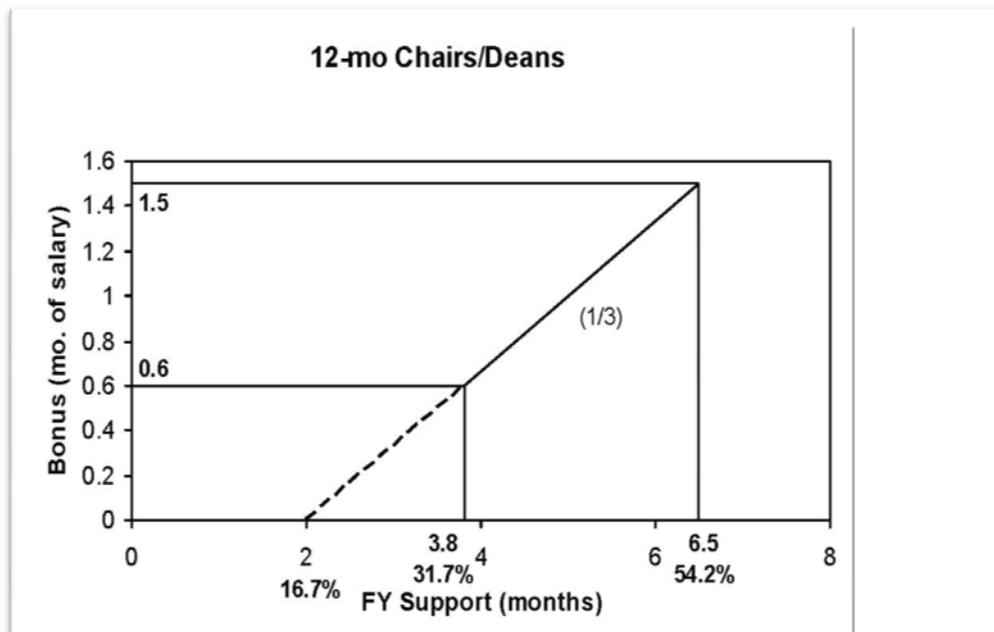
4) Department Chairs *Plus*

SEAS department chairs are customarily appointed to 12-month appointments, with 10 **months** of salary on state funds and two months on research. In order to participate in the salary incentive plan, department chairs must support an additional 1.8 months, i.e., a total of 3.8 months. Any support beyond 2.0 months will be split on a 1/3-2/3 basis with the chair and returned as an end of year bonus. The school will split the 2/3 portion beyond the 3.8 month qualifying threshold with the departments.



5. Administrative Faculty *Plus*

There is a long tradition of research active administrative faculty in SEAS. Administrative faculty are normally appointed on a twelve-month basis from state funds. In order to participate in the salary incentive plan, administrative faculty must support 3.8 months of their salary, i.e., the same level as the department chairs *Plus* plan. Support beyond 2.0 months will be split on a 1/3-2/3 basis and returned as an end-of-year bonus.



Use of Incentive Funds: The incentive bonus will be provided as a lump sum wage payment within two months of the end of each fiscal year (June 30).

Compliance: The intent of this plan is to encourage T3 faculty to produce extramural income that can be used to support faculty salaries. In order for this plan to be successful, it is necessary for each faculty member who elects to participate in the plan to allocate on their grant proposals, an allotment for faculty salary consistent with the percentage of professional effort to be devoted to the project. Once awarded, it is expected that the funds awarded for faculty salary support will be used for this purpose.

Plan Review: This salary incentive plan will be evaluated periodically to determine its effectiveness, its fiscal soundness, and the merits of the distribution algorithm.

