



**OFFICE of THE PROVOST AND  
VICE-PRESIDENT (ACADEMIC)**

OFFICE OF THE ASSOCIATE VICE-PRESIDENT (ACADEMIC)

Cyclical Program Review  
Final Assessment Report and Implementation Plan  
Guelph-Waterloo Centre for  
Graduate Work in Chemistry and Biochemistry (GWC)<sup>2</sup>

Summary of the Cyclical Program Review of the Joint Graduate Programs in Chemistry and Biochemistry (Joint: Guelph-Waterloo)

1. The Program's Self-Study was received by the Office of Quality Assurance on January 16, 2017
2. The Review Committee consisted of two external reviewers: Andrew Bennet (Simon Fraser University) and Yining Huang (Western University). The internal facilitator was David Wolyn, Department of Plant Agriculture, Ontario Agricultural College.
3. The site visit occurred February 16-17, 2017 (see itinerary attached)
4. The Reviewers' Report was received on March 9, 2017.
5. The Director's response, from Dr. France-Isabelle Auzanneau, in consultation with the faculty and Chairs from U of G and U Waterloo, was provided on May 10, 2017
6. The Dean's response, from Interim Dean Richard Zytner, University of Guelph, was received June 23, 2017
7. The Dean's response, from Dean Lemieux, University of Waterloo, was received on June 14, 2017

The academic programs in the centre and examined as part of the cyclical program review include:

**MSc and PhD, Chemistry, with various fields**

The Departments also contributes to the following collaborative programs which undergo review separately and while may be referenced from time to time in the self-study, these are not under direct purview of this review:

Nanotechnology (University of Waterloo)

Quantum Information (University of Waterloo)

Toxicology (University of Guelph)

Strengths and weaknesses of the programs, as identified in the external reviewers' assessment report:

The reviewers stated:

**Program Strengths.** The external review team noted that the degree programs at both institutions are well respected and produce strong graduates.

In both National and International contexts, the excellent faculty are the strength of the graduate programs in Chemistry at the Centre on both campuses. The quality of research emanating from the Centre's members is evident from the number of research awards received by the faculty at both national and international levels; the number of research chairs, including Canada Research Chair (8), Canada Excellence Research Chair (1), NSERC industrial chairs (2); and university supported chairs (1); the research funding (over \$100 M for the current evaluation period) from a diverse range of funding sources; the number of high quality publications and patents; the research leadership demonstrated by the faculty on national and international stages (*e.g.* serving on prestigious academic/government/industry advisory boards and editorial boards of high impact journals, organizing conferences and workshops); the number of invited/plenary/keynote lectures; and the large number of high quality graduate students they supervised. The Centre's faculty also provide multi-disciplinary research environments such as the Institute of Polymer Research (Waterloo), Waterloo Institute for Nanotechnology, The Institute for Quantum Computing (Waterloo) and The Electrochemistry Technology Centre (Guelph).

During our meeting with students on both campuses, we specifically asked about the quality and availability of graduate supervision. The students at the meetings unanimously expressed their satisfaction and we have no concern in this regard.

### **Program Weaknesses**

As mentioned earlier, while the current faculty complement at Waterloo is healthy, the current number of faculty is dangerously low at Guelph. The distribution of full time research active, tenured and tenure-track faculty members is 39 at Waterloo and 15 at Guelph. As stated in the Self Study, that no faculty hiring has occurred, in the Department of Chemistry at University of Guelph campus, during a 10-year period clearly has had detrimental effect on the graduate program at Guelph. A gradual reduction of faculty members at Guelph significantly limits the ability of graduate course offering (especially in the areas of biological chemistry, polymer and theory) and prevents the growth of graduate enrolment. It also markedly affects the overall research profile of the Department.

