



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

<b>Program Reviewed:</b>	Undergraduate programs (offered in association with the Faculty of Arts & Science):  Biochemistry, B.Sc. (Hons.): Specialist, Major Bioinformatics and Computational Biology, B.Sc. (Hons.): Specialist  Graduate programs:  Biochemistry, M.Sc., Ph.D.
<b>Unit Reviewed:</b>	Department of Biochemistry
<b>Commissioning Officer:</b>	Dean, Faculty of Medicine
<b>Reviewers (Name, Affiliation):</b>	<ol style="list-style-type: none"><li>1. Professor Stephen Bearne, Department of Biochemistry &amp; Molecular Biology, Dalhousie University</li><li>2. Professor Albert Berghuis, Department of Biochemistry, McGill University</li><li>3. Professor Lila Gierasch, Department of Biochemistry &amp; Molecular Biology, University of Massachusetts, Amherst</li></ol>
<b>Date of review visit:</b>	October 19 – 20, 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 there were no issues to be drawn to the attention of the Agenda Committee but requested a follow up

report in one year on the status of Department's strategic planning, the implementation of the rotation system, and the future of the bioinformatics and computation biology specialist. The follow-up report will be considered by AP&P at the Cycle 5 meeting in 2018-19.

## **2 Significant Program Strengths**

- Positive contributions made to the university community
- Strong partnerships with other departments
- Commendable implementation of a lab rotation system at the graduate level, as well as additional training in communications and professional development
- Impressive undergraduate research opportunities and personalized mentorship
- Overall vibrancy and productivity of the department

## **3 Opportunities for Program Enhancement**

The reviewers recommended that the following be considered:

- Establishing a long-term vision for the department through strategic planning
- Supporting decision-making through committee structures and communications
- Considering office reorganization and investment in departmental staffing
- Seeking additional graduate student funding sources outside of the Tri-council agencies
- Continuing to invest in the highly successful professional development initiatives
- Investigating options to ensure student access to elective courses
- Utilizing curriculum mapping exercises to ensure appropriate disciplinary breadth and depth in the Major and Specialist programs in Biochemistry
- Conducting an overall academic planning exercise for undergraduate education
- Increasing communications regarding research opportunities for undergraduate students, and raising the profile of the Specialist in Bioinformatics and Computational Biology

## 4 Administrative Response & Implementation Plan



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 Biochemistry undergraduate (BSc) and graduate programs (MSc, PhD). This has been done in consultation with the Chair.

On behalf of the Faculty of Medicine, University of Toronto, I would first like to thank the three external reviewers—Prof. Stephen Bearne (Dalhousie University), Albert Berghuis (McGill University) and Lila Gierasch (University of Massachusetts)—for a rigorous and comprehensive review of the Department of Biochemistry and its degree programs on October 19-20, 2017. The reviewers referred to the Department of Biochemistry as representing *“an outstanding strength and a positive contributor to many activities on campus and at associated institutions, and thus the external committee recommends with a unanimous strong voice that the institution invest in this Department to maintain its quality.”* I would also like to thank, on behalf of the Faculty, Prof. Justin Nodwell, 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.

### **STRATEGIC PLANNING**

*The reviewers identified many successful efforts made to manage short-term challenges, and recommended strategic planning to establish a long-term vision for the Department.*

The Chair wholeheartedly agrees with the need for an overarching strategic plan to address the issues noted by the reviewers. There are two plans in place regarding strategic planning.

#### **Immediate Term:**

The Department, under the leadership of the Chair, intends to have a 1-2 day faculty retreat at which all aspects of the Department will be discussed with a view to creating a long-term strategic plan. The plan is to establish high level goals and achieve buy-in and enthusiasm for all of them during this process. The Chair has not identified a consultant although colleagues in Immunology and in Pharmacology & Toxicology have experience with this process and he plans to seek their advice. This will likely happen in spring 2019, once the Chair is back from administrative leave and has resumed his duties.

Second, the Department plans to institute an annual planning day this year as part of the annual departmental research retreat. The idea is to add an additional day (before the science and social events get started) that will be strictly for faculty. The faculty portion will involve a 3-4 hour meeting in which a specific departmental issue is discussed and debated at length. This is intended to be a deep-dive on a single body of issues. The Department plans to focus on the undergraduate program as this year's topic, likely built around the results of the Undergraduate Committee's curriculum mapping exercise (see below). Since participation in the departmental retreat is usually quite good, the idea is that this will build engagement and ensure that the Department continues to innovate in its programs and activities.