Table 1. Summary of Incentive Bonus Program

Program Faculty Rank	Salary Support Threshold for Eligibility	Bonus Threshold *	Eligible Salary Support Paid as Additional Compensation
60/40 Plus			
<i>Full/Associate Professors</i>	4.8 mos of FY	> 3 mos of FY up to 7.5 mos of FY	33.3%
75/25 Plus			
<i>Assistant Professors, years 1-2</i>	0 mos	> 0 mos of FY up to 4.5 mos of FY	33.3%
<i>Assistant Professors, years 3-6</i>	3 mos of FY	> 3 mos of FY up to 7.5 mos of FY	33.3%
Nine Month Plus			
<i>Full/Associate Professors/Asst Professors, years 3-6</i>	0.5 mo of AY	> 0 mos of AY up to 4.5 mos of AY	33.3%
Department Chairs Plus			
<i>Department Chairs</i>	3.8 mos of FY	> 2 mos of FY up to 6.5 mos of FY	33.3%
Administrative Faculty Plus			
<i>Administrative Faculty</i>	3.8 mos of FY	> 2 mos of FY up to 6.5 mos of FY	33.3%

**The maximum level of academic year support from extramural sources is limited to 4.5 months unless specifically approved by the Dean.*

Entrepreneur

By Michael J. Drnach | April 2002

Journal of Research Administration

Introduction

The NIH (2000) reports that between the years 1990 and 2000 funding to the medical research community increased nearly 50%. This increase in funding has led to a faster-than-average job growth predicted by the Bureau of Labor Statistics (2000) for the time 1998-2008. The increased funding by NIH, however, has tapered off, and has caused financial pressure on NIH, which responded by reducing the number of awards and size of awards. This decrease in award dollars has increased competition for such funds, putting more pressure on both new and established researchers. To encourage productivity and reward researchers during this highly competitive time, a group of researchers and administrators established a monetary incentive plan that would potentially attract new researchers and retain the brightest and best researchers in the department. The result was a research incentive plan that rewards research labs and/or individual researchers for their financial independence.

The plan's goal is to reward financially independent Research Programs/Divisions while maintaining equity within the department. Clinicians within the department have operated under a combined base salary/incentive program for several years and this plan is successful as evidenced by the increased number of individuals in balance and in incentive. The hope is to achieve the same level of success with the researcher faculty. Furthermore, the allocation of funds within the research incentive plan mimics the clinician's incentive plan to maintain one financial process, making it easy to administer and monitor, as well as maintain a sense of fairness within the department.

The Basic Framework of the Plan

The plan recognizes researchers who manage a balanced program and operate in a positive financial condition in accordance with our previously developed Department Research Program Guiding Principles.

1. The program/division must have access to discretionary funds.
2. Incentives are calculated and paid annually with funds from the program's discretionary account. Discretionary account funding is derived from the interest earned on departmental endowment funds. Only 75% of the unencumbered balance in the discretionary account is available for incentive payments; the remaining 25% must stay in the discretionary account to cover any encumbered or unanticipated program/division needs. For example, see Figure 1.
3. The program/division must be financially self-sufficient, meaning that no financial support is received from the department. It must also project a positive cash flow for the 12 months following an incentive payment.
4. The program/division must also meet with the current hospital space recovery figure.
5. At fiscal year-end, the program/division determines the individual incentives based on the total financial contribution to the program/division made by the individual. The individual's incentive figure may not exceed the percent of an individual's grant/funds (both direct and indirect) which contributed to the total program/division's grant funding. For example, researcher A would generate \$1,000 (10% maximum) when the researcher begins in a new \$10,000 in grant funding.
6. The program/division director may request a lump sum incentive amount paid to the overall program/division or an incentive amount for a specific researcher within their program/division.
7. The department chair must approve final decisions on all incentive payments.

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Winners and Winners

The beneficiaries of the incentive plan are not only the individual recipients of the incentive payments but also the program/division itself, as well as the overall department. The individual recipient's benefit is the salary incentive payment intended to stimulate and advance their research efforts. The goodwill and increased productivity that will be generated by the incented researchers reward the program/division. The department, rewarded by the potential increased grant revenue generated by the incented researchers, may receive increased support from the institution such as priority in allocating research space and increased financial support from additional overhead collected from research revenues.