**Research Strength and Activity.** During the external review team's discussions with the Centre's director, it became clear that one of the major challenges faced is rejuvenation of the Centre given that the two Universities have, over the last 10 years, had very different outcomes with regard to faculty renewal. This discrepancy has resulted in the Chemistry graduate programs at Guelph undergoing a decrease in the number of graduate students enrolled. In contrast, at Waterloo there have been a significant number of new faculty hires, which has resulted in an

active and vigorous research environment. The Dean assured the review team that Guelph's Chemistry Department has the go ahead for faculty renewal with several replacement positions. Indeed, the process had started with the successful recruitment of a Tier 1 Canada Research Chair in Electrochemistry. The reviewers also note the importance for newly hired faculty to be given sufficient start-up funds, which could include access to CFI grants. Thus, we recommend that Guelph University develops a sound financial plans to fund starting faculty adequately so that they can initiate their research program in a timely manner.

**Internationalism.** A significant difference between the two universities, which became apparent early on in the review process, is the different level of support for international graduate students at the two Universities. Specifically, very few international students are enrolled at Guelph, a problem that is widely acknowledged, and this results in a decreased diversity in the graduate student population. On the other hand, at Waterloo, about 35% of the graduate students are international, however, many faculty expressed concerns about the move to a new budget model and the potential implications for reduced access to support for international graduate students.

#### The overall recommendation of the external reviewers:

The Graduate programs offered **Meet all Expectations**

The joint Guelph-Waterloo Graduate Programs in Chemistry and Biochemistry (GWC)<sup>2B</sup> are among the largest and strongest chemistry programs in Canada. Overall, the reviewers were impressed with the high standard and quality of the programs. The facilities for graduate research and training are excellent. The quality of both faculty and graduate students is very high.

Despite some changes that are needed for improvement as outlined above, especially recommendation number 1, the reviewers feel that the graduate programs offered by (GWC)<sup>2B</sup> **meet all expectations.**

#### Summary of Recommendations of the External Reviewers and the Department's and Dean's Responses

\*NB: The following are the reviews' recommendations, noted in bold and Chair/Director/Department responses, noted in italics. Dean's endorsement or additional comment is included.

#### Reviewer's Recommendations for immediate improvement:

- 1. It is critical that the University of Guelph's administration follows through on the promise of faculty renewal in the Department of Chemistry, and that starting faculty are given competitive start ups so that they can readily initiate their research programs.**

*The Director stated agreement from the Department of Chemistry at Guelph:*

*Three positions are currently at various stages of recruitment: a Tier 1 Chair replacement, the position made possible by Peter Tremaine's IRC, and a position in Biological Chemistry for which funding has been received from the Provost Office. In addition to these three positions and as described in the Self Study, the Chair of the Department of Chemistry and the Director of (GWC)2 had received indication in January 2017 from the Interim Dean of CPES (Prof. R. Zytner) that the three positions left vacant by recent retirements in 2012, 2015 and 2016 would be made available for recruitment. However, at the present time, discussions are ongoing between the Chair of Chemistry and the Dean to explore the possibility of hiring Faculty in these positions based on the needs of the Department and finances.*

*NB: The remainder of the Director's response to this recommendation can be found in her accompanying memo.*

*In his response, the **Interim Dean, U of G**, confirmed:*

*the GWC2 program is important to the College of Engineering and Physical Sciences (CEPS), and has the full support of the Dean's Office. Accordingly I have discussed the requested faculty positions outlined in Recommendation I with the Provost. These discussions are ongoing as part of the overall faculty complement needed in CEPS.*

*The **Dean, Waterloo**, did not comment as it is out of his jurisdiction.*

- 2. The persistent technical problems in link-rooms on both campuses must be fixed as soon as possible. Fully functioning link rooms are essential to the programs as they are used for graduate teaching, thesis defense, and committee meeting.**

*The Director noted:*

*A task force (members from Chemistry and Physics at U of G and U Waterloo; teaching support services) was struck in February 2017 to discuss upgrades to the link rooms at Guelph and Waterloo.*

*At Guelph: Phase 1 of the renovations took place in Summer 2017: Upgrading of the CODECs in both room and replacing the camera in the mainlink. Phase 2 is scheduled for summer 2018 to complete replacing cameras, screen, sound systems, teaching stations etc. We are currently waiting for an update from OpenEd on the schedule for phase 2.*

*At Waterloo: The oldest CODEC in the mainlink was replaced with that removed from the minilink at Guelph. Quality has already improved greatly.*

*The **Interim Dean, U of G**, confirmed "support is being provided to upgrade the link rooms between both institutions*

