Report from the External Review Team, which reviewed the Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School July 22-23, 2010.

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Preamble:

The external review team (ERT) is pleased to have the opportunity to provide an evaluation of and recommendations for the Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School (GSBS). The ERT was impressed with the significant accomplishments that have been achieved by the current Senior Associate Dean, Interim Dean and the faculty. The GSBS is commended for the large number of NIH- and NSF-funded training grants. This is an impressive number that should be prominently advertized as part of the recruitment process. The senior leadership is complemented for integrating the graduate programs at the two different universities, UMDNJ and Rutgers; both academically as well as administratively. The “older” students noted that there had been major improvements in recent years. However, some significant issues still remain (see below).

Similarly, GSBS is complimented on the accomplishments in the diversity programs, which also are supported by a number of externally funded peer-reviewed awards. These are impressive accomplishments given the complex administrative structure of the participating institutions. The external review team also noted that despite the accomplishments in minority recruitment, there seemed to be only one minority student among the students that met with the team.

The ERT was provided with an impressive amount of information about GSBS and its graduate programs. Some programs provided insightful analyses of their strengths and weaknesses, and conveyed a clear sense of mission. Other programs seemed less sure of their mission and role within the GSBS.

The ERT was impressed by the commitment to GSBS that was expressed at all levels, from the students, to the faculty, to the interim Dean of GSBS and the Dean of RWJMS. A common theme throughout the two days was that the decentralization and local control that have been implemented recently has been very positive for the GSBS at both RWJMS and RU.

The current students seemed to be satisfied with their status and the quality of their education and training, as well as the flexibility of GSBS to respond to individual academic requests and career choices. The senior students noted that recent changes in the GSBS had made it easier to
manage the interface between the RWJMS and Rutgers. The students invariably were very supportive of the Senior Associate Dean.

The MD-PhD and MD-MS students were impressive. They were well-spoken and had a clear sense of their career goals, which invariably were careers in academic medicine. Overall, they were very pleased with the training they received, and they felt good about their future career options. They were very appreciative of the changes that have been implemented by the Program Director. They also noted that Dr. Kinzy was very effective in communicating the MD-PhD program’s goals to the dissertation mentors.

Several faculty members within the umbrella program, Molecular Biomedical Sciences (MBS), expressed concern that the current structure, with widely varying graduate program requirements, may lead to a “race to the bottom”, which invariably diminishes the rigor of the training experience.

There is a commendable entrepreneurial attitude, with major efforts devoted to enhance the standing of GSBS within the state of New Jersey (not just UMDNJ) and creative approaches to generate new revenue streams that should not compromise the academic quality and standing of GSBS.

In this context, the new Masters of Biomedical Science (MoBS) program could work to significantly increase revenues for the graduate school. This must be balanced, however, by the potential threat that it may reduce the academic quality of the whole graduate school. One way to mitigate this would be to evaluate these students early, after the first set of exams, and provide career counseling to the students who are in academic trouble.

**Recommendations:**

The context in which we make our recommendations is the excellence of the current leaders and the current economic climate, the former which makes it possible—and the latter an imperative—to institute changes that will reduce redundancy and improve efficiencies.

- The present administrative structure of GSBS is complex and should be reevaluated, with the aim of eliminating layers of senior administrative bureaucracy and empowering the local leadership.

- It is time to completely evaluate the graduate programs. This evaluation should consider the following points:
  Is the present structure of the programs optimal?
  Are the goals and objectives commensurate with modern biology?
  Should the graduate school be structured along thematic lines?

- Whatever the structure (programs, thematic areas, or some other structure), faculty should have one primary appointment and at most one secondary appointment in a program, thematic area or other entity. All programs should have written criteria for membership in the program, which should include a delineation of funding (extramural funding and
start-up packages) and specific responsibilities to mentor, teach, and serve on committees. Membership should be reevaluated on a periodic basis, as a statement that membership in the program is not in perpetuity and requires active participation and funding to support graduate students.

- As part of this reorganization, the number of graduate programs should be reduced by merging programs with overlapping mission and membership. Specific examples include “Biochemistry and Molecular Biology” and “Biochemistry”, as well as “Molecular Genetics, Microbiology and Immunology” and “Microbiology and Molecular Genetics”. The existence of these “parallel” programs does not enhance the reputation of the GSBS, and is likely to cause confusion among potential applicants, which may impact (negatively) on recruitment.

- There is a need to empower faculty leadership to play a greater role in providing direction and oversight for the graduate programs.

- GSBS should harmonize a set of common didactic requirements. The programs should not give up their independence, but decide on the rigorous standards that lead to producing the highest quality independent scientists commensurate with their discipline.

- GSBS should work to ensure a seamless process by which students move between the Rutgers University and the UMDNJ components of the graduate school. Specific issues that were raised by the students were: health insurance, transcripts and parking. To accomplish this, the graduate school should explore whether all students could receive the same benefits throughout their studies.

- The time has come to completely reevaluate the MBS core curriculum. A curriculum steering committee with broad representation from all graduate programs should be established to provide restructuring, oversight and evaluation of the curriculum. The goal should be to structure a flexible curriculum that meets the needs of all the graduate programs, such that it becomes attractive for the non-MBS programs to join MBS. In addition to the didactic/programmatic advantages, these changes provide for opportunities to pool resources and use them in a more efficient manner.

- As part of the curricular revision, there should be a course on “survival skills”, including grant writing.

- Given the travel time needed to move between the different campuses, which discourages students (and faculty) from attending seminars, workshops, and other joint programs, consideration should be given to implementing distance-learning.

- GSBS should move toward a common admissions and recruitment process. This could provide a buffer for the admissions and recruitment process, in the sense that the programs would have more flexible targets, as long as the time-averaged number of matriculants stays within predefined limits.
• GSBS needs to establish an alumni association and implement fund-raising activities in order to create new sources of unrestricted funds.

• GSBS needs to provide more financial support for the students and programs. There needs to be reserve funds that buffer the admissions and recruitment process and lapses in mentor funding. There needs to be funds to sponsor program-specific activities such as seminar speakers, research colloquia and informal scientific interactions. These funds also should be used to incentivize faculty and students to apply for institutional training grants and individual fellowships that require supplementation of stipends and tuition. (The present system discourages faculty from applying for such awards, or for encouraging students to do so.)

• The use of teaching assistant (TA) positions to support students whose advisors have funding problems should be discouraged, as it prolongs the students’ training. No student should be a TA for more than one year, since that could significantly delay their time to completion of the degree requirements.

• GSBS also should find mechanisms to provide additional financial support for Dr. Leibowitz’ efforts for his very successful diversity programs.

• There is a need for a more transparent admissions process.

• The recruitment process should be reevaluated with a goal toward a more national reach.

• There needs to be follow-up with applicants who decline offers of admission to determine why accepted students declined the offer—and what program features were attractive for those who matriculated.

• There is great variability in the frequency with which students give research presentations. The ERT notes that presentation skills are an essential part of the training of graduate students, as it a prerequisite for success in biomedical research. All students should present at least once per year to their respective program, in addition to having the opportunity to present at national conferences.

• The ERT noted that the MD-MS students were invited to the meeting with the MD-PhD students. This is important for both the medical and the graduate schools, as it provides clear evidence for the school’s commitment to the training of physician-scientists. The Dean of RWJMS is complemented for his significant support of the graduate programs and, in specific, for providing fellowship support for the MD-MS program.

• The ERT found that the one-credit course “Topics in the Translation of Research to Medicine” is currently open only to MD-PhD and PhD students. This course should be recognized by both the medical and graduate schools, and there should be no cost to RWJMS MD students who wish to take the course.
• Given Dr. Kinzy’s many responsibilities, there is an urgent need to identify her successor as MD-PhD program director—and as director of MBS. Importantly, the revised MSTP application cannot be submitted until about one year after the appointment of the new program director. It is noted that UMDNJ’s School of Public Health, in cooperation with Rutgers, offers PhD programs in both Biostatistics and Epidemiology (among others). As the PhD program in Biomedical Engineering appears to be a significant recruitment tool for prospective MD-PhD applicants, so might these programs. Further work toward identifying support for MD-PhD students in School of Public Health PhD programs may also increase and academically diversify the pool of MD-PhD applicants.

• As a mechanism to foster a better understanding of the expectations of both the students and the mentors, the ERT recommends that the GSBS implement the AAMC Compact Between Biomedical Graduate Students and Their Research Advisors (AAMC Student-Mentor Compact). (This is underway, but most faculty members seem to be unaware of this.)

• The Senior Associate Dean is commended for enforcing the one year rule for student dissertation advisory committee meetings. However, the report of the meeting should include an evaluation of the student’s progress not only toward completion of the degree requirements but also an evaluation of their growth as an independent scientist. It should also verify that the student and mentor have read the AAMC Student-Mentor Compact and discussed it.