The Calculation Process

To ensure equity across all research programs/divisions, pro-forma revenue and expense statements are prepared for each program/division. Only those programs/divisions that are currently or projected to be in balance are eligible for the incentive plan. Program/division directors are notified of their eligibility at the end of each fiscal year. Once notified, the program/division director may participate in the incentive plan or may hold the funds in escrow for future use. In deciding whether or not to participate, program/division directors must weigh the pros and cons of an incentive program.

The pros of an incentive program include demonstrating support for new researchers, promoting goodwill, and supporting increased productivity. Employee retention may also be affected, as employees who are financially rewarded may be less likely to leave their jobs for more lucrative or stable offers. With satisfied productive employees researcher efforts may increase, benefiting the entire department through increased institutional support due to a revenue increase for the program/division.

There are cons to incentives as well. The program/division director must work to minimize any negative impact from an incentive plan. A negative effect of an incentive program may be a shift in focus by individual researchers of the program/division away from altruistic research to more lucrative fields of research. Furthermore, there may be an increase in competition among researchers that may lead to less collegial interaction. Finally, programs/divisions that do not have the financial means to support incentives may see the departure of their employees, causing a potential brain drain for the overall department.

The Design Phase

Cooperation between research and administration was essential when designing and implementing an incentive plan. The plan described here was designed with the goal of promoting financial independence and stability within our research labs as well as providing a vehicle for our program/division directors to reward and encourage promising researchers. With careful planning and a commitment to research, an incentive plan can be successfully implemented.

Key elements in designing the incentive plan were cooperation and commitment. Cooperation from senior researchers within the department is critical for the plan to appeal to all researchers within the department. Involving the senior researchers in the design phase helped to create a commitment to successfully implement the plan. The design team included two senior researchers, an influential new researcher, and two senior-level administrators. The idea for the plan was generated by one of the senior researchers who wanted to reward two novice researchers who received their first federal grants during the past year. The senior administrators modeled the incentive plan after the current clinician's incentive plan to maintain consistency within the department and to minimize the perceived differences between the researchers and clinicians. This was necessary since one group often feels like a second-class citizen to the other. Consistency also makes the plan easier to manage. Equity was maintained in that both researchers and clinicians are eligible for an incentive.

Roadblocks

In modeling the plan, there were differences between the clinician's and researcher's plans. A major difference was the source of funds. The clinician's plan is supported through funds generated by the clinicians. Researchers do not normally generate excess income through research, so interest generated from endowment accounts and other private sources of funds (i.e., gifts) was used. Endowment accounts are accounts held by the institution and created from contributions made to the program/division from external persons or groups. Our more senior researchers have been able to generate large unrestricted gifts from which to generate interest income. This interest income is deposited into an interest-bearing discretionary account from which the program/division directors can spend. Working with our institution's development office, the department established substantial endowment accounts from which the chairman dedicated interest income to several program/divisions. A large endowment, typically one million dollars, is needed to generate enough income to support an incentive program. This can, however, cause a program for programs/divisions without the resources or expertise needed to generate a large endowment. In a few instances, interest from endowments previously established by the department have been earmarked for a specific program/division to support activities such as an incentive plan. This is a choice of the department but one that could help meet the goals of the incentive plan.

State your Goals!

The goals of an incentive plan should be established during the design phase. The goals should be clearly stated and understood by all members of the department to avoid any confusion as to the purpose of the program and to avoid any potential conflicts among participants. The goals were to reward, motivate, and support the research community within the department. As with any plan there are limitations that can make reaching the goal(s) difficult. One limitation is the availability of funds. Another limitation that should not be overlooked is ensuring that adequate and capable personnel are available to monitor and implement the plan. It is recommended that trained personnel be involved to accurately calculate and disperse incentive dollars. Due to personnel turnover, the plan described above has not yet been fully implemented, reflecting the importance of having adequate administrative personnel. Included in the appendix is a copy of the draft incentive plan the Ob-gyn group designed.

