May 24, 2017

Sarah C. Mangelsdorf, Ph.D.  William Karpus, Ph.D.
Provost and Vice Chancellor for Academic Affairs  Dean of the Graduate School

Sent electronically

Re:  Review of the Physiology MS (non-admitting) and PhD programs

Dear Provost Mangelsdorf and Dean Karpus:

On behalf of the School of Medicine and Public Health, I endorse the ten-year review of the Physiology MS (non-admitting) and PhD programs.

After discussion at the May 17, 2017 meeting of the SMPH Academic Planning Council, APC members unanimously approved the report of the review committee, the recommendations of the committee for implementation, and the response of program leadership to the review committee’s report. Those reports are attached. The program’s response was delayed because the program explored mergers with other graduate programs and ultimately decided to remain independent.

Strengths include the program director, program administrator, mechanisms for creating an inclusive environment, and collaborations with other graduate programs through the Biomedical Graduate Program Consortium.

The committee suggested areas of opportunities, and the program has responded:

1. Enhance program cohesiveness. The program has noted improvements in seminar participation. The program considered implementing an annual retreat and decided that it is not practical given the small program size. APC members recommended that all programs in the Biomedical Graduate Program Consortium consider holding a joint retreat; the program will take this under consideration.

2. Increase number of applicants. The program has implemented suggestions from the committee. Numbers increased for 2017 admissions and will continue to be monitored.

3. Ensure continuity in leadership and add student representative to the program’s steering committee. The program is in the process of recruiting a co-director and recruiting a student member of the steering committee.

4. Develop alumni database. The program is in the process of hiring a student services coordinator. Among this individual’s responsibilities will be alumni relations.
Both the SMPH Academic Planning Council and I concur with the review committee's recommendation to continue the programs. We recommend that the next review occur in ten years.

Thank you for your consideration. If you require additional information, please do not hesitate to contact Andrea Poehling.

Sincerely,

[Signature]

Robert N. Golden, M.D.
Robert Turell Professor in Medical Leadership
Dean, School of Medicine and Public Health
Vice Chancellor for Medical Affairs
University of Wisconsin-Madison

Copies to:
Donata Oertel, Physiology Graduate Program
Mark Marohl, Physiology Graduate Program
James Keck, School of Medicine and Public Health
Richard Moss, School of Medicine and Public Health
Andrea Poehling, School of Medicine and Public Health
Parmesh Ramanathan, Graduate School
Marty Gustafson, Graduate School
Emily Reynolds, Graduate School
Jocelyn Milner, Academic Planning and Institutional Research
Sarah Kuba, Academic Planning and Institutional Research

Attachments:
1) Review committee report
2) Program response
March 11, 2016

To: Dr. Richard Moss
    Senior Associate Dean of Basic Science, Biotechnology and Graduate Studies
    University of Wisconsin School of Medicine and Public Health

From: Report of the Physiology Graduate Program

Dear Dr. Moss:

The following report summarizes our review of the Physiology graduate program.

Every idea, experiment, project, program and department needs a champion. The Physiology degree program has an amazing champion in Dr. Donata Oertel. She is highly commended for her thoughtful direction of the program and her unwavering commitment to the community of scientists as a whole, but most especially to the trainees. The program has many strengths including talented trainers with diverse interests and a well-established curriculum with flexibility.

Summary of Process

1. On January 7th, Dr. Halberg met with Dean Moss and Andrea Poehling to discuss the charge for the committee.
2. Drs. Alexander, Fabry, and Halberg read the self-study from Physiology program as well as additional data points provided by the Graduate School.
3. On January 20th, the review committee and Andrea Poehling met to discuss their initial impression of the Physiology degree program, identify issues to discuss during the site visit, and decide whom to invite to the site visit.
4. On March 3rd, the review committee met with Dr. Oertel, the steering committee, faculty members, Mr. Mark Marohl, and trainees.

Strengths

1. Strong institutional support and commitment from SMPH: As resources become more limited the tendency is for small communities to fold into larger communities. The cost is a loss of a sense of community as individuals have less in common or fewer shared experiences. The Physiology degree program became part of the Collaborative of SMPH Graduate Programs in 2011, which allows the Physiology program to benefit from being part of a larger group while maintaining its own sense of community. This group consists of four programs: Toxicology, Endocrinology, Molecular and Cellular Pharmacology and Physiology. The SMPH provides supports to each of these programs in the form of five student rotation slots per program (three one-month rotations during the first semester) as well as administrative support. Additional institutional support is given to the program through the collaborative recruitment grant from the Graduate School ($4,000-$10,000/year).
2. *Established administrative support:* The Physiology degree program benefits by being part of the Collaborative of SMPH Graduate Programs. Mr. Marohl, program administrator, is highly commended for his outstanding support of the program through administrative assistance, teaching, and guidance of trainees.

