



# University of Toronto Quality Assurance Process (UTQAP) Cyclical Review: Final Assessment Report and Implementation Plan

<b>Programs Reviewed:</b>	Undergraduate programs (offered in association with the Faculty of Arts and Science): Biomedical Toxicology, B.Sc. (Hons.): Specialist, Major Pharmacology, B.Sc. (Hons.): Specialist, Major Pharmacology and Biomedical Toxicology, B.Sc., (Hons.): Specialist  Graduate programs: Pharmacology, M.Sc., Ph.D.
<b>Unit Reviewed:</b>	Department of Pharmacology & Toxicology
<b>Commissioning Officer:</b>	Dean, Faculty of Medicine
<b>Reviewers (Name, Affiliation):</b>	<ol style="list-style-type: none"> <li>1. Professor Henrik Dohlman, Department of Pharmacology, University of North Carolina</li> <li>2. Professor James Hammond, Department of Pharmacology, University of Alberta</li> <li>3. Professor Jane Rylett, Department of Pharmacology &amp; Physiology, University of Western Ontario</li> </ol>
<b>Date of review visit:</b>	September 28-29, 2017
<b>Date reported to AP&amp;P:</b>	April 3, 2018

Unless otherwise noted, all bulleted comments apply to all programs reviewed.

## 1 Outcome

- The Committee on Academic Policy and Programs (AP&P) concluded that the Decanal response adequately addressed the review recommendations.

## 2 Significant Program Strengths

- High calibre students in both the undergraduate and graduate programs
- Commendable new initiatives including the master's field in Applied Clinical Pharmacology, new online courses, and curriculum mapping of the undergraduate programs
- Establishment of the Centre for Collaborative Drug Research (CCDR), which has increased collaborations and improved the Department's leadership role at the Faculty of Medicine

## 3 Opportunities for Program Enhancement

The reviewers recommended that the following be considered:

- Reviewing the current practice of admitting graduate students directly to a research lab
- Addressing issues with graduate course "breadth modules"
- Developing more opportunities to advance communication skills and explore non-academic careers
- Instituting a formal exit survey for graduating PhD students
- Addressing graduate students' concerns over challenges with locating information on funding opportunities and mental health resources
- Encouraging the voices of graduate students on departmental committees
- Ensuring effective program delivery and positive morale by exhibiting ongoing sensitivity to Department staffing
- Expanding collaborative outreach, including exploring opportunities for medical residents to work in basic science laboratories, and mentoring junior faculty
- Addressing concerns regarding teaching capacity and possible constraints to undergraduate assessment design
- Expanding professional development opportunities such as the Professional Experience Year (PEY) and the Research Abroad program
- Addressing declining enrolments in the Biomedical Toxicology Specialist



UNIVERSITY OF TORONTO  
FACULTY OF MEDICINE

L. Trevor Young, MD PhD FRCPC

Dean

*Vice-Provost, Relations with Health Care Institutions*

March 16, 2018

Prof. Sioban Nelson  
Vice-Provost, Academic Programs  
University of Toronto

Dear Vice-Provost Nelson,

I am responding to your request for a decanal administrative response to the external review of the Department of Pharmacology and Toxicology undergraduate (BSc) and graduate programs (MSc, PhD). This has been done in consultation with the Chair of the Department.

On behalf of the Faculty of Medicine, University of Toronto, I would first like to thank the three external reviewers—Prof. Henrik Dohlman (University of North Carolina), James Hammond (University of Alberta) and Jane Rylett (Western University)—for a rigorous and comprehensive review of the Department of Pharmacology and Toxicology on September 28-29, 2017. I would also like to thank, on behalf of the Faculty, Prof. Ruth Ross, Chair of the Department, the administrative staff of the Department and all those who contributed to the preparation of the comprehensive self-study. I also thank the many faculty members and students who met with the external reviewers; their input was invaluable for this review. The Faculty of Medicine greatly appreciates the time and effort of the reviewers in providing a written report that is comprehensive and thoughtful.

