

# UW Pharmacology Graduate Program Evaluation

February 6, 2012

## Background

The members of the review committee were John Clark, Professor and Chair of Biological Structure, John Nilson, Professor and Director of the School of Molecular Biosciences at Washington State University, Richard Neubig, Professor of Pharmacology at University of Michigan and Trisha Davis, Professor and Acting Chair of Biochemistry. We reviewed the self-study provided by the Department of Pharmacology. The Self-study was well-written and informative. We met with members of the Department of Pharmacology including faculty, Pharmacology graduate students, Interdisciplinary graduate students in Pharmacology labs, and postdoctoral fellows over the course of 1.5 days. More details are given in the agenda included in this material.

## Administration

### Strengths

Dr. Catterall is an outstanding scientist who is also a well-organized, skilled administrator. He and his faculty have anticipated future developments in the field and thereby targeted recruitment of new faculty in these important areas. They skillfully obtained outside funding support (2 P30 grants) for the two most recent hires. Dr. Catterall also has a strong clear vision of how Pharmacology education fits into the Health Sciences.

The Graduate Program committee includes the chair of graduate admissions, and the program advisor, the former chair of admissions and the Vice Chair in charge of Graduate and Pharmacy Education. It is a well-organized and interactive group. They have consistently been effective in recruitment, bringing in classes of 4-12 students over the last 10 years. The orientation and introduction of faculty to students is well done. The annual retreat acts as an important venue for promoting intradepartmental interactions.

Edith Wang, as Program Advisor, plays a critical role as the point person in early graduate studies. Rich Gardner brings energy, enthusiasm and experience to his new role as head of admissions. The transition from Stan McKnight (former Chair of Admissions) appears seamless and efficient. Diane Schulstad provides an important contact to help students with administrative issues.

Strong external funding is a strength of the individual faculty and the PharmSci training grant provides a remarkable level of student support. Participation in several other training grants also is a strength.

### Areas for improvement

The roles and relationships of program committee members should be clarified. It is desirable to name a formal chair of the program committee.

Recruitment of underrepresented minorities will need to be enhanced. Development of more creative and active approaches will be critical for renewal of the training grant.

## Faculty

### Strengths

The outstanding, multi-disciplinary faculty of the Department of Pharmacology is highly regarded nationally and internationally for their cutting edge research in biomedical pharmacology. The faculty has strong experience in education as well as research. The external funding is impressive. The historical strength of the Department in neuropharmacology has expanded, and the Department has become a leader in research on cell signaling pathways, channel function and molecular pharmacology. The scientific strengths of the Department are being enhanced with the successful recruitment of excellent new faculty whose diversity includes research in emotional learning, decision-making, and drug abuse; proteomics; ubiquitination; and high-throughput screening of small molecule libraries. Much of the extraordinary progress of the Department is a credit to the vision and leadership of the Chairman, Professor William Catterall.

Active interdisciplinary research programs in the Department of Pharmacology are represented by the Center for Research on Drug Addiction, the Institute for Stem Cell & Regenerative Medicine, the Center for Diabetes

and Obesity, Research, the Proteomics Consortium, and the Biomolecular Structure Center. Areas of interdisciplinary education include the Molecular & Cellular Biology Program, the Biological Physics, Structure, & Design Program, Graduate Program in Neurobiology & Behavior, the Medical Scientist Training Program, and the undergraduate Neurobiology Program. The variety of interdisciplinary research interests of the faculty broadens the research topics and opportunities for students in the Pharmacology graduate program. Pharmacology faculty serve on national and international scientific review committees and participate in societies representing pharmacology, neuroscience, biochemistry, physiology, endocrinology, and related disciplines.

The enthusiasm and accomplishments of the excellent mid-level faculty suggests a healthy future for the department in modern molecular pharmacology. Adjunct and joint faculty show a strong commitment to the graduate program further enhancing the diversity of the training experience.

In general, the faculty is highly supportive of the graduate training mission. Their open lines of communication with students (including through the Pharmacology Student Association) is an additional strength.

