OFFICE OF THE PROVOST
AND VICE CHANCELLOR FOR ACADEMIC AFFAIRS

STEERING COMMITTEE FOR BIOLOGY EDUCATION AND RESEARCH

FINAL REPORT

June 13, 2011

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
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I. Committee Charge

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Chancellor
Swanlund Administration Building
601 East John Street
Champaign, IL 61820

February 21, 2011

*Revised

Steering Committee for Biology Education and Research
Rashid Bashir, Chair
Evan Delucia
Jodi Flaws
Martha Gillette
Susan Martinis
Isaac Camn*
Steve Sligar

Dear Colleagues,

Thank you for agreeing to serve on the Biology Education and Research Steering Committee. The work that you are being asked to do is the culmination of a process that began with the 2008 Committee on Defining and Advancing Biology Education at the University of Illinois at Urbana-Champaign and was further advanced by the Stewarding Excellence @ Illinois review. Armed with the substantive and structural information provided by both committees, we ask you to begin the process to streamline campus research and education activities in the biological sciences. At its core, this process requires the campus to:

- openly examine the extent to which the resources dedicated to biology education and research are used as effectively and efficiently as possible, with optimal quality and visibility of our efforts, and whether our organizational structures support goals of excellence.

Specifically, we ask you to focus on fundamental questions related to:

* optimal academic organizational structures,
* financial models that support cross-disciplinary teaching and research, and
* campus-wide strategic hiring.

In particular, we pose the following questions:

1. Do the academic structures that are currently in place enhance or inhibit cross-disciplinary collaborations in teaching and research? This analysis should include:
   a. an examination of the impact on research and teaching, whether positive or negative, of having multiple units across campus with faculty expertise in the same biological disciplines;
   b. an investigation of whether moving or sharing faculty lines or teaching responsibilities would create an overall greater benefit to the campus than what is provided by current configurations;
   c. an evaluation of campus facilities including classroom and laboratory space to determine whether our research support units and teaching facilities are adequate and managed appropriately; and
   d. a determination whether the current degree programs and courses offered are reflective of the direction of scholarship in the 21st century.
2. Are the current financial models providing optimal support for faculty research and teaching in the biological sciences? Are there ways to use campus funds more efficiently and with greater positive impact on our educational and academic programs?

3. How should a campus-wide strategic hiring program for the biological sciences be structured that addresses and builds on the recommendations of the 2008 committee report? With respect to more immediate strategic hiring goals, we ask the Steering Committee to assist the Office of the Provost and Vice Chancellor for Academic Affairs in reviewing hiring requests related to the biological sciences submitted by the campus in spring 2011. Your analysis of strategic hiring should include:

   a. an evaluation of what procedures would allow broad campus input and lead to the strategic identification of the choices of disciplinary areas in which hiring should occur and the unit location of new faculty lines; and
   b. an exploration of how start-up costs could be shared or allocated among units interested in joint hiring.

4. Should the campus have a standing committee or a regular periodic review process to provide oversight and guidance regarding structural issues and strategic hiring opportunities presented by the cross-disciplinary nature of the biological sciences?

We recognize that these questions raise complex issues that require careful deliberation and consultation. We are confident, however, that there are opportunities for improvements that could be accomplished in a more immediate time frame. Therefore, we ask for structural recommendations that might be pursued in both the short-term and long-term and that you provide a report and set of recommendations by May 31, 2011.

We have asked Professor Bashir to chair this Steering Committee and he has graciously agreed to do so. You are empowered to create and solicit others to serve on sub-committees, should you find that to be necessary. Members of the Provost’s Office will also stand ready to assist you in this work.

We are extremely grateful for your willingness to shepherd this next phase and to assist us in articulating a long-term vision for biology education and research for our campus.