I will comment on each of the specific areas that you have identified.

## **GRADUATE PROGRAMS**

*The reviewers recommended reviewing the current practice of admitting graduate students directly to a research lab.*

The Chair emphasizes that currently every student who has three minimum-entry criteria is interviewed by a member of the Graduate Education Committee. The Department places a great deal of weight on prior research experience and enthusiasm for research, and knowledge of research, as well as having a strong academic record.

### **Immediate Term:**

In light of the reviewers' comments the Department will revisit the criteria and admission requirements to the programs. It will do this by polling the faculty and current students for their interest in establishing mandatory rotations for all graduate students, or for PhD students only. The Chair is committed to implementing in the fall a pilot program in response to what the faculty and students want. She has appointed Dr. Peter McPherson, Graduate Coordinator, as the lead for this initiative.

*The reviewers noted that issues with course “breadth modules” have continued unresolved since the previous review.*

**Immediate Term:**

The Department has identified three initiatives to improve the “breadth modules”:

1. A requirement for all faculty to offer “breadth modules” at regularly scheduled intervals as part of required graduate teaching service.
2. Implementation of a more efficient scheduling tool, using a live web-based spreadsheet where graduate faculty can populate the spreadsheet with the number of positions available and dates/times the tutorial/practicum is offered. Graduate students can then sign up online on a first-served basis. This method has recently been implemented in our undergraduate research project course with great success.
3. A more consistent framework/expectation for “breadth modules” (content, duration) by graduate faculty.

These three issues will be addressed at Graduate Education Committee meetings in spring 2018, with expected changes to be implemented in summer or fall of 2018. The lead person for this will be Dr. Peter McPherson, Graduate Coordinator.

*The reviewers encouraged the development of more opportunities to advance communication skills and explore non-academic careers.*

**Immediate Term:**

Currently all students enrolled in Graduate Pharmacology (PCL1002Y) get the opportunity to present a scientific article and write a grant proposal. Furthermore, all research stream students also give a presentation after year one of graduate studies (first-year seminars). Going forward, significant educational value can be achieved by having all PhD students prepare a more advanced-level CIHR-style grant proposal based on their own thesis research. If introduced as a formalized PhD program requirement, this could perhaps be monitored and evaluated by members of the students’ Supervisory Committee.

The issue of enhancing communication skills will be addressed at Graduate Education Committee meetings in spring 2018, with expected changes to be implemented in summer or fall of 2018. The leads for this will be Dr. Peter McPherson, Graduate Coordinator, and Dr. David Riddick, graduate pharmacology course coordinator.

The Department relies heavily on the participation of alumni volunteers at its career night event which is held once a year. Alumni also regularly ask to circulate employment opportunities and career advice for graduate students. There are also a number of opportunities that are available for graduate students to gain professional development opportunities outside of academia research.

*The reviewers suggested instituting a formal exit survey for graduating PhD students.*

**Immediate/Medium Term:**

An exit interview is an excellent idea which the Department plans to implement. The Graduate Coordinator will conduct an exit interview of all PhD students completing the program. A detailed list of interview questions will be drafted by the Graduate Education Committee in the spring of 2018. The lead person for this will be Dr. Peter McPherson, Graduate Coordinator.

*The reviewers reported graduate students' concerns over challenges with locating information on funding opportunities and mental health resources.*

**Immediate/Medium Term:**

Postgraduate students receive detailed instructions by email notification of external award competitions. The same information is available on the Department website and [www.glse.utoronto.ca](http://www.glse.utoronto.ca). The graduate office and Graduate Coordinator provide one-on-one instruction and support for applicants applying to external awards.

Mental health is a very important issue and the Department has taken a number of steps to improve its ability to assist students with various needs, including mental health. For example, in early February 2018, four members of core faculty (Profs. Ross, McPherson, Woodland and Salahpour) attended a meeting on services available to students. During upcoming departmental meetings these topics will be discussed and information will be circulated to all faculty. Because of importance of this topic, this will be an agenda item every 2-4 months to ensure that faculty are always aware and have up-to-date information on the services that are available to students.