3. *Strong effort to provide a cohesive environment for trainees:* A key element in creating a good learning environment is Physiology 901. This course meets each Thursday. Students present papers or their research; UW-Madison faculty present their research. Beyond this course, Dr. Oertel has also hosted informal picnics. Such gatherings are critical to nurturing interactions between faculty and trainees as well as among trainees. Dr. Oertel has done a tremendous job in maintaining a sense of community among the Physiology trainees as she has created an environment in which they feel free to share ideas and discuss challenging scientific concepts.

4. *Diverse trainee group with commitment to Physiology training:* The committee met with three “junior” (1st and 2nd year) trainees. Junior students were outspoken and highly committed to Physiology training. The committee also interviewed four “senior” (4th and 6th year) trainees, who evaluated the program positively. One trainee who had been part of the program since 2011 noted that the training has improved significantly since the program was reorganized.

5. *Broad curriculum that serves trainees with different interest:* Numerous courses in neuroscience and cellular and molecular biology are accepted in the curriculum.

6. *Teaching requirement enriches the program:* Most students indicated that they enjoyed teaching experiences. All students are required to TA in Physiology 345 or 435.

**Potential Areas of Improvement**

**Improve program cohesiveness for trainers and trainees**

1. Physiology 901 is critical to establishing and maintaining a positive environment in which trainees are comfortable sharing ideas. Therefore, this course needs to continue. To improve the course, when a student presents either a paper or research, all members of the dissertation committee should be highly encouraged to attend the presentation.

2. The Physiology degree program should hold an annual retreat to allow program members to become familiar with one another and with each others’ research. Talks should be limited to a few slides presenting hypotheses and major findings since the membership of the program has quite diverse areas of interest. Faculty, postdoctoral fellows, graduate students, and research specialists should be strongly encouraged to attend, and all should be strongly encouraged to participate in the entire meeting.

**Improve program visibility and increase the number of applicants**

The number of applicants has been declining; it needs to be increased to maintain a critical mass. The current enrollment is 22, which is up from 12 students in 2011, but enrollment
numbers have been trending downward. There were 18 applicants in fall 2015; of those, 7 were invited for a visit and 4 were offered admission.

The committee offers the following recommendations for increasing visibility of the program and to increase the number of applicants:

1. A website should be created for the Collaborative group (renamed by some appropriate umbrella term, for example, Medical and Translational Biology) as prospective students are likely to access such a website when performing broad internet searches. This website needs to be clearly designed and attractive.
2. The old website for the Department of Physiology (http://www.physiology.wisc.edu/) needs to be completely expunged. Currently, this defunct site redirects visitors to the website for the Physiology program. Although quickly redirected to the proper site, prospective students are likely to have a negative first impression.
3. The name of the Physiology degree program does not need to be changed to attract more prospective students. However, the website for the Physiology degree program needs to be updated such that specific keyword searches lead visitors to this website (for example, cardiovascular or endocrinology).
4. The website for the Physiology program needs to be updated to include upcoming events, current news, an accurate list of trainers, and current positions held by alumni. The website should be maintained so it does not contain outdated information.
5. Given the strengths of the Physiology degree program, it needs to be promoted.
   a. Faculty should offer to give recruitment presentations to undergraduates when traveling to other universities.
   b. Provide faculty members one Powerpoint slide that describes the Physiology degree program and ask them to include this in their slides when presenting seminars at other universities.
   c. Prepare a brochure that describes the Physiology program that can be handed out during poster sessions at regional and national meetings as well as mailed to other universities, especially those with undergraduate programs in physiology. This brochure could be a printed version of the Powerpoint slide mentioned above.

Strengthen the administrative structure of the program for continued success

1. Develop leadership plan to ensure program continuity. Dr. Oertel’s commitment to the program and students is exemplary. Her example is one that we should all admire and try to emulate. Replacing Dr. Oertel will be challenging even for a very talented person who shares the same energy and enthusiasm. Consequently, an Associate Director should be appointed and slowly transitioned into the position of Director with a steadily growing list of responsibilities. A plan to ensure stability in leadership during time of transition and a succession mechanism should be developed.
2. *Inclusion of student representation.* Feedback from the current students indicates that great effort has been made to fit the individual needs of each trainee, which is commendable. We suggest that there is some representation of trainees on the program’s steering committee, probably one senior trainee, and one more junior, so that the program evolves alongside the students.