- 3. It is recommended that the number of international graduate students at Guelph be increased significantly. While the current enrolment of international students is adequate at Waterloo, the possible change in funding policy we learned may reduce the intake of international graduate students in the coming years. We urge the University administration to continue to support international students at its current funding level as a significant reduction of international student complement would have detrimental impact on the graduate program.**

*In response, the Director commented on issues related to international graduate targets at both Waterloo and U of G:*

- Clarification on the planned changes at Waterloo has been requested. No formal announcement has yet been made so it is unclear what the plan is.*
- The Department of Chemistry at Guelph and the Director of (GWC)<sup>2</sup> agree very strongly with this recommendation. The Interim Dean of the College knows that increased access to international students will advance the academic and research interests of the Department, College, and University. This is a University-level decision, and the implementation of a sustainable internationalization plan is the responsibility of the Provost's office.*

*The **Dean, Waterloo**, notes:*

*“Currently, funding is offered by Graduate Studies and Postdoctoral Affairs to every international student applying to GWC2 to offset the international tuition differential. My understanding is that this funding is currently being reviewed, which may impose limitations on our ability to recruit and support international students. Furthermore, notwithstanding the recognized benefits that international graduate students bring to the GWC2 programs, the fiscal realities of the provincial funding formula dictate that we become more aggressive in targeting domestic graduate students.”*

*The **Interim Dean, U of G**, further states the expectation that there will be an opportunity to increase “the number of international graduate students through a centrally funded internationalization initiative which will start September 2017.”*

- 4. Given the unique teaching situation involving two campuses, we recommend that the Centre take the lead and work with the departments to develop new graduate course delivery modes in form of e-learning. The Universities should provide adequate resources to support teaching innovation.**

*The Director agreed and advised that:*

*“An “E learning (GWC)2 Committee” will be established in the Fall 2017 to discuss the scope of online courses and answer the following three questions:*

- 1. Should e-learning courses be developed with key courses first, then rolled out to all courses or should they be limited to select courses such as, but not limited to, those mentioned in recommendation 5?*
- 2. How many online courses should graduate students be allowed to take to complete their degree requirements?*
- 3. What credit value should these courses have?*

*Key faculty and courses will then be identified and appropriate support given to bring those courses to fruition.*

*\*Update November 2017: Work is underway at Waterloo (undergraduate) and the Director will meet with both Chairs in 2018 to identify faculty members for a focus group.*

*While the **Interim Dean, U of G, and the Dean, Waterloo**, did not specifically address this recommendation, both endorsed the Director’s responses overall and indicate strong support for the recommendations and their implementation.*

- 5. It is recommended that the Centre develop and offer graduate courses that provide training on professionalism, communication and teaching skills, scientific writing, entrepreneurship, knowledge of patent application, and other soft skills. Such expertise is critical for successful degree progression and then beyond the time at the Centre, especially in the work force.**

*The Director acknowledged the value of such courses and indicates such courses already exist at both Waterloo and U of G:*

*“An inventory of those existing or similar courses will be established in the Fall 2017 and kept up to date by the Graduate Secretary at Guelph and the Graduate Administrative Coordinator at Waterloo. We will attempt to adapt these courses to the needs of graduate chemistry students. We will investigate how to expand the content of existing seminar and project based courses at the undergraduate and graduate student levels to develop ‘soft skills’ rather than developing new credit courses.”*

*In addition to encouraging faculty to formalize such teaching objectives, the Director indicates the program will “explore expanding the graduate seminar courses to include professional development aspects.”*

*Update November 2017: The Director has asked the Graduate Coordinator/Secretary on both campuses to provide an inventory of such courses offered at both universities (to be completed in 2018). Some members of the committee already have graduate students writing NSERC grant proposals as part of their course requirement; we are encouraging this with as many courses as possible.*

*As above, no specific response from the **Deans** on this recommendation.*

**6. The Centre should raise its profile and brand awareness by enhancing its website and using social medium (such as Facebook and Twitter).**

