FINAL ASSESSMENT REPORT Evaluation of Graduate Programs Department of Cellular and Molecular Medicine Faculty of Medicine Cycle: 2019-2020 Date: November 18, 2020

I. Programs

- Master of Science, Cellular and Molecular Medicine
- Doctorate in Philosophy, Cellular and Molecular Medicine

II. Evaluation Process (Outline of the visit)

- The Final Assessment Report for the evaluation of the aforementioned program(s) was based on the following documents: (a) the self-study brief produced by the academic unit, (b) the report produced by the external evaluators following their site visit, and (c) the comments from the Department Chair, David Lohnes, and the interim Director of the program, Balwant Tuana, on the aforementioned documents.
- The visit was conducted virtually due to the SARS-CoV-2 pandemic. A pre-recorded walk-through of various sites in Roger Guindon Hall was provided. The reviewers were provided a comprehensive self-study brief that had been previously presented and discussed at the School Assembly prior to revision effective December 10, 2019. The virtual visit included Dr. Craig Phillips from the Faculty of Health Sciences, University of Ottawa as internal delegate.
- During the site visit, the external evaluators met with the Vice-Provost, Graduate and Postdoctoral Studies, Claire Turenne-Sjolander, the Dean of the Faculty of Medicine, Bernard Jasmin, the Vice-Dean of Graduate Studies, Alain Stintzi, the Vice-Dean of Research, Jocelyn Côté, the Associate Vice-Dean (interim) of the Faculty of Medicine, Nadine Wiper Bergeron, the Department Chair, David Lohnes, the Director of the Program, Balwant Tuana, the Faculty Wellness Director, Elizabeth Muggah, the library representative, members of the support staff, regular professors and graduate students.

Comments from the Internal Delegate (Graduate Studies)

In the context of a fully online program evaluation, the visit with the external evaluators went well. The virtual sessions afforded the various constituent groups (e.g. leadership team, students, faculty members, and support staff) an opportunity for dialog about the program. The [Microsoft] Teams platform worked well to facilitate the sessions. The external evaluators seemed genuinely impressed with the program and it would have been great for them to see the physical spaces through which the program is offered. The videos of the physical plant were helpful to give the evaluators a sense of the spaces where the program is delivered. The student representatives provided frank discussions about the program and were generally satisfied with their experiences in it. Students raised concerns about how the COVID-19 disrupted their research, but overall were satisfied with how the program was managing those disruptions. The students raised concerns about the course on professionalism and several of them expressed

confusion about the importance of this course and its relevance to their program of study – perhaps more details about the course would help address the students' concerns about it. [The] interactions between the external evaluators and program representatives were productive and provided a good opportunity to reflect on the program's strengths and areas for improvement. The external evaluators expressed that the numerous strengths outweighed the challenges the program faced.

III. Summary of Reports on the Quality of Programs¹

This section aims to inform the unit on the strengths and weaknesses observed during the evaluation process in order to improve its programs.

1. EMPHASIZING THE STRENGTHS AND IDENTIFYING CHALLENGES

Strengths

- Large robust research-intensive highly effective graduate program
- Graduate students are trained well in preparation for future academic or related careers
- Senior leadership of the Department to be firmly committed to student and faculty success, and highly effective in their roles
- Positive and mutually beneficial relationships with world-class research institutes, e.g. uOttawa Heart Institute, uOttawa Brain and Mind Institute, Ottawa Hospital Research Institute, Children's Hospital of Eastern Ontario Research Institute
- Students, staff, faculty and administration, all had strongly positive opinions concerning the program

Challenges

- Possibility of some "silos" persisting in graduate course offerings and faculty research foci due to the existing amalgamation of three programs
- Faculty members and students are distributed across a physically large campus and several affiliated research institutes
- Student mental health support
- The potential of increased administrative workload on the program and the need for additional resources and staff due to the decentralization of the former Faculty of Graduate and Postdoctoral Studies to individual Faculties

Sections 2-6 provide the context and rationale for the subsequent recommendations

2. PROGRAM OBJECTIVES

- The external evaluators found the list of learning objectives and outcomes detailed and comprehensive. The learning outcomes are well aligned with the requirements of the Ontario Universities Council on Quality Assurance. They identified no concerns.
- Likewise, the general alignment of the academic unit's objectives to the strategic mandate of the university is well articulated through the self-evaluation report. No concerns were identified.

¹Based on every document prepared during the assessment process.

• The external reviewers suggest developing a formal mission statement for the program [recommendation #4]. Such statement may improve the unit cohesion and sense of identity.