*Develop an alumni database*

The self-study indicated that the current position of 24% of the alumni is unknown. An alumni database would be useful not only as a metric for the program, but also as a recruiting tool, so that prospective candidates can observe the diverse careers open to successful trainees.

*Summary*

Overall, the Physiology degree program is strong. The recommendations are centered on the continued growth of the program through stronger recruitment and by nurturing relationships among trainers and trainees. In conclusion, our committee recommends that the Physiology graduate program continues and that the next program review occur in 2026.

Sincerely,

Caroline Alexander, Ph.D., Professor, McArdle Laboratory for Cancer Research  
(Graduate Faculty Executive Committee representative)

Zsuzsanna Fabry, Ph.D., Professor, Department of Pathology and Laboratory Medicine

Richard Halberg, Ph.D., Associate Professor, Department of Medicine and the McArdle Laboratory for Cancer Research  
(Chair)
Response to the Review of the Physiology Graduate Training Program of March 2016

Donata Oertel, Director, and Mark Marohl, Graduate Program Coordinator

March 2017

The review of this program came less than five years after the Physiology Graduate Training Program (PGTP) was converted from a departmental graduate program in the former Department of Physiology to a free-standing, campus-wide program that is based in the SMPH. In its present form, the PGTP has existed only since September 2011 although the departmental program has existed since 1906.

The review in March 2016 was the first formal review of the program in its present form and, as such, it provided a very thoughtful and valuable overview. We feel that the program has made substantial progress since its inception in 2011, which was captured in the report. The reason for the delay in the response is that we explored the possibility of joining another graduate training program. As no good possibility has arisen, we have continued to implement the suggestions that were made in the review and continue to run the program.

There seems no need to respond to the parts of the review that comment on the strengths of the program. For that reason, this response focuses on the Potential Areas of Improvement.

I. Improve program cohesiveness for trainers and trainees.

1. The reviewers made the recommendation that members of the dissertation committee of the student giving the presentation be encouraged to attend Physiology 901 seminars. Even before the review, Donata Oertel and Mark Marohl have made numerous requests and invitations to thesis advisors and members of the thesis committees. Every year the Director reminds students to let committee members know when they will be giving their presentations. In addition, the Program Administrator, Mr. Mark Marohl, notifies all program faculty weekly about who will be giving a seminar.

The response by faculty has improved. Since the review one year ago, the thesis advisors have attended the presentations of their students in almost every instance. In three instances, scheduling conflicts prevented the thesis advisors from being there. Also it has become common that other people from the labs of the students who are presenting attend the seminar. Usually it is one or two people from the lab but sometimes three or four people from the lab attend.

While attendance of the thesis advisors has improved, it is rare that all members of the Thesis Committee are able to attend. Knowing how difficult it is for students to schedule a meeting of the Thesis Committee, it is perhaps not surprising that many members of the committees do not attend.

2. The reviewers also recommended that the PGTP hold an annual retreat. We have thought about doing this but have not yet done it for several reasons.

One problem is that organizing such a retreat requires time and effort. Neither Mark Marohl or Donata Oertel have had the time to devote to organizing a retreat. Mr. Marohl has been serving two programs, each of which have had 10-year reviews in the past year while the
office has lost one of its staff members to retirement. Donata Oertel serves as chair of a large department, which also takes considerable time.

Another problem is that we are not convinced that such an effort is fruitful. It is unclear that faculty will take a day or even an afternoon for a retreat for a program that does not have training grant slots. Three of our students work with physicians, Marlowe Eldrige and Peter Nichol, whose time and effort is already stretched. Two students work with Meyer Jackson, who is kept busy serving as Director of the Biophysics graduate program. Until recently one student worked with Dean Moss who also does not have many spare afternoons. All these people have attended the seminars of their students, making huge contributions to the content of the seminars. We feel that we have to protect the time of these valuable mentors and investigators, not add another activity.

We do agree with the reviewers that the program would be strengthened by building more cohesiveness and have thought of other ways of building that. For example, there is more enthusiasm to participate in activities that help recruit strong students. This year graduate students in the program gave tours of their labs. We hope to make these tours even more interesting and engaging next year by having students, and if possible include faculty mentors, to give demonstrations to incoming students next year.

II. Improve the program visibility and increase the number of applicants.

We have implemented many of the recommendations made in the Review.