In parallel to this, the students in the Department are also working towards increasing awareness and information around the services that are available at U of T. Specifically the Pharmacology and Toxicology Students' Association organized a SafeTALK 3-hour training event which was sponsored by the Department and attended by both students and faculty. Going forward this will be a priority for the Department and faculty members in leadership positions (Chair, Associate Chair, Graduate Coordinator, Undergraduate Coordinator, ACP Coordinator) will keep up-to-date about all services available for the students and will make sure the information is properly communicated to the faculty at large.

**ADMINISTRATION**

*The reviewers echoed the sentiment of the previous review regarding the limited voice of graduate students on departmental committees.*

**Already Implemented:**

The Graduate Education Committee has had graduate student representation for more than 5 years. Furthermore, every major Faculty of Medicine Graduate & Life Science Education committee that makes decisions impacting graduate students (e.g. awards committees) has graduate student representation.

*The reviewers encouraged ongoing sensitivity to staffing in the department to ensure effective program delivery and positive morale.*

**Immediate Term:**

The issue of staffing has been ongoing and it is an important one that the Chair will address in 2018. The Department is currently in discussions with Human Resources exploring various options that will meet the Department's needs. The Chair recognizes that improving the organization will ultimately result in increased productivity of faculty members in various leadership roles that rely on administrative assistance. As such addressing this is a priority and meetings with HR are scheduled for February and March 2018. The lead person for this will be Dr. Ali Salahpour, Acting Chair.

**FACULTY**

*The reviewers recommended expanding collaborative outreach, including exploring opportunities for medical residents to work in basic science laboratories, and mentoring junior faculty.*

**Medium/Long Term:**

The suggestion of implementing formal mentoring is important. Although no such formal structure currently exists, there is a formal internal grant peer review system which is led by former Chair, Dr. Denis Grant. It has become clear over the years that internal grant peer reviews tremendously increase the likelihood of success of grant applications and this is something that has been done in the Department on an on/off basis. Going forward, this will be an important initiative that will be spearheaded by a core faculty mentor.

**Immediate Term:**

In order to foster additional collaborations between basic and clinical departments, the Department is implementing a new series of seminars/meetings for faculty which includes an important number of physician-scientists. Increased interaction and collaboration with clinician-scientist cross-appointed faculty should facilitate opportunities for medical residents to conduct research in basic science laboratories associated with the Department. The lead person for this will be Dr. Lenny Salmena, the seminar coordinator. Seminars began in January 2018.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. Young', written in a cursive style.

L. Trevor Young, MD, PhD, FRCPC  
Dean, Faculty of Medicine  
Vice-Provost, Relations with Health Care Institutions

## UNDERGRADUATE PROGRAM

### Joint Decanal Response | Faculty of Arts & Science and Faculty of Medicine

*The reviewers were impressed by the success of the undergraduate programs, but expressed concern over teaching capacity and possible constraints to undergraduate assessment design. The reviewers reiterated the previous review's suggestion that postdoctoral students might provide additional teaching capacity.*

#### **Immediate/Medium Term:**

The Department is fully committed to engaging postdoctoral fellows and research associates in the teaching (or other) activities in the Department. One forum to spark engagement will be the initiation of regularly scheduled meetings (1-3/year) of the PDF, RAs, Chair/Graduate Coordinator and Undergraduate Coordinator to gauge interest and discuss opportunities. Interested PDFs and RAs will be encouraged to attend workshops and receive training through the Centre for Teaching Support & Innovation. The lead person for this will be Dr. Michelle Arnot, Undergraduate Coordinator.