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APPENDIX C

Areas of Focus

Brief Description of Suggested Areas of Focus

Biomedical Discovery

Biomedical research, a longstanding and notable strength at this university, involves several colleges across this campus, including the Colleges of Medicine, Public Health, Pharmacy, Dentistry, Nursing, Engineering, and Liberal Arts and Sciences, and could involve others, e.g. the College of Law--legal and ethical implications of biomedical discovery. There are clearly many existing strengths which address major diseases including: diseases often found in childhood such as cystic fibrosis, hereditary eye diseases and muscular dystrophy, chronic diseases such as those involving the cardiovascular and the immune systems, and cancer, which all involve inter-, multi-, and trans-disciplinary teams. Structurally, UI is well poised to forge ahead in biomedical discovery in part because of the Institute for Clinical Translational Sciences (ICTS), which can foster bench to public health research, as well as the new Iowa Institute of Biomedical Discovery (IIBD). Further, all of these areas have current and potential extramural research support through the NIH, NSF, and private foundations. Many areas of research falling under the broad theme of 'Biomedical Discovery' have overlap with other areas that the Task Force identified, i.e. Communication Sciences, Developmental and Aging Studies, Global Health, and Transformative and Translational Technologies (see below). Some more specific examples of areas that might be future areas of research focus at UI include diabetes, infectious diseases, and neurological diseases.

Communication Sciences

The University of Iowa has a long history of leadership in the arts and sciences of the voice and hearing, as well as social, cultural, behavioral, and media-related studies of communication. Many of our buildings on campus are named for scholars who studied communication in some form: Seashore, Johnson, Mabie, Becker, and Voxman. Presently, UI boasts top-ranked department of Communication Sciences and Disorders and Otolaryngology, along with excellent programs such as Communication Studies, Journalism, Cinema, and Music. This broad area encompasses a number of multidisciplinary teams of faculty from the Colleges of Liberal Arts and Sciences, Medicine, and Public Health, who investigate biomedical, cognitive, developmental and social aspects of receptive and expressive communication. Many of these work groups have an outstanding track record of external funding and top ranked training programs. With regard to social benefit, hearing loss is the third most common chronic condition to affect Americans after hypertension and arthritis. Communication sciences are also at the forefront on developmental conditions such as autism and other forms of speech and language disorders, as well as studies of media and digital forms of communication.

Developmental and Aging Studies

This broad area encompasses a number of existing IDR groups on campus that study behavioral, biological, and sociocultural aspects of development throughout the lifespan. These interdisciplinary teams have established a current reputation of or an emerging profile of excellence, including (inter)national recognition, at the juncture of two (or more) disciplines, which is fiscally viable through sustainable forms of support (extramural, tuition, philanthropy, etc.). The academic units involved (Nursing, Psychology, Public Health, Dentistry, Center for Aging, Neuroscience Program, Delta Center, and Older Adult's CERT) have strong track records of successfully recruiting faculty, staff, and strong trainees. In gerontology, older people in Iowa and the nation subsume important economic, social, and health care needs that require innovative research approaches in order to achieve family fiscal sustainability, maintain quality of life, and promote personal and societal productivity. At the other end of the age spectrum, birth defects and preterm birth result in almost 5 million deaths per year worldwide and made the single greatest contribution to disability adjusted life years, exceeding HIV/AIDS, diabetes and cancer combined. These studies require a concerted and diverse approach for research and development from social, legal, educational, psychological, engineering and health professional sciences.

The Expressive Arts

UI has enjoyed a long history of leadership in the visual and performing arts (music, theatre, and dance) and creative writing. Indeed, the University pioneered MFA degrees in creative writing and studio art, developing influential and nation-leading programs that became the template for higher education in these fields. Because creative expression and the arts examine and present such diverse aspects of the human condition, the opportunities for interdisciplinary collaboration are endless (e.g., works that explore issues such as illness, culture, politics, spirituality, or emotion, etc.). The creation of multimedia works can generate collaboration with experts in computer science. While the expressive arts do not typically enjoy access to the large external funding sources (as is the case in the sciences), the performing arts generate funds through ticketed events and philanthropic support. At this point in our history, the typical patterns of functioning within the performing arts have been seriously disrupted by flood damage. However, within the next five years, new state-of-the-art buildings will be built. Absorbing global influences, alert to multi-media innovation, and aware of unreached audiences and unheard voices, these disciplines are poised to discover new modes of creative expression. The arts have a longstanding role as a bridge-builder between cultures and the university's programs can certainly model for the rest of the university the move toward a more internationalized approach to learning and knowledge.