1. A website has been created for the Biomedical Graduate Program Consortium through which students can apply to any of the four graduate programs of the Consortium: [http://www.med.wisc.edu/biomedical-graduate-program-consortium-application-process/49168](http://www.med.wisc.edu/biomedical-graduate-program-consortium-application-process/49168)

2. The old departmental Physiology website has been expunged.

3. The PGTP website has been improved but could use considerable further improvement.

4. There has simply not been anyone with the time and expertise to update the website. The person who used to take care of updating websites has retired.

5. Efforts have been made to increase the visibility and promote the PGTP.
   a. Dr. Duello has put considerable time and effort into making recruitment presentations but these efforts are directed mainly at recruiting underrepresented minorities.
   b. This is one of the few recommendations upon which we have not acted. As Director, Donata Oertel is reluctant to use a slide to advertise the PGTP herself and cannot therefore expect others to do this.
   c. Mr. Marohl has made business cards that members of the program have taken to meetings. Students have given these cards to potential students. In past years we have made brochures that were posted at meetings but our sense was that these were not very effective.

The efforts we have made, and continue to make, have produced results. The plot below shows that the number of applicants increased this past year.
Not only was the number of applicants reasonable but the quality was also. This year we made offers to 7 students of whom 5 are domestic and 2 are international. These were generally strong students whose mean GRE percentile scores were: V 70, Q 77, WA 49. Two of those students have accepted our offers and one has declined.

III. Strengthen the administrative structure of the program for continued success

1. Develop leadership plan to ensure program continuity.

   Even before the review, Donata Oertel was concerned about program continuity. We have sought to identify someone willing and able eventually to take over the directorship. We sought to have that person serve as co-director for a year or two during a transition. We have not yet identified such a person. Those most eager to take on the task are too junior. Among the senior faculty, those who are most able to take on the task are already overburdened.

   After the review, Dean Moss and Donata Oertel explored merging with another graduate program but each of the possibilities we have explored thus far has had drawbacks.

2. The suggestion that there be student representation on the Steering Committee is a fine one and will be implemented.

IV. Develop an alumni database

   It is the discontinuity of the administration of the program that has led to so many of the alumni as not being tracked. The departmental graduate program was small and relatively little administrative effort was placed in the program. The fact that the program is now administered differently means that this will not be a serious problem in the future.
In summary, the Review committee made excellent suggestions, many of which have already been implemented. The fact that our applications increased by 25% over last year is, we think, a manifestation of that success. The most serious challenge is to assure continuity in leadership for the program.
Students with an Appointment of 33% or Higher

This visualization was created by the Graduate School. Questions should be directed to Peter Kinsley, peter.kinsley@wisc.edu.
Distribution of Elapsed Years to Degree (Fall 2006 - Fall 2016)

- Less than 5 years: 33.3%
- 5-6 years: 24.2%
- 6-7 years: 30.3%
- 7-8 years: 9.1%
- 8-9 years: 3.0%

This visualization was created by the Graduate School. Questions should be directed to Peter Kinsley, peter.kinsley@wisc.edu.
PhD Time-to-Degree Metrics, Peer Comparison

Time-to-Degree Metrics
- UW-Madison (Years)
- AAU Peer (Years)
- AAU Peer (Years)

Years to Doctoral Degree

This visualization was created by Academic Planning and Institutional Research (APIR), Office of the Provost, UW-Madison. Questions should be directed to Sara Lazenby, sara.lazenby@wisc.edu.
Completion Rates by Fall 2016

Cohort Start Term
Fall, 2005

Division
All

School/College
All

Degree Level
All

Academic Major
Physiology PHD

Gender
All

Diversity
All

This visualization was created by the Graduate School. Questions should be directed to Peter Kinsley, peter.kinsley@wisc.edu.
PhD Retention/Completion Rates, Peer Comparison

Select a UW-Madison Program. Dashboard will populate the retention/completion rates for the UW-Madison program (top graph) and the retention/completion rates for comparable peer programs at other AAU institutions (bottom graph).

**UW-Madison Retention/Completion Rates (Physiology)**

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<th>Number of years since PhD entrance cohort entered program</th>
<th>Percent of Entrance Cohort</th>
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**Association of American Universities Peer Program Retention/Completion Rates (Physiology)**

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Student Status
- % Not Enrolled
- % Completed
- % Enrolled

This visualization was created by Academic Planning and Institutional Research (APIR), Office of the Provost, UW-Madison. Questions should be directed to Sara Lazenby, sara.lazenby@wisc.edu.
Degrees Awarded by Year

2007-2008: 8
2008-2009: 3
2009-2010: 5
2010-2011: 7
2011-2012: 4
2012-2013: 1
2014-2015: 1
2015-2016: 1

This visualization was created by the Graduate School. Questions should be directed to Peter Kinsley, peterkinsley@wisc.edu.