## **ADMINISTRATION**

*The reviewers recommended strategies to support decision-making through committee structures and communications.*

### **Already Implemented:**

The Chair has already reorganized the Advisory Committee and populated this committee with new members. The membership now consists of the Associate Chairs for Research (Prof. Moraes) and Graduate Education (Prof. McQuibban), as well as the Undergraduate Coordinator (Prof. Andreopoulos) the Graduate Professional Development lead (Prof. Lee) and representatives from various sites. As a result of this reorganization, the Steering Committee has been eliminated. The Advisory Committee meets monthly with a more structured agenda. To facilitate communication, the Chair emails a summary of the discussion to members of the Department after each meeting. Finally the Department will have a regularly scheduled faculty meeting once each semester, with an agenda circulated before each meeting.

*The reviewers commented on the need for office reorganization, and for investment in departmental staffing.*

### **Medium Term:**

There is much work to be done in this regard. Consultation with HR has already begun and there is a new job description in place for the much-needed financial officer. The Chair is hoping to be able to post an advertisement to hire in April and have someone in place by the time the Acting Chair starts on July 1. Further changes will be required for a more functional and efficient administrative team. While the HR process for this will take some time, it will be a top priority for the Chair once he returns from administrative leave in early 2019.

## **GRADUATE PROGRAM**

*The reviewers suggested looking for additional graduate student funding sources outside of the Tricouncil agencies.*

### **Medium Term:**

The Department is planning a reunion, symposium and fundraising event to celebrate the 80<sup>th</sup> anniversary of the discovery of estrogen in the Department of Biochemistry. The principal objectives of this event are to raise funds to complete the renovation of Biochemistry space in the Medical Sciences Building (MSB), to further support the Department's professional development activities, and to bring in stipend funding for students and postdoctoral fellows.

*The reviewers praised the highly successful professional development initiatives and recommended continuing to invest in this area.*

**Already Implemented:**

Towards that end, the Department recently hired Prof. Nana Lee as a full-time member of the teaching faculty. The Department is committed to identifying funds to expand her activities.

*The reviewers suggested investigating options to ensure student access to elective courses.*

**Medium/Long Term:**

The Department has expanded graduate courses from 6 to 10 this year. In addition, there is a plan to implement, in spring 2018, annual courses around technology that are critical to the Department's research priorities. This will include one quarter course in Cryo-EM, X-ray crystallography and NMR. In the future this will be extended to such technologies as HT DNA sequencing, and small molecule screening /drug discovery. The long-term plan, over the next 5 years, is to have a stable of 5-8 courses that deal with technology as well as a rotating set of 8-12 courses that are standard for the field.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Young', with a stylized, cursive flourish at the end.

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 recommended a curriculum mapping exercise to ensure appropriate disciplinary breadth and depth in the Major and Specialist program in Biochemistry. An overall academic planning exercise for undergraduate education was also suggested.*

#### **In Progress:**

The Undergraduate Curriculum Committee (Drs. Brown, Khan, Patterson and Smibert) is now conducting a comprehensive curriculum mapping exercise for the Department. During the process, the committee will consult with the Curriculum Developer in the Office of the Vice-Provost, Innovations in Undergraduate Education.

*The reviewers suggested increasing communications regarding research opportunities for undergraduate students, and raising the profile of the Specialist in Bioinformatics and Computational Biology Program.*

#### **Immediate Term:**

The Department hopes to improve the mechanism by which research opportunities are communicated to students by moving this to an online system. In addition, the Department is committed to increasing research opportunities for students; for example, the fourth year research laboratory course, which is typically open only to Specialist students, will be considered to be opened up to Majors students as well.

The Department will also alert students to research opportunities that may be available through the Career Learning Network (<https://cln.utoronto.ca/home.htm>) and the Faculty of Arts & Science website (<http://www.artsci.utoronto.ca/current/life-sciences-undergraduate-research-opportunities-at-the-st.-george-campus>).

#### **Medium Term:**

The Chair has committed, upon his return from administrative leave, to meet with the Chairs of the four Departments involved in this program in order to establish the best oversight of the program to enhance its profile.



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 positive contributions made to the university community; strong partnerships with other departments; commendable implementation of a lab rotation system at the graduate level, as well as additional training in communications and professional development; impressive undergraduate research opportunities and personalized mentorship; and the overall vibrancy and productivity of the department. The reviewers recommended that the following issues be addressed: establishing a long-term vision for the department through strategic planning; supporting decision-making through committee structures and communications; considering office reorganization and investment in departmental staffing; seeking additional graduate student funding sources; continuing to invest in the highly successful professional development initiatives; ensuring student access to elective courses; utilizing curriculum mapping exercises to ensure appropriate disciplinary breadth and depth in the Major and Specialist programs in Biochemistry; conducting an overall academic planning exercise for undergraduate education; and increasing communications regarding research opportunities for undergraduate students, and raising the profile of the Specialist in Bioinformatics and Computational Biology. 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 there were no issues to be drawn to the attention of the Agenda Committee but requested a follow up report in one year on the status of Department's strategic planning, the implementation of the rotation system, and the future of the bioinformatics and computation biology specialist. The follow-up report will be considered by AP&P at the Cycle 5 meeting in 2018-19.