The new structured mentoring program for new faculty has excellent potential.

#### Areas for improvement:

Transition of new faculty to the institution would benefit from a book of departmental resources and procedures (such as ordering, animal approvals, genotyping, etc.).

Consolidation of departmental space was mentioned as a potential benefit for the cohesion of the Department. Currently, the laboratories for education of graduate students in experimental research in Pharmacology are distributed across the Health Sciences campuses from the BB-wing to the K-wing and South Lake Union. While this has not limited the effectiveness of the scientific research, there could be advantages to having the programs where graduate education is conducted in closer proximity.

It is important for the faculty to support recruitment of new graduate students and participate in the activities around the recruitment.

## **Curriculum**

#### Strengths

The core introductory pharmacology courses provide a solid grounding to the field of Pharmacology. The adjustment from the previous review to separate the Pharmacology graduate courses from the Pharmacy teaching has been very successful.

The neuropharmacology curriculum is outstanding but we recommend more flexibility in the required advanced courses and elective selection to reflect the broader diversity of research interests of new faculty.

The teaching experience in the two-quarter Pharmacy course includes running quiz sections once a week and provides a valuable opportunity to consolidate the information that they learned in their core course. The recent coordination of sections among students is laudable. The anticipated new Medical curriculum may offer more in-depth opportunities for those students interested in a teaching focus. This would be enabled by institutional support.

Rotations are an outstanding element of the graduate program. The quarterly evaluation process involving all faculty is unique and provides tremendous feedback to the students.

#### Areas for improvement

The comprehensive exam in its current format was cited by several groups (faculty and students) as a concern. Students take a substantial amount of time from their research to study for it (up to 6 weeks) and it does not seem to add much to their educational experience. Specifically, having the Pharmacy TA experience as a means to review and consolidate their basic pharmacology knowledge makes the archaic, in-class format unlikely to add significantly. They may obtain more exposure to the advanced topics in this way but a take-home exam would probably be more efficient and accomplish this with less time off from their other activities. Alternatively, a grant-writing based exam may also substitute.

## Research

### Strengths

The research training appears to be outstanding as supported by the strong publication record of the students. The cross-disciplinary collaborations among groups within and outside of Pharmacology are a valuable addition to the research training experience.

### Areas for improvement

Career development especially with respect to careers outside of research-intensive academic settings needs further attention. The approach being employed by Dr. Gardner for his lab is worthy of emulation by the program overall. A more organized institutional commitment to this area would be highly desirable. This is also a need for post-doctoral trainees as well.

Bioscience Career seminars are informative, but because they address a large group, it does not provide individual attention.

The postdoctoral association organized by postdoctoral fellows across campus provides information and opportunities but many of these are not applicable to the Pharmacology postdoctoral fellows. The office of postdoctoral affairs on upper campus has been closed, even though a clear need still exists. A well organized office of postdoctoral affairs in the Medical School would be highly desirable to provide career development opportunities and consolidate information applicable for the School's many postdoctoral fellows.

## Concluding Remarks

The strengths of the Department of Pharmacology clearly exceed the few areas identified for improvement. On balance the Department excels in research, teaching, and service. We recommend the next review occur in 10 years, on the normal schedule.

While the future is bright, the Department must resist the temptation to rest on its laurels and focus on designing new educational and training programs as well as expanding its existing research programs. In this regard, the ideas provided in **Section IV (Future Directions)** of the Departmental Self-Assessment provide a useful template for further consideration. Putting many of these ideas in action will ensure that the Department remain as a national leader in Molecular Pharmacology. We urge the present and future leadership to pursue these ideas vigorously. We also urge the upper administration to support good ideas when they are put forth. This is a Department worthy of additional financial support.

**UNIVERSITY OF WASHINGTON**  
**The Graduate School**  
**Department of Pharmacology Site Visit**  
**January 9-10, 2012**  
**AGENDA**

<b>MONDAY, JANUARY 9, 2012</b>	<b>Location: Pharmacology Library, Room D423 Health Sciences</b>
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8:00 – 9:00 a.m.	Review Committee Executive Session
9:00 – 9:45 a.m.	William Catterall, Professor and Chair
9:45 – 10:30 a.m.	Graduate Program Committee: Joseph Beavo (Professor), Richard Gardner (Assistant Professor), Stan McKnight, (Professor) and Edith Wang (Associate Professor)
10:30 – 10:45 a.m.	<b>Break</b>
10:45 – 11:30 a.m.	Professors – Group 1 Sandra Bajjalieh, Randall Moon, Neil Nathanson, John Scott
11:30 a.m. – 12:15 p.m.	Assistant Professors: Chris Hague, Richard Gardner, and Shao-En Ong
12:15 – 1:30 p.m.	<b>Lunch</b> – Review Committee (Catered to conference room)
1:30 – 2:15 p.m.	Mid-career Faculty: Nephi Stella (Professor), Edith Wang (Associate Professor), Ning Zheng (Associate Professor), and Larry Zweifel (Assistant Professor)
2:15 – 3:00 p.m.	Research Associate Professors: Paul Amieux, Sergei Rybalkin, Ruth Westenbroek and Research Professor, Todd Scheuer
3:00 – 3:15 p.m.	<b>Break</b>
3:15 – 4:15 p.m.	Graduate Students (who have passed the General Exam) <i>Pharmacology Student Association Representatives:</i> Eric Fredrickson, Jessica Hill, Ben Reed, Mario Rosasco, Bret Samelson and Abigail Schindler ( <i>GPSS Senator</i> )
4:15 – 5:15 p.m.	Graduate Students – 1 <sup>st</sup> Year Students: Christina Akers, Teresa Heard, Kristin Mussar, and Shannon Nangle 2 <sup>nd</sup> Year Students: Jim Ruble, Lauren Burgeno ( <i>Pharmacology Student Association Representative</i> )
6:30 p.m.	Working Dinner – Review Committee Eva Restaurant and Wine Bar – 2227 N. 56 <sup>th</sup> (206-633-3538)

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<b>TUESDAY, JANUARY 10, 2012</b>	<b>Location: Pharmacology Library, Room D423 Health Sciences</b>
8:15 – 9:00 a.m.	John Slattery, Vice Dean, Research and Graduate Education, School of Medicine
9:00 – 9:45 a.m.	Professors – Group 2 Joseph Beavo, Charley Chavkin, Daniel Storm, Stanley McKnight
9:45 – 10:30 a.m.	Joint and Adjunct Faculty: Paul Phillips (Associate Professor, Psychiatry & Behavioral Sciences), John Neumaier (Professor, Psychiatry & Behavioral Sciences), Bruce Tempel (Professor, Otolaryngology/Head Neck Surgery), Zhengui Xia (Professor, Toxicology/Environmental Health)
10:30 – 10:45 a.m.	<b>Break</b>
10:45 – 11:15 a.m.	Interdisciplinary Program Students
11:15 a.m. – 12:00 p.m.	Postdoctoral Fellows
12:00 – 1:00 p.m.	<b>Lunch</b> – Review Committee (Catered to conference room)
1:00 – 2:30 p.m.	Review Committee Executive Session
2:30 – 3:30 p.m.	Exit Discussion I – Review committee with: William Catterall and other department faculty Sheila Lukehart, Assistant Dean, Research and Graduate Education, School of Medicine Douglas Wadden, Executive Vice Provost for Academic Affairs, Office of the Provost <i>The Graduate School:</i> James Antony, Associate Vice Provost and Associate Dean for Academic Affairs
	Augustine McCaffery, Senior Academic Program Specialist Brian Iritani, Associate Professor, Department of Comparative Medicine, Graduate School Council Representative
3:30 – 4:30 p.m.	Exit Discussion II – Review Committee with Administrators and GS Council Representative without Department faculty
4:30 – 5:00 p.m.	Review Committee Debriefing