*The reviewers encouraged expanding professional development opportunities such as the Professional Experience Year (PEY) and the Research Abroad program.*

#### **Immediate Term:**

The Department is continuously working on improving its PEY and Research Abroad programs. Specifically, Dr. Laposa has worked very hard in securing additional PEY positions over the last 2 years and she will continue expanding this program going forward. Pharmacology and Toxicology students have been doing on-campus research through the Faculty of Arts & Science's Research Opportunities Program (ROP299Y and ROP399Y) and have been doing off-campus research through its Research Excursions Program (REP398Y). The Faculty of Arts & Science will work with Pharmacology and Toxicology on diversifying and expanding experiential learning opportunities, in keeping with the Faculty's broader plans to enhance such opportunities for students. The Department agrees that better advertisement will most likely result in increased undergraduate participation in both research and international opportunities. To this end, opportunities will be systematically announced in all third-year and fourth-year classes in the upcoming years. See, for example, the list of research and international opportunities at (<http://www.artsci.utoronto.ca/current/focus/international-opportunities>).

*The reviewers noted the declining enrolments in the Biomedical Toxicology Specialist.*

#### **Medium Term:**

The Department is also concerned about the enrollment in the Biomedical Toxicology stream, and is aware that U of T is one of few institutions that offer this program. That said, Specialist enrollment for this program is similar to other comparable Specialist programs in the basic medical sciences (Physiology, Immunology, Biochemistry, etc., all with approximately 9-15 students/year). In fact, this might suggest that the Joint Specialist and the Pharmacology Specialist are incredibly popular (ie. they are the largest SPE stream of the Basic Medical Science Specialist programs). However, it is noted that perhaps earlier interventions and/or exposure to Biomedical Toxicology may improve awareness and interest in this specific area. Currently the undergraduate program has struck a committee to review the Biomedical Toxicology program courses and curriculum map to look for areas of efficiency and/or areas that may be lacking. Information from this examination will help determine if there is a potential for a first-year breadth or second-year Biomedical Toxicology course. The Department will consult with the Arts & Science Vice-Dean, Undergraduate and International regarding the potential for new courses within the Life Science stream.

In addition, we note that undergraduate enrollment is expected to decrease on the St. George campus in the near future. Under the Strategic Mandate Agreement (SMA2) between the University and the province, there will be a modest decline in total domestic undergraduate enrollments. Thus, the more general enrollment strategy across the Faculty of Arts & Science will be focused on modestly reducing rather than increasing enrollments. The lead person for this will be Dr. Cindy Woodland, Biomedical Toxicology Collaborative Specialization Director.



David Cameron, PhD, FRSC  
Dean and Professor of Political Science  
Faculty of Arts & Science



L. Trevor Young, MD, PhD, FRCPC  
Dean, Faculty of Medicine  
Vice-Provost, Relations with Health Care Institutions

## 5 Executive Summary

- The reviewers identified the programs' strengths as the high calibre students in both the undergraduate and graduate programs; the commendable new initiatives including the master's field in Applied Clinical Pharmacology, new online courses, and curriculum mapping of the undergraduate programs; and the establishment of the Centre for Collaborative Drug Research (CCDR), which has increased collaborations and improved the Department's leadership role at the Faculty of Medicine. The reviewers recommended that the following issues be addressed: reviewing the current practice of admitting graduate students directly to a research lab; addressing issues with graduate course "breadth modules"; developing more opportunities to advance communication skills and explore non-academic careers; instituting a formal exit survey for graduating PhD students; addressing graduate students' concerns over challenges with locating information on funding opportunities and mental health resources; encouraging the voices of graduate students on departmental committees; exhibiting ongoing sensitivity to Department staffing; expanding collaborative outreach; addressing concerns regarding teaching capacity and possible constraints to undergraduate assessment design; expanding professional development opportunities; and addressing declining enrolments in the Biomedical Toxicology Specialist;. The Dean's Administrative Response describes the Faculty, unit and programs' responses to the reviewers' recommendations, including an implementation plan for any changes necessary as a result. The Committee on Academic Policy and Programs (AP&P) concluded that the Decanal response adequately addressed the review recommendations.