Sincerely,

Robert A. Easter
Interim Vice President, University of Illinois
Interim Chancellor, University of Illinois at Urbana-Champaign

Richard P. Wheeler
Interim Vice Chancellor for Academic Affairs
II. COMMITTEE MEMBERSHIP

Rashid Bashir (Chair) Professor, Bioengineering and Electrical & Computer Engineering, Director of the Micro and Nanotechnology Laboratory

Isaac Cann, Associate Professor, Department of Animal Sciences/Department of Microbiology
Evan DeLucia, Professor, Plant Biology, Director of the School of Integrative Biology
Jodi Flaws, Professor, Comparative Biosciences
Martha Gillette, Professor, Cell & Structural Biology
Susan Martinis, Professor, Biochemistry, Head of the Department of Biochemistry
Steve Sligar, Professor, Biochemistry, Director of the School of Molecular and Cellular Biology

Staff:
Jane Baumgartner, Office Administrator, Office of the Provost
Katherine Galvin, Assistant Provost for Administrative Affairs

III. EXECUTIVE SUMMARY

Vice President and Chancellor Robert Easter (Interim) and Vice Chancellor for Academic Affairs and Provost Richard Wheeler (Interim) charged this Steering Committee with reviewing and making recommendations related to campus education and research activities in the biological sciences. (Appendix A, Charge Letter) Specifically, we were asked to focus on fundamental questions related to optimal academic organizational structures, financial models which support cross-disciplinary teaching and research, and campus-wide strategic hiring. Because of the scope and the complexity of the issues, we have been asked to provide recommendations for actions that may be immediately pursued as well as recommendations for actions that could be pursued in the long-term.

We have considered the detailed questions presented to us and make the following recommendations:

1. Improve transparency of how instructional units (IUs) are distributed and reform the allocation of budgetary support related to IUs. Campus units need a better understanding of how instructional units (IUs) are distributed for courses that are taught and supported by different departments and colleges. Additionally, reform is needed regarding how instructional units (IUs) are used in the determination of departmental budgets. In today’s financial climate, IUs have taken on a primary significance to units, both because they are a factor in colleges’ budget allocations to units and also because they are considered when colleges and departments submit requests to hire additional faculty and staff. Thus, IU allocation has both monetary and staffing implications to the various units. The method of allocating IUs and the associated monetary value per IU must incentivize deans, department heads, and chairs to appropriately support interdisciplinary instruction. Allocation methods must be transparent and must adequately compensate departments for the cost of instruction offered by their faculty members, regardless of what unit hosts a course and the students’ enrolling units.

We recommend that campus administrators provide a transparent statement regarding how IUs are distributed, including the clear statement that IUs are automatically allocated to units based on the percentage of teaching responsibility carried by its faculty. Additionally, we recommend...
that the campus encourage the colleges to explore developing budgetary models that provide financial incentives to departments to create and support interdisciplinary and cross-college course offerings. Such models could include a greater dependence on the IUs taught by the unit, regardless of whether the course is a service course for another unit or a team-taught course that is hosted by another unit. Cross-college Memoranda of Understanding that outline the sharing of costs and IUs should be examined and employed to assist colleges in providing this financial support. The sharing of costs should be made explicit and transparent to the campus.

2. Create a Biology Coordinating Committee to facilitate broader communication and coordination of biology-related course offerings, to advocate for the biological sciences on campus, and to assist the Provost’s Office in its review of biology-related hiring requests. A permanent Biology Coordinating Committee should be created this summer and launched in Fall 2011. We envision that this committee will assist with the coordination of biological sciences curricula and strategic hiring across the campus. The committee will provide campus units with an advocacy body to advance and support the cause of biological sciences on campus. This committee is envisioned to have a strong advisory role to the Directors/Department Heads, Deans, and the Provost in providing recommendations in coordinating biology education and research. Appendix B, Draft Charge Letter to Deans;

3. Create a Bio-literacy Program that requires all undergraduate students to satisfy a bio-literacy requirement as a condition of graduation. A campus Bio-literacy Program should be created that provides all undergraduate students with the foundation to understand fundamental aspects of the biological sciences and to appreciate the role of biology in modern society. Completion of a bio-literacy requirement should be a condition of graduation for all undergraduate students. This requirement could be met by 1) being a biology major, 2) taking a biology course, or 3) completing a bio-literacy general education requirement course. Modification of the existing general education requirement for Natural Sciences and Technology would be necessary to implement a Bio-literacy Program. We recommend that the Biology Coordinating Committee be charged with working with campus units, the Provost’s Office, and the General Education Board to implement this program.