3. CURRICULUM AND STRUCTURE

- The opportunity for the students to work with various affiliated research institutes was considered by the external reviewers to be fairly unique and a significant benefit of the program. Students are thus provided with ample opportunities to undertake advanced biomedical research.
- The external reviewers identified no concerns with structure of the program that would have prevented the students from successfully completing their studies. The time to completion was found to be similar to that at other institutions in Canada.
- The two core courses of the programs have recently undergone significant changes in order to address feedback from the students. The external reviewers note that "[i]t will thus be important for CMM to extensively interview students in the next few years to determine whether the revisions to the core courses have been beneficial".
- Further, the external reviewers recommend creating a formal process to periodically assess the curriculum to ensure the alignment of the learning objectives and outcomes with the strategic goals and mission of the program, the faculty, and the institution. [Recommendation #3].

4. TEACHING, LEARNING AND EVALUATION METHODS

- The student evaluations of teaching were overall very positive and the external reviewers did not identify specific concerns.
- The program evaluation revealed that the current metrics used to track the research outputs of its students were highly inaccurate. Given that CMM is a research-based program, the reviewers give a high priority to the development of processes to accurately track the research outputs of the students. [recommendation #1]

5. STUDENT EXPERIENCE AND GOVERNANCE

- Previous student satisfaction surveys, combined with students' responses to reviewers' questions, indicate a very high overall level of satisfaction with the training and learning opportunities offered by CMM faculty.
- The students interviewed had a strong sense of belonging towards their program, their supervisors, the affiliated research institutes (where applicable), and the University of Ottawa in general.
- Financial stability was a concern identified by the students with access to teaching assistant positions, cost of living in Ottawa, and the fixed funding rates for many years as the main factors exacerbating the situation. Accordingly, the reviewers recommend exploring ways to index the stipends to inflation rates. [recommendation #6]
- The students expressed frustration locating information, both on the University and the Faculty Web sites.
- Since the students of the program are conducting most of their activities outside of the main campus, they feel that are paying for services, such as gym and recreation facilities that are not easily available to them.
- There was a confusion leading the external reviewers to believe that incoming graduate students would generally identify a supervisor only after being formally admitted into their program. This is not the case as all the admission offers are conditional on identifying a supervisor. This information is clearly stated in the admission offer. However, this confusion

suggests that the message needs to be reinforced, for instance by adding a specific section on the Faculty Web site.

6. PHYSICAL SPACES AND RESOURCES

- The availability of significant physical resources was identified by the reviewers as a specific strength of the program.
- The level funding, for operations, equipment and renovations was found to be strong compared to other institutions across Ontario and Canada.
- The reviews indicate that "[h]uman resources appear to be sufficient for the needs of the unit.

IV. Program Improvement²

The programs under evaluation are in conformity with the standards of the discipline. The following recommendations aim at maintaining or increasing the level of quality already achieved by the programs.

The numbering of the recommendations follows that of the external reviewers' report.

Program Objectives, Learning Outcomes, Mandate and University Plan

Recommendation 4: The GPEC recommends that the program establish a mission statement for the program.

Curriculum and Structure

Recommendation 3: The GPEC recommends that the program create a process of curriculum analysis to link program objectives and learning outcomes with strategic goals of the program, faculty and University of Ottawa.

Recommendation 2: The GPEC recommends that the program institute a process to track the alignment of the learning outcomes and the type of employment of their graduates, including graduates' feedback on what components of their training were instrumental in obtaining their employment.

Teaching, Learning and Evaluation Methods

Recommendation 1: The GPEC recommends that the program establish a process to track research outputs.

Student Experience and Governance

Recommendation 6: The CPEC recommends that the program explore the viability of yearly increasing the graduate stipends proportionally to the inflation rate. [#6]

Recommendation 7: The CPEC recommends that the program remind graduate students that they have the ability to call more frequent Thesis Advisory Committee (TAC) meetings, if needed.

Recommendation 8: The CPEC recommends that the program add a section to the Web site for prospective students to know that all offers of admission to the program are conditional on identifying a supervisor.

Recommendation 9: The CPEC recommends that the program put in place initiatives to help addresses the mental health of students.

Physical Spaces and Resources

² Partially based on the External Evaluators Report.

Recommendation 5: The GPEC recommends that the program establish a formal mentorship program for new faculty including expectations of their roles and workload in teaching, research, and service.

V. List of courses not offered for more than three years and the reasons

All of the courses have been offered at least once in the last three years.