*The Director responded:*

*In 2016/2017 funds (\$10K) were reserved for the development of the (GWC)2 web portal by professional, external web designers. Due to the workload implied by the IQAP review, these funds have not yet been used. In the Spring-Fall 2017, the Director will approach professional web designers to design a new (GWC)2 web site that will include social media threads. We will also create a Facebook page and invite all (GWC)2 members, particularly students, to join and contribute. Ultimately the Director will encourage the (GWC)2 Graduate Student Club (see below) to take control of the Facebook page. Additional branding efforts have also been carried out in the Winter 2017 with the design and printing of "(GWC)2" business cards and swag to promote the two Departments and the Graduate school during recruiting events.*

*Update, November 2017: the GWC Facebook page has been launched, and the GWC Twitter account set up. An external company has been hired to develop the new GWC webpage that is to be launched by 2018. The Director also presented the new GWC flyer that will be mailed out in 2018 to grad clubs and Chemistry departments in Ontario and beyond*

*As above, no specific response from the **Deans** on this recommendation.*

**7. It is recommended that the Centre increase the effort in facilitating the social and academic integration of the students from both campuses. The interactions between faculty remembers from Guelph and Waterloo should also be encouraged. The Centre and the Departments should foster and facilitate co-supervision of grad students, co-application of research grants and collaboration in research.**

*The Director advised this is an on-going preoccupation for her:*

*"During the Annual General Meeting 2017 (April 28), we have created the (GWC)2 Graduate Student Club which is to be run collectively by students from both campuses. Two students (one for each campus) have enthusiastically agreed to establish the Club and bring students together during various social and academic initiatives. Meeting of a steering committee will be called during the Spring 2017 semester to discuss activities and budget. Social interactions between faculty will continue to be encouraged through and during the recruiting socials and the Fall and Winter (GWC)2 Seminar series. We hope that such interactions between faculty members will lead to research collaborations in the future."*

While there is no specific response from the **Deans** on this recommendation, both maintain a commitment to the joint program and the **Dean, Waterloo**, further states:

*“The report provides useful recommendations for the Centre to further improve its delivery of graduate programs in Chemistry and Biochemistry, and improve coordination between the two departments over the next seven years.”*

- 8. It is recommended that both departments develop and implement a plan for an effective staffing transition to accompany staff retirement so that key knowledge is transferred to staff, ensuring that training of graduate students and research are not affected. We view this as imperative.**

*The Director responded by advising the following:*

- The Department of Waterloo shares the concern expressed by the reviewers. There is indeed a lot of both ongoing and upcoming turnover at Waterloo and identifying replacements with the appropriate expertise will be a key challenge.*
- The Department of Chemistry at Guelph also agrees with this concern. Two staff retirements are scheduled for the upcoming few months (Karen Ferraro -Graduate Secretary, and Uwe Oehler-Software Management). We are attempting to provide 1-2 months of overlapping employment for both replacement hirings. The anticipated retirements of our stockroom manager and financial clerk will be treated similarly. Technical services will require a greater degree of overlap; this will be important for our anticipated hirings of electronic technologists. Two part-time ‘soft money’ positions (glass-blower, machinist) are posing additional problems, which are very concerning to the Chemistry Faculty and are yet to be resolved.*

*The **Deans** did not specifically comment on this recommendation.*

- 9. All graduate student offices should be separated from the labs where the experiments are performed. This is an occupational safety and health issue. The University should provide space and resources for implementation.**

*The Director affirmed the commitment of both Waterloo and U of G to ensure separated office space for graduate students. At Waterloo, this is a medium-term commitment (two years, plus), while at U of G, the renovation of MacNaughton-West has afforded new communal offices for laboratory staff and graduate and undergraduate students will be provided space outside of the experimental/laboratory spaces.*

*The **Interim Dean, U of G**, referred to the renovation in his response and the **Dean, Waterloo**, did not specifically comment on this recommendation.*



**10. We recommend that the Centre implement policies to reduce the average completion time for a M.Sc. degree to 2.0 years.**

*The Director commented and agreed with the importance of this recommendation and further stated:*

*the (GWC)2 Coordinating Committee will further review the suggestion to reduce the number of graduate courses required to graduate, during its Fall 2017 meeting.*

*Update November 2017: U Waterloo advised that the course requirement is already at the minimum for Waterloo.*

*No further action on reducing course credits.*

**11. Given the critical role of recruiting, we recommend that the Centre better coordinates its efforts to attract top quality Canadian graduate students in the Southern Ontario region and try some new recruiting initiatives (see also recommendation 12).**

*The Director described the priority at both institutions and:*

*“additional funds were also agreed upon by both Chairs of the departments in 2016 to support new recruiting initiatives at the (GWC)2 level. We propose to identify key faculty members from both campuses to participate in a “Recruiting Task Force” whose mandate will be to design and implement such initiatives.”*

**12. The workload currently shouldered by the Administrative Assistant (Kim Rawson) will increase following implementation of our recommendations. As a result, we recommend that more resources are provided to make the Centre more effective in communicating to potential graduate students and between current students and faculty on both campuses. We understand, based on discussions during the wrap-up meeting, that at Waterloo the Faculty of Science is hiring a graduate recruitment staff member to assist all Departments in Science (Chemistry and GWC2B have access to this person), while at Guelph, 30% of a new Chemistry staff hire's responsibilities will be graduate support (to be filled summer 2017). The external reviewers note that if these two positions are filled then the Centre will have successfully implemented recommendation 12.**

*Clarification: The new Guelph hire is, like the new hire at Waterloo, a resource shared among the Departments of the College. The 30% allocation is the fraction of this person's time that will be made available to assist in Graduate Student Recruitment.*

*The Director elaborated on workload and hiring constraints at both institutions. She further discussed implementation of process improvements and streamlining to assist decreasing the workload for support staff.*

*She further stated:*

*“The department is also exploring ways to streamline the Graduate Secretary’s workflow through increased on-line reporting, bookings, and document generation; the University’s OGPS is also moving in this direction. The Director is committed to bring the new Graduate Secretary at Guelph, the Administrative Coordinator (Graduate) at Waterloo and the (GWC)2 Administrative Assistant to the Director to work together as a team to streamline processes and facilitate recruiting.” The full response can be found in the Director’s Response.*

*Update November 2017: New graduate secretary (U of G) hired and all three staff met in Waterloo and now work in close collaboration and progress made on streamlining paperwork.*

### Implementation Plan – Recommendations selected for implementation

<b>Recommendation</b>	<b>Proposed Follow-up</b>	<b>Responsibility for Leading Follow-up*</b>	<b>Timeline</b>
2. The persistent technical problems in link-rooms on both campuses must be fixed as soon as possible.	Task force struck and work underway at U of G and Waterloo	Department Chairs	Phase 1 (U of G) completed Summer 2017  Phase 2 (U of G) – Winter 2018  Updates ongoing at Waterloo  Report on progress in one-year follow-up report
3. That the number of international graduate students at Guelph be increased significantly. While the current enrolment of international students is adequate at Waterloo, the possible change in funding policy we learned may reduce the intake of international graduate students in the coming years.	U of G is currently drafting an international plan, with the goal to increase international student numbers  Waterloo’s budget model is changing and while the intention is to retain international graduate students, there may be changes in the future.  Both are dependent on MAESD policies related to international student enrolment and funding.	AVP(GS)  Chairs, Director, Deans	Report to SCQA on progress of U of G international plan in Winter 2018.  Report on progress in one-year follow-up report