4. Create a Graduate Interdisciplinary Education Program Fund to provide additional support for interdisciplinary graduate education. Multi-disciplinary and interdisciplinary programs represent the future of graduate education. In order for the campus to position itself to meet the needs of graduate students and society, we must have a budgetary and academic model that accommodates cross-disciplinary graduate education. A key issue is the existence of stable and uniform funding streams. A viable funding model needs to be developed that provides incentives for departments to create and support interdisciplinary graduate programs, but also needs to be nimble enough to allow participating units to episodically evaluate their investment in such programs. Thus, while stability is necessary, the funding model must be entrepreneurial in spirit, and must provide an opportunity for programs to compete for resources so that the campus can appropriately respond and support new initiatives and curricular demands. To contribute to the support of interdisciplinary graduate programs, we recommend that the campus create a revenue flow from funds received through graduate tuition on grants and fellowships to campus units. Specifically, we recommend that a graduate interdisciplinary education program fund be created that receives some portion of tuition dollars, as outlined below, and that the fund be managed and distributed by the Graduate College. We believe that such a fund program will facilitate careful and structured review of competing interdisciplinary
graduate education program proposals and will replace the existing system of providing central funding in an ad hoc and individual manner. Such a model will be transparent and consistent across all programs and centers supporting cross-unit graduate education.

5. **Provide Resources for an Aggressive Marketing Plan for Biology@Illinois.** There is significant depth and breadth in biology research and education which needs to be promoted and publicized in a coordinated manner. The campus must develop a dynamic web presence and generate supporting materials that provide a portal for the outside world to the campus undergraduate and graduate programs and the biological sciences research centers and institutes. The campus must do a better job of marketing the breadth and depth of the campus biology enterprise to students, researchers, faculty candidates, funding agencies, local, state and national stakeholders, and others.

**IV. COMMITTEE ACTIVITIES AND PROCESS**

The Steering Committee for Biology Education and Research met 13 times over the 2011 Spring Semester. Mike Andrechak, Associate Provost for Budgets and Resource Planning, attended and provided information to the committee at two meetings and Kristi Kuntz, Assistant Provost for Undergraduate Academic Affairs, attended and provided information at one meeting. The Committee reviewed the Stewarding Excellence @ Illinois Biology Education and Research Report and related materials and the 2008 Final Report of the Committee on Defining and Advancing Biology Education at the University of Illinois at Urbana-Champaign.

**V. RECOMMENDATIONS OR FINDINGS**

A. **Instructional Unit Distribution Reform**

Because of their impact on unit budgets and hiring requests, IUs are increasingly important to departments. Department heads and chairs are often reticent to support interdisciplinary courses because the allocation of IUs and/or financial benefit is not automatic or guaranteed. The perceived absence of a reliable “flow back” model for IUs for interdisciplinary courses has been a barrier to greater instructional collaboration. The distribution of IUs across campus is tracked by central campus and catalogued at the level of the unit. Units do not seem to have a good understanding that the campus allocates IUs among instructors from different units and that this allocation is automatic. This lack of understanding about how IUs are distributed creates barriers to interdisciplinary instructional collaboration because units perceive that they do not get the benefit of the IUs taught by their instructors and thus can be reticent to support faculty members teaching courses hosted by other units. In order to address these perceived disadvantages to supporting courses that are team-taught across units, we recommend that campus administrators provide a transparent statement regarding how IUs are distributed, including the clear statement that IUs are automatically allocated to units based on the percentage of teaching responsibility carried by its faculty.

Interdisciplinary course offerings are the future of higher education. As a campus, we must develop budgetary models that provide financial incentives to departments to support and create interdisciplinary course offerings. The campus distributes funds to the colleges based on the number of IUs taught in the college. Currently, the campus allocates funds to colleges based on a fixed fund for instruction that is divided among the colleges, a formula which has recently
provided approximately $63 per IU to colleges for IUs taught by their departments. It is within the dean’s discretion to determine whether those dollars pass through to the generating departments on a strict pro rata basis. The stability of departmental budgets may, in some instances, militate against a strict 1 to 1 pass-through of IU dollars to the departments. Departments that have unexpected decreases in IUs taught could see lower budgets than anticipated. Therefore, the stability necessary for responsible financial planning must be considered by colleges when they are setting departmental budgets.

The campus should encourage the colleges to explore developing IU budgetary models that provide a greater correlation between departmental budgets and the IUs taught by the unit. Additionally, with respect to service courses and/or team-taught interdisciplinary courses, college and department administrators should consider drafting memoranda of understanding that outline how instructional costs, administrative costs and IUs will be shared among the relevant units. If budgetary models and collaborative mechanisms are not developed at the college and department levels, however, the campus should consider revising its budgetary practices to address the need to incentivize interdisciplinary collaboration by making stable and transparent financial support available directly to the departments.

On a related matter, the committee notes with approval that the campus has taken important steps to provide appropriate support for instruction. Specifically, the campus has indicated that it will increase the per IU dollar value over the next three fiscal years. These increases serve the campus interest in more closely approximating the actual costs of instruction and providing incentives to units to put the appropriate focus and resources into supporting instruction.

B. Biology Coordinating Committee

There are a great many campus units engaged in research and teaching related to the biological sciences. A coordinating committee across all relevant units would provide both a voice to those units to advocate for shared interests and to provide guidance and counsel to the Provost’s Office, Deans, and Program Directors with respect to strategic hiring and review of curricula across the biological sciences. This century is termed as the century of biology. Advances in genomics, molecular and cellular biology, evolutionary sciences, synthetic and systems biology, and related areas are and will have a profound impact on all aspects of health and medicine and our daily lives. Communications across various critical entities on campus involved in these areas of research and education is going to be vital to our future success in advancing the state of the art in biology education and research and to provide the highest quality educational environment to our students.

It should also be noted that given the reality of our current and expected future fiscal challenges, a coordinating committee offers the advantage of having an informed body assist the campus to evaluate how to maximize resources to support our campus biology enterprise. To provide this assistance, we recommend that units be required to seek the review of the Biology Coordinating Committee (BCC) for hiring requests and new course proposals related to the biological sciences prior to submission to the colleges and Provost’s Office. It should not be required that the BCC approve new course proposals, but we recommend that there should be a general expectation that concerns identified by the BCC will be addressed and resolved prior to submission to the Provost’s Office. Similarly, although the BCC’s approval of hiring requests should not be required in order to submit such requests and receive approval by the colleges and Provost’s
Office, we recommend that the colleges and Provost’s Office look to the recommendations of the BCC as a critical element to consider in making the final approvals. Although consensus on competing hiring requests may be more difficult to achieve, it is the intention of this Steering Committee that the BCC will allow for improved communications across units and increased identification of synergies. We believe that this will improve the quality and the overall scope of our course offerings and programs, while maximizing the impact of the available resources for the campus.

The composition of this committee will determine the value of its contribution to the campus. It is necessary to ensure that the broad spectrum of colleges that house units engaged in the biological sciences are represented on the committee, that the committee members have the appropriate expertise in course development and hiring, and that the committee is the appropriate size to facilitate efficient and competent review. We also envision that in addition to specific tasks to be reviewed and performed every year, the BCC will also be chartered to address specific issues every year such as closely examining course offering across specific colleges and departments, detailed look at space needs for biology education, etc. Accordingly, we make the following recommendations regarding the composition and processes for the BCC:

i. **Composition:** The committee should represent the broad spectrum of our campus engagement in the biological sciences. The scope and the depth of campus biological enterprise are considerable, however, and the committee must be small enough to allow for meaningful review and efficient action. Accordingly, we recommend that the deans of the following colleges be asked to appoint representatives to the committee in the numbers specified below:

- College of Agricultural, Consumer and Environmental Sciences – 1 representative
- College of Liberal Arts and Sciences - 4 representatives
- College of Veterinary Medicine – 1 representative
- College of Engineering – 1 representative
- College of Applied Health Sciences – 1 representative
- College of Medicine at Urbana-Champaign – 1 representative

In making appointments to the committee, deans should evaluate whether potential candidates have the necessary expertise regarding course development and hiring processes and needs to adequately represent the college’s interest and contribute to the campus consideration of these issues. If helpful to the committee’s consideration of a given matter, committee members may invite guests to appear or provide information to the committee.

ii. **Processes:**
1. **Curricula**
   a. Although approval is not required, we recommend that the Provost’s Office require that proposals for the development of new courses in the biological sciences be reviewed by the BCC as a condition of submission to the Provost’s Office and a written recommendation of the BCC accompany the course requests to the Provost’s Office.
b. We recommend that the BCC be charged with establishing the exact criteria for review of courses, but note that such criteria should be sufficient to assess issues of:
   • duplication (both appropriate duplication of content by multiple courses and instances of duplication that reflect inefficient use of resources),
   • appropriate expertise of the sponsoring unit to offer instruction,
   • content and rigor of the proposed course; and
   • the best interests of the students

c. In addition to the review of new course proposals, we recommend that the BCC undertake a systematic review of existing courses across campus units engaged in biological sciences and that such review include the issues identified above of duplication, appropriate expertise, content and rigor, and the best interests of the students.

2. Hiring
   a. Although approval of the BCC is not required, we recommend that the Provost’s Office require that proposals for new hires in the biological sciences be reviewed by the BCC and a recommendation be provided as a condition of submission to the Provost’s Office. We leave to the BCC to make recommendations regarding when this review should occur, but note that it may be premature for the campus committee to entertain such proposals before college approval has been received.

   b. We recommend that the BCC be charged with establishing the exact criteria for review of hiring requests, but note that such criteria should be sufficient to assess issues of:
      • Maximal use of hiring dollars and avoiding duplication of existing faculty expertise;
      • Opportunities for joint appointments;
      • Teaching needs across colleges

   c. We recognize that there are and necessarily will be anomalies in the hiring process, including Excellence Hires, TOPS, and Dual Hires. While the intent is to not cause additional delays, review of such hiring requests by the BCC would also be highly beneficial so that all units are aware and coordinated. To the extent possible, the Provost’s Office may wish to seek the input of the committee to assist in the review of such proposed hires.

3. Special projects:
   We recommend that in addition to its role in reviewing hiring and curricula for the biological sciences that the BCC annually identify and evaluate specific issues that impact campus biology units and provide recommendations to the Provost’s Office. The following represents a non-exhaustive list of some of the topics and issues that this Steering Committee believes should be addressed by the BCC:
a. **Coordinating Curricula:** In addition to reviewing new course proposals, another matter for the BCC’s consideration would be coordinating existing course curricula across units that share areas of common scientific interest.

b. **Space:** There is a pressing need to address the space needs for teaching and research in the biological sciences. The impact of inadequate teaching space, for instance, is that the lack of large classrooms precludes departments with higher expertise from teaching biology service courses to other departments.

c. **Graduate Education and Professional Schools Preparation:** The preparation of students for professional schools and issues related to graduate education also present important issues that the BCC could assist the campus to evaluate and address.

d. **Coordination of Fundraising:** An important issue to be discussed in the future is that of fund-raising for biology related units and departments. Due to the interests of many departments and units in biological science related areas, the critical function of alumni development and fund-raising needs to be better coordinated across the units. This is perhaps also the case in other areas of scholarship that cut across many departments and colleges. Our committee highlighted the issue as an important one but did not have time to address it in detail. So it is recommended that this issue be discussed with the appropriate development officers across the relevant units so that these units do not compete with each other but develop a coordinated strategy that benefits the campus as a whole.

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**B. Bio-literacy Program**

In its 2008 final report, the Committee on Defining and Advancing Biology Education at the University of Illinois at Urbana-Champaign recommended that the campus create a bio-literacy program for all undergraduate students. For the reasons persuasively set forth in the 2008 report, this Committee endorses that recommendation and submits the following proposal for implementing such a program.

i. **Content of the Bio-literacy Program:** The biological sciences permeate modern life to an unprecedented degree and increasingly will play a larger role as scientific advances continue. A basic understanding of biology and the scientific process is vital to well-informed and full participation in modern life. By graduation, students should be equipped with at least a fundamental understanding of the core concepts for biological literacy and the core competencies as outlined by the American Association for Advancement of Science as a part of their Vision and Change in Undergraduate Biology Education initiative. [www.visionandchange.org](http://www.visionandchange.org) The bio-literacy program should provide students an understanding about the role that biology plays in the four grand challenges facing society as identified by the National Academy of Sciences: Sustainability; Food Safety, Energy, and Health.

ii. **Process**

1. The Bio-Literacy Program should consist of a requirement that graduating students satisfy a biology-literacy requirement by one of the following means:

   a. Being a biology Major
b. Taking any mainstream biology course

c. Taking a general education course that satisfies the bio-literacy requirement

2. Bio-literacy Program General Education Requirement Track

a. The BCC should be charged with working with the Provost’s Office to present to the General Education Board the proposed changes to the Natural Sciences and Technology general educational requirements necessary to implement the Bio-Literacy Program.

b. Existing general education requirements mandate that students take six credits of Natural Sciences and Technology courses in order to graduate. Natural Sciences and Technology courses are placed into one of two subcategories: Life Sciences and Physical Sciences. The Natural Sciences and Technology general education requirement is variously interpreted across campus, with some units requiring students to take a course from each subcategory and other units allowing the six credit hours to be satisfied with courses from only one of the two subcategories. Appendix D, Natural Sciences and Technology General EducationCourse Listing, Spring 2011. To implement a bio-literacy requirement, units should be directed that the Natural Sciences and Technology general education requirement is satisfied only when students have completed courses from both of the two subcategories of Life Sciences and Physical Sciences (six credit hours total, divided between the subcategories).

c. In order for a course to qualify for general education credit within the Life Sciences subcategory, courses should be required to meet the curricula objectives and course content of the bio-literacy program. The BCC should be charged with reviewing the current Life Sciences general education courses and working with the Provost’s Office to certify which of those courses meet the objectives and course content requirements of the Bio-Literacy Program and general education requirements.

d. Where appropriate, the BCC should make recommendations for course modifications to units to assist them to satisfy the bio-literacy program requirements. Additionally, the BCC should work with units who are interested in developing new courses to satisfy the bio-literacy general education requirement.

e. Because of the number of students that will have to be served, it is anticipated that on-line and blended learning modalities will be a necessary component of the bio-literacy general education requirement.

C. Graduate Education and Research

In order to compete for graduate students and remain on the cutting edge of biology education and research, our campus needs to support interdisciplinary graduate programs in the life sciences. Currently, interdisciplinary programs receive funding through a variety of means.
including funding provided by the campus, financial or administrative support provided by participating departments, or a combination of the two. This can result in programs having an unstable financial base, as they may be subject to varying levels of support from year to year. Understandably, departments can be reticent (or just unable) to invest in interdisciplinary programs because they need to meet their core unit needs with budgets that have experienced significant rescissions. Consequently, it is important to identify additional funding sources that can help support interdisciplinary programs. We believe that monies collected as a part of the campus graduate tuition policy is a potential revenue source.

Currently, the tuition remission rate is 56% of the graduate student’s stipend. Nineteen percent of the 56% of remitted tuition is distributed directly to the relevant college. We recommend that some portion of the graduate tuition remitted by external funding agencies be directed to the Graduate College to create a Graduate Interdisciplinary Education Program Fund (GIEPF). This funding stream should not reduce the 19% of tuition remission that is currently directed back to the colleges. The Graduate College should be charged with overseeing the GIEPF, including identifying criteria for eligibility and requirements for receiving funding. To assist the Graduate College in the evaluation of funding requests and campus priorities, an advisory committee comprised of representatives from disciplines across campus should be created. With respect to biology-related interdisciplinary graduate programs, the Graduate College should consult with the BCC in addition to consulting with the advisory committee.

It should be noted that the GIEPF is not intended to be a sole source of financial support for interdisciplinary programs. Ideally interdisciplinary programs should be supported by the relevant participating units. Departments can enter into short-term commitments to provide financial and in-kind support for these programs, allowing for periodic review of the support. The Graduate College can consider the level of support a proposed program receives from the faculty and administration of the relevant units in its evaluation of the funding request. The committee believes that a funding source such as the proposed GIEPF is an important component of the campus encouragement and support of interdisciplinary graduate education. This funding should augment department, college and campus level support, where appropriate.

In addition to providing a central funding source for interdisciplinary graduate education, it is critical that the campus address issues arising out of the high costs of graduate education. Our campus relies heavily on graduate students to carry out its research and educational mission. If the cost of supporting graduate students outpace the costs of hiring post-doctoral researchers, our graduate education mission may be compromised. Similarly, in order to recruit the best graduate students, programs must be able to offer competitive stipends. The graduate tuition rate (GTR) assessed to external funding agencies is one component that faculty members rightfully consider when evaluating whether to hire a graduate assistant or a post-doc. The high GTR, coupled with the fact that it is assessed to funding agencies for graduate assistants’ entire tenure, can impact the competitiveness of faculty members’ grants. Significantly, most national rankings consider the number of graduate students in a given program and increased preference for post-docs over graduate students due to high costs would likely also negatively impact program rankings. These are issues that the campus, aided by the BCC, should carefully evaluate and take appropriate actions to address.

D. Provide Resources for an Aggressive Marketing Plan for Biology@Illinois
We recommend that the campus develop a dynamic web presence and supporting materials that provide a portal to the campus undergraduate and graduate programs and the biological sciences research centers and institutes, marketing the breadth and depth of the biology enterprise at Illinois to students, researchers, faculty candidates, and others. The Stewarding Excellence @ Illinois Biology Education and Research Project Team surveyed the biological sciences on campus and compiled a database of the programs and units involved in biology instruction and research. As noted by Chancellor Easter and Provost Wheeler in their response to that report, that data showed the extensive scope of biology on our campus. Each biology unit rightfully individually presents and markets its programmatic and course offerings and highlights its faculty research. While maintaining that individual presence, we recommend that the campus develop a “clearing house” web page that allows both internal and external audiences an opportunity to survey the impressive universe of the biological sciences at Illinois. Similarly, we recommend creating written brochures and other marketing materials to present the scope of our biology education and research. We believe that these actions will assist in recruitment efforts, contribute to the development of instructional and research synergies both internal and externally, and help to raise the profile and rankings of biologically related units on campus.

CONCLUSION

In 2009, the National Research Council (NRC) issued its report, A New Biology for the 21st Century: Ensuring The United States Leads the Coming Biology Revolution. In it, the NRC calls for a multiagency, multiyear and multidisciplinary “new biology” initiative that integrates physicists, chemists, computer scientists, engineers, mathematicians and others to research and address society’s biggest problems. These exciting and important collaborations in research and instruction have already begun to occur at Illinois. The recommendations that we make in this report are aimed at supporting and enhancing existing collaborations and facilitating the development of additional cutting edge instructional and research programs. To remain relevant and at the forefront of the biological sciences, the campus must be focused and dedicated to supporting this “new biology.” Exploration and better understanding of the inter-relationships between the biological sciences and their impact on society is the future of both biology education and research and of society. The recommendations we set forth in this report are important steps for creating a greater infrastructure for our campus biology units, an infrastructure that is necessary to reinforce and grow interdisciplinary learning and research. As a committee, we are committed to these efforts and remain ready to assist the campus as it moves forward with these recommendations and other future developments.