VI. Conclusion

The Cellular and Molecular Medicine program is a well-run academic program that offers a high quality of graduate training in a variety of biomedical fields. Among the strengths noted by the external reviewers is that the program is "highly effective, i.e. graduate students are trained well in preparation for future academic or related careers." Students have the opportunity to train with researchers across the city, including different research institutes. Suggestions for improvement are largely constructive in nature that is the comments focused on improving an already successful program, rather than indicating that fundamental changes are required.

In light of this positive assessment, the committee members would like to thank all participants for the evaluation of the programs. They congratulate the unit on the rigour of the work accomplished and on the quality of the self-study report, as well as that of the report produced by the external reviewers.

Schedule and Timelines

A meeting will be organized with the program chairs, the Faculty Dean and Vice-Dean following the reception of the Final Assessment Report so that a plan of action can be put in place along with deadlines particular to each recommendation. A progress report that outlines the completed actions and subsequent results will be submitted to the evaluation committee on a date agreed upon at the time of the meeting regarding the action plan.

The next cyclical review will take place in no more than eight years, in 2026-2027. The self-study brief must be submitted no later than June 2026.

Université d'Ottawa | University of Ottawa

Unit Response to the External Review Report and Action Plan

Faculty: Medicine

Department: Cellular and Molecular Medicine

Programs evaluated: Master of Science, Cellular and Molecular Medicine, Doctorate in Philosophy, Cellular and Molecular Medicine

Cyclical review period: 2019-2020

Date: April 21, 2021

General comments:

On Thursday July 16th, 2020, the Department of Cellular and Molecular Medicine was made aware of the External Consultants Report produced in the context of the cyclical review of the MSc and PhD programs in Cellular and Molecular Medicine. The Department of Cellular and Molecular Medicine was delighted with the very positive evaluation of our graduate program. We have, as a unit, committed to research and training excellence and so were justifiably pleased that the consultants noted that "the program is highly effective" and that "students, staff, faculty and administration, had strongly positive opinions concerning the CMM, its operation and its reputation". The report makes 8 recommendations for the CMM graduate program, of which only 3 were considered high priority items. The CMM graduate program has taken all of the recommendations seriously and is pleased to inform the committee that many of the issues raised have already been addressed by the unit and Faculty. A summary of the recommendations and our response to each, produced jointly by the unit and the Faculty, is included below.

FOCUS AREA #1: OBJECTIVES

Recommendation 1: The program establish a mission statement for the program.

Define the actions to undertake: The graduate program in consultation with the department Chair have drafted the following mission statement for the program: "The graduate program in Cellular and Molecular Medicine aims to equip the next generation of biomedical researchers with skills to discover, translate and disseminate scientific information to positively impact human health and economic development. In a research-intensive setting, trainees will have the opportunity to learn, discover and develop expertise in a variety of important areas including: regenerative medicine, brain and neuromuscular disorders, development and cancer biology, cardiovascular and kidney disease, drug delivery and therapeutics. Trainees will be guided in their quest to become leaders in academia, industry and government through first-hand mentorship from dedicated and experienced faculty." This mission statement, which aligns with the faculty's and university's strategic plan, will be added to the Graduate program website following approval by the professorship of the program.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
2	Program Director in consultation with the CMM program Professorship and the Department Chair, Dr. David Lohnes	 Consultation with the broader professorship by June 2021 Publication of the mission statement on the program website by September 2021 	Development and publication of a mission statement that aligns with the Faculty and University mandates and is accepted by the program's professorship.	1.Adoption of the Mission statement in internal and external communications.	To be completed by the Evaluation Committee when reviewing the progressreport

FOCUS AREA #2: CURRICULUM AND STRUCTURE

Recommendation 2: The program institute a process to track the alignment of the learning outcomes and the type of employment of their graduates, including graduates' feedback on what components of their training were instrumental in obtaining their employment.

Define the actions to undertake:

1. Repeat the alumni survey every 2 years including (i) their employment status and whether they were working in their fields; (ii) what component of their training they viewed as most instrumental in preparing them for their careers and; (iii) what skills they believe should be emphasized in the context of graduate programs.

2. The program curriculum will be modified to better align the program core competencies and learning outcomes with the job market.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
3	Assistant Dean, Graduate and Postdoctoral Studies	Implementation of alumni tracking strategy expected by December 2021. Next Alumni survey date is September 2022.	 Better alignment of program core competencies and learning outcomes with the job market Improved assessment of the quality of the program 	 sustainable and up-to date alumni lists available as required Routine implementation of the alumni survey Program modifications if required 	To be completed by the Evaluation Committee when reviewing the progressreport

FOCUS AREA #2: CURRICULUM AND STRUCTURE

Recommendation 3: the program create a process of curriculum analysis to link program objectives and learