

May 19, 2005

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RE: Interdisciplinary Neurobiology & Behavior PhD Program 10-Year Review;
Response to Final Report

First we would like to thank the Graduate School and the members of the review committee for their time and effort during the recent review of the NEUBEH Program took place on March 31 and April 1, 2005.

We concur with the committee's recognition of the many strengths of the program. Some of these are quoted from their report as follows:

1. "The overall quality of the faculty, especially of the core faculty, is excellent, in terms of research productivity and national prominence." And "The NEUBEH Program has a strong reputation nationally, reflecting the strength of the faculty and the quality of the students it attracts."
2. "considered to be one of the top 10 neurosciences programs in the country;"
3. "The two program administrative staff are outstanding, play a fundamental role in program cohesion, and are key sources of support for the students."
4. "Most NEUBEH courses are focused and effective."

In addition, the committee recognized that we are faced with a number of challenges and made several suggestions as to how the program could be improved. We have addressed these recommendations below:

Recommendations

1. The number of students approved for the NEUBEH Program should be increased to 65.

Response: We support this recommendation. This will adequately reflect the current size of the program, which most faculty agree is appropriate given the co-existence of departmentally-based programs. At the present time, we are aiming for a class of 10-12 per year. Given an average of six years to the Ph.D., we estimate that a steady state of 65 students will be appropriate.

2. The NEUBEH Program needs to have a stable budget commensurate with its needs. Identification of resources for improved funding should be a joint responsibility of the Program, the University, and the participating departments.

Response: (1) We hope the University will heed the recommendations of the committee and raise the level of funding for the program. (2) We have requested funds for an annual retreat from the Neurobiology training grant, and they have supplied them (\$5,000 for 2005). (3) We will continue to work with the deans of the graduate and medical schools to find a fair way to channel grant revenue into the interdisciplinary programs. We need to find an equitable way to identify the indirect support received by the schools' faculty through graduate students who are recruited and administered through Neurobiology and Behavior. This is already an active pursuit of the program directors, although it will ultimately rest with the deans to provide a carrot as opposed to a stick to department chairs. In the short term, we will share with our department chairs the committee's specific recommendation to encourage a more streamlined system of support for our seminar series. (4) We will continue to seek training grant support from NIH and other organizations. There are limits on the time commitments of the Directors and program staff which impose practical limitations on these efforts. To successfully implement a grant-based strategy for increasing program support, we think it will be useful for the University to support an administrative position for the biomedical interdisciplinary programs (i.e., Molecular and Cellular Biology and Neurobiology and Behavior) devoted to this task. For example, we lacked the manpower to apply to HHMI's "Med Into Grad" initiative this year. (5) We are working with the Department of Physiology on outside fundraising for systems, cognitive and computational neuroscience. We plan to expand this effort in collaboration with other departments. It would be helpful to enlist the fundraising power of the University, especially the Medical School.

3. Advising and mentoring of first-year students and timely formation and regular meetings of supervisory committees in the later years need to be improved and consistently applied. Expectations of the Program for completion of the Ph.D. need to be clearly and concisely articulated and distributed to the students, advisors and supervisory committees.

Response: Two years ago, after we had been directors for one year, we came to the same conclusions as the committee: student progress needed more attention. We therefore instituted several policies to address this issue.

(1) Although annual meetings of the supervisory committee (as the review committee encouraged) were already a requirement of the program, we had no effective way to monitor whether they were actually occurring. Therefore, we formulated a policy for compelling/coercing the student's to provide progress reports every Spring quarter. The reports tell us when the student's last supervisory committee meeting took place and allows both supervisors and students to communicate any problems. These progress reports are then reviewed by a committee of 4-5 core faculty, and they make recommendations to the directors. This seems to be working. Students/supervisors are warned that they will be put on academic probation if they do not comply with the requirement. Both students and their supervisors are responding positively, though it takes some time to change the culture of a large and diverse program such as this.

(2) We instituted a first-year mentoring system, relying again on core faculty willing to have regular meetings with the first year students. The mentors are assigned by student interest and faculty willingness. While the first year of the implementation was less than perfect, this year's class uniformly agrees that their mentors have been there when they needed them.

(3) This year, for the first time, we have instituted a policy that requires those students in their 6th year or higher to provide the student progress committee with a plan for finishing their thesis work.

The one suggestion of the review committee that we have not yet incorporated into the program is that we do not formally communicate to the students what the scientific expectation is to be awarded a Ph.D. We have not done this for the following reason. In a program as diverse as this one, and in a field as diverse as Neuroscience, it is difficult to create a single guideline. In the more cellular and molecular side of the discipline, students typically graduate with more primary research publications than do those students that work with awake behaving primates.

Therefore, we have left it up to the supervisory committee to judge whether the student has made a significant enough contribution to warrant a Ph.D. An emerging proposal for a minimum requirement is as follows: two studies worthy of publication in a full-format, competitive journal such as the Journal of Neurophysiology. In practice we might expect at least one of the papers to be accepted or at least under review. As stated above, a variety of nuances challenge this seemingly simple proposal. We plan to discuss this topic at the next program-wide faculty meeting to determine whether we can arrive at a consensus.

4. Fall quarter rotations for first year students should be assigned based on a list of possible rotation laboratories submitted by students in the summer before they matriculate; ideally, assignments should be made in concert with fall quarter rotation assignments in other graduate programs with large numbers of neuroscience-oriented students.

Response: We are entertaining this possibility, although we are not wildly enthusiastic about it. On the positive side, we are working with the Physiology and Biophysics (PBIO) graduate program to coordinate placement of our students and theirs in neuroscience labs. PBIO has fewer labs to place their neuroscience-oriented students. They plan to implement a program like the one recommended by the committee, and we are working out the best way to coordinate placement of our students into their labs. On the negative side, our current students reacted disapprovingly to this recommendation. We attract some of the best students in the country over higher profile institutions because of specific faculty identified by students as possible mentors. Even the possibility of lack of control over arranging a first rotation would have jeopardized this in the past – or so we are told. If we are to implement a system like the one recommended, we would have to overcome administrative obstacles that were not anticipated by the review committee, stemming mainly from the number and distributed organization of the program's labs. We worry that the kind of matching program that this recommendation would entail would risk the perception of capricious assignments. Nonetheless, we will consider implementation of this recommendation with our faculty over the coming year.

5. The journal club and retreat should be reworked and strengthened, and research in progress presentations to the Program by students from the 3rd year onward should be implemented.

Response: We concur with the review committee and have already begun to address these critical issues. First, we have appointed three faculty, one for each quarter, to work with the students in making a more effective journal club. The faculty, Drs. Jane Sullivan, Ric Robinson, and Ed Rubel, have all worked well with the students and the program and are dedicated to making the journal club a focused, engaging learning experience. We have also obtained funding for the first off-campus retreat. The Neurobiology Training Grant has given the program \$5,000 for what we hope will become an exciting annual event. The students are doing the bulk of the organizing, but the retreat will take place in mid-September at Seabeck conference center. The retreat will allow faculty and students to get together for both formal presentations and informal activities. This will also provide a better way for the incoming students to get to know the existing students and create much-needed program cohesion. In addition, the retreat will provide a forum for those students in the third or higher years to present their research to the other members of the program, giving them the forum for practicing their speaking skills. We thank the committee for these suggestions and we believe that these changes will strengthen the program.

6. The structure and concept of NEUBEH 501 needs to be rethought and a modified course implemented.

Response: We also concur with this suggestion. We have already begun working on a solution. David Perkel and Jane Sullivan (in consultation with Bill Moody who is in charge of the undergraduate electrophysiology class) have redesigned the first half of NEUBEH 501 to better integrate the material and create a first class cellular electrophysiology course. Past attempts to change this course have been stymied in part because of the multidisciplinary nature of the material. However, armed with the committee's recommendation, we were able to be more effective in our requests for changes. As we have pointed out in our report, the program has no faculty of its own and relies on the departments to release their faculty to teach in the core courses. Consequently, making changes to the curriculum involves a much more complicated process than would be ideal. We thank the committee for these recommendations. We are well on our way to an effective solution.

7. Consideration of the neuroscience courses offered to graduate and undergraduate students at the University might identify courses that would meet the needs of first year graduate students and senior undergraduates, and if so a saving of faculty teaching effort could be achieved.

Response: We plan to implement this recommendation in the short- and long-term. In the short term, we have initiated a new teaching practicum course for our graduate students to replace the teaching assistant requirement. Our students will gain direct teaching experience and training by assisting in the undergraduate neurophysiology courses, especially two with large laboratory components. The proposed changes were met with enthusiasm by our students at a program

meeting two months ago. In the long term, we will aim for better integration of advanced undergraduate and graduate level courses that serve both programs. For example, we are developing a curriculum (and seeking external support) for new courses on the neurobiology of disease and translational research.

8. The NEUBEH Program appears to benefit all of the participating departments, and they should encourage faculty participation in this program. Expectations for faculty participation in the NEUBEH Program should be articulated and these expectations should be enforced.

Response: We wholeheartedly accept this recommendation. First, we support the recent initiatives of the Graduate School in support of interdisciplinary research. The awarding of FTEs to departments and the expectations set forth for promotion and tenure of faculty should embrace a commitment on the part of departments and their chairs toward interdisciplinary education. Second, within the School of Medicine, we will enlist the help of our more supportive department chairs to encourage their colleagues to behave in kind.

9. Some coordinated consideration of the strengths of different subareas of neurosciences at the University needs to be done periodically and incorporated into discussions as hires by the relevant departments are made.

Response: We support this recommendation, but we do not know how to implement it short of becoming a department with hiring power. Perhaps a broad campus-wide effort in information technology and neuroscience would attract financial support and lead to creation of an integrated infrastructure. In this manner, we could identify growth areas and allocate resources to departments ready to compete for faculty or equipment. Cognitive neuroscience, brain imaging and computational neuroscience are key examples where such a strategy could pay off immediately.

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cc: Program Review File