Global Health

This choice acknowledges the importance of human diversity and our existence within a global community. Existing research groups or consortia that could potentially contribute interdisciplinary research under this broad theme include faculty members representing the Colleges of Public Health, Nursing, Medicine, Dentistry, Pharmacy, Law, Business, Engineering, and the College of Liberal Arts and Sciences (in particular Anthropology, Global Health, Women's Studies, and History). The theme of global health is broad in scope, as is the theme of sustainability. We envision that existing consortia or teams that focus on clinical research, cultural and historical scholarship, and policy could forward proposals that represent more focused aspects of this broad theme, such as women's reproductive rights, aging, vaccine development or health delivery systems to name just a few. At present, interdisciplinary groups related to subtopics within global health have support from NIH, NSF, NEH, NRC, and private foundations such as the Bill and Melinda Gates Foundation.

Sustainability

Sustainability has been defined as adopting environmental policies and processes that meet the needs of the present without compromising the ability of future generations to meet their own needs. Achieving a sustainable future requires understanding both human and environmental systems and the complex interactions between them. The vision, previously articulated by the President, is to establish the University of Iowa as an international leader in research, education and outreach in sustainability through an integrated effort to coordinate and catalyze the many facets of sustainability in three broad interdisciplinary areas (energy, air and water) where we have strengths and substantial on-going sustainability activities, and the four components (education, research, outreach and operations) that the sustainability initiative impacts. Three broad interdisciplinary areas could serve as the pillars of this effort: (a) Water - Living with a Changing Water Environment; (b) Air - Quality Air for Sustainable Health; and (c) Energy - Sustainable Energy Solutions. Major participating units within the University of Iowa include 14 distinct centers and 10 departments.

Transformative and Translational Technologies

This focus area represents broad interests and strengths as it relates to the development of advanced materials including nanomaterials, computation/informatics, imaging, energy storage and devices, genomics, environmental and biomedical applications. Besides the science and engineering aspects of Transformative and Translational Technologies, there are global issues in this area as well as many issues related to law, social science, policy, economics and business. This area is interdisciplinary in nature and the University of Iowa is well positioned to lead in these efforts thus enhancing research on this campus and beyond. Furthermore, it represents a response to several current grand challenges ranging from climate change to world economic recession. Transformative and Translational Technologies represents an important area that involves the Institute for Clinical Translational Sciences (ICTS) as well as

departments in a number of colleges including the College of Liberal Arts and Sciences, College of Engineering, Tippie College of Business, College of Pharmacy, Carver College of Medicine, and College of Law.

Writing and scholarly engagement

The University of Iowa is internationally and instantly recognized as a center for the art of writing. The recent designation of Iowa City as UNESCO City of Literature has brought international attention to our University and community as a center for creative excellence. So too it is home to renowned cross-disciplinary writing that results from scholarship and research and is itself also artful. This initiative would seek to build on these recognized strengths by engaging modes of public writing that cut across colleges and that profit from investments in needed digital humanities infrastructure. Creating bridges between humanities programs and law, engineering, business, education, and the social, health, and physical sciences, this cluster could create an engagement mechanism that would serve Iowans and larger audiences through cultivating modes of writing that engage the sciences, medicine, art, sustainability, history, intellectual property, literature, technology, health, and informatics and that communicate these bodies of knowledge to the public. The cluster would work locally and reciprocally with Iowans to represent their experience—their past histories and present realities—as participants in these methods of inquiry: as makers of research rather than as subjects of research. Availing itself of new digital technologies, the initiative would communicate broadly and accessibly to students, Iowans, and the world, enriching the University’s reputation as a center of writing excellence.