<p>4. That the Centre take the lead and work with the departments to develop new graduate course delivery modes in form of e-learning. The Universities should provide adequate resources to support teaching innovation.</p>	<p>Director to meet with Department Chairs in Winter 2018 to constitute faculty focus group.</p> <p>If recommendation moves forward, subsequent submission to governance committees in next curriculum change cycle (likely 2018-2019)</p>	<p>Director</p>	<p>Report on progress in one-year follow-up report</p> <p>Additional reporting and submission to governance dependent on course conversion</p>
<p>5. That the Centre develop and offer graduate courses that provide training on professionalism, communication and teaching skills, scientific writing, entrepreneurship, knowledge of patent application, and other soft skills.</p>	<p>Many of these exist currently.</p> <p>Create inventory of courses from both departments</p> <p>Expand opportunities within existing seminar and project courses</p>	<p>Director</p>	<p>Spring 2018</p>
<p>6. The Centre should raise its profile and brand awareness by enhancing its website and using social medium (such as Facebook and Twitter).</p>	<p>Plans for development of GWC2 webportal, facebook and other social media</p> <p>November 2017 update: Facebook and Twitter launched; website in Winter 2018; recruitment flyers produced for distribution in Ontario and beyond.</p>	<p>Director</p>	<p>Implemented (Facebook, Twitter)</p> <p>Work on website Fall 2017 and Winter 2018 2018.</p>
<p>7. Increase the effort in facilitating the social and academic integration of the students and faculty from both campuses and foster and facilitate co-supervision of grad students, co-application of research grants and collaboration in research</p>	<p>Established GWC2 student club to facilitate; Director and Chairs host Annual General Meeting each April</p>	<p>Director, Chairs</p>	<p>Report on progress in one-year follow-up report</p>
<p>9. All graduate student offices should be separated from the labs where the experiments are performed.</p>	<p>Waterloo continues to work toward this goal U of G – priority during the renovation of MacNaughton-West in Summer 2017/Fall 2018</p>	<p>Chairs, Deans</p>	<p>Report on progress in one-year follow-up report</p>
<p>10. That the Centre implement policies to reduce the average completion time for a M.Sc. degree to 2.0 years.</p>	<p>Adequate times to completion policies already exist. Reducing MSc average from 2.5 yrs is a priority for both campuses, though through central incentives rather than the creation of additional specific policy changes</p>	<p>Director, Chairs</p>	<p>Report on progress in one-year follow-up report</p>

	Waterloo not able to reduce required credits, however times-to-completion should be reviewed where specific student concerns arise		
11. Given the critical role of recruiting, we recommend that the Centre better coordinates its efforts to attract top quality Canadian graduate students in the Southern Ontario region and try some new recruiting initiatives	Specific staffing positions committed by both Waterloo and U of G.  Exploring possibility of task force with GWC2 faculty and students	Director, Chairs	Report on progress in one-year follow-up report
12. That more resources are provided to make the Centre more effective in communicating to potential graduate students and between current students and faculty on both campuses.	New hires to be shared with other departments in both Faculty of Science at Waterloo and CEPS at U of G.	Chairs, Deans	Completed Fall 2017
	Director to facilitate interactions between three staff across Waterloo and U of G to streamline processes and facilitate recruiting	Director	Completed Fall 2017

\*Chairs/Directors along with Deans are responsible for monitoring Implementation Plans. Responsibility for one-year follow up reports rest with Chairs/Directors, in consultation with the Dean and respective Associate Deans (Academic and/or Research and Graduate Studies). In some cases, there may be additional timelines and reporting to BUGS or BGS may also be required.

The following two recommendations (# 1 and #8) were not selected for implementation under the auspices of the Cyclical Program Review and the specific budgetary and hiring decisions have been referred back to the Departments and the Faculty of Science at Waterloo and the College of Engineering and Physical Sciences at U of G.

1. That the University of Guelph's administration follows through on the promise of faculty renewal in the Department of Chemistry, and that starting faculty are given competitive start ups so that they can readily initiate their research programs.	Specific faculty hiring is outside of the purview of the cyclical program review and thus this recommendation was referred to the Interim Dean and the Provost as part of the College's and the University's budgeting process.		N/A
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8. That the departments develop and implement a plan for an effective staffing transition to accompany staff retirement so that key knowledge is transferred to staff, ensuring that training of graduate students and research are not affected.	Specific staff hiring is outside of the purview of the cyclical program review and thus this recommendation was referred to the Interim Dean and the Chairs as part of the College's budgeting process.		N/A
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**(GWC)<sup>2</sup> JOINT GRADUATE PROGRAM IN CHEMISTRY**

**University of Guelph / University of Waterloo**

**Academic Program Review Site Visit**

**Thursday, February 16th and Friday February 17th, 2017**

<b>Site Visit Team</b>
Professor Andrew Bennet, Simon Fraser University Professor Yining Huang, University of Western Ontario Professor David Wolyn, Internal Review

**Wednesday, February 15, 2017**

<b>Time</b>	<b>Details</b>	<b>Location</b>
2:25 pm	Pick up A. Bennett at airport, F-I Auzaanneau	
3-6 pm	Hotel Check in: Delta Hotel in Guelph, 50 Stone Rd W.	
6:50 pm	Meet in the Delta Hotel lobby.	
7:00 pm	Dinner with France-Isabelle Auzaanneau, Liz Meiering, Paul Rowntree, Marcel Schlaf	

**Thursday, February 16, 2017 – University of Guelph**

<b>Time</b>	<b>Details</b>	<b>Location</b>
7:30 – 8:45 am	Breakfast, Patricia Tersigni, Director, Academic Programs and Policy; David Wolyn, Internal Facilitator	Hotel Restaurant
9:00 – 9:30 am	Dr. Sofie Lachapelle, Acting Associate VP Academic & Ben Bradshaw, Assistant Vice-President, Graduate Studies	UC 4 <sup>th</sup> floor, Exec Suite
9:30 – 10:00 am	Dr. France-Isabelle Auzaanneau, (GWC) <sup>2</sup> Director	SSC 1511
10:00 – 10:15 am	Break	
10:15 – 10:45 am	Dr. Paul Rowntree, Chair, Department of Chemistry	SSC 1511
10:45 – 11:15 am	Tour of MacNaughton Labs, Paul Rowntree	
11:15 – 12:00 pm	Pam Jacobs, Interim Head of Collections and Content & Paul St-Pierre, Collection and Content, Library	LIB 359
12:00 – 1:30 pm	Lunch meeting with students	SSC 1511
1:30 – 2:00 pm	Dr. Richard Zytner, Interim Dean of CPES; Dr. Leonid Brown, Associate Dean of Research and Graduate Studies	SSC 1511
2:00 – 2:30 pm	Meeting with Faculty – Organic, Biological, Theoretical	SSC 1511
2:30 – 3:00 pm	Meeting with Staff	SSC 1511
3:00 – 3:15 pm	Break	
3:15 – 4:00 pm	Meeting with Faculty – Inorganic, Physical, Analytical, Nanoscience	SSC 1511
4:00 – 5:00 pm	Dr. Marcel Schlaf, Graduate Coordinator & Tour, Summerlee Science Complex Labs	SSC 1511
5:00 pm	Dinner with Adrian Schwan, Peter Tremaine, Scott Hopkins; transportation to Delta Hotel in Guelph	

**Friday, February 17, 2017 – University of Guelph**

<b>Time</b>	<b>Details</b>	<b>Location</b>
8:00 am	Transportation to Waterloo	
9:00 – 10:00 am	Dr. Bill Power, Chair, Department of Chemistry; Tour of Chemistry Labs	C2-361
10:00 – 10:30 am	Meeting with Faculty – Physical, Nano, Polymer	C2-361
10:30 – 10:45 am	Break	
10:45 – 11:15 pm	Meeting with Faculty – Organic, Biochemistry, Theoretical	C2-361
11:15 – 12:30 pm	Lunch meeting with students	C2-361
12:30 – 1:00 pm	Dr. Bob Lemieux, Dean of Science	C2-361
1:00 – 1:30 pm	Dr. Rob Hill, Associate Dean, Graduate Studies	C2-361
1:30 – 2:00 pm	Meeting with Staff	C2-361
2:00 – 2:30 pm	Guy Guillemette, Former Graduate Coordinator & Former GWC Director	
2:30 – 2:45 pm	Break	C2-361
3:00 – 3:30 pm	Meeting with Faculty – Inorganic, Analytical	C2-361
3:30 – 4:00 pm	Meeting with (GWC) <sup>2</sup> Administration, Kim Rawson	C2-361
4:00 – 4:30 pm	Recap – David Wolyn, F-I. Auzanneau, Bill Power, Paul Rowntree, (Patricia Tersigni) via conference call	C2-278B
4:30 – 6:00 pm	Discussion of Report	C2-278B
	Check in Delta hotel in Waterloo, 110 Erb St W, evening to the reviewers' convenience.	

**Saturday, February 18, 2017**

<b>Time</b>	<b>Details</b>	<b>Location</b>
TBD	Airport shuttle pick up at Delta hotel in Waterloo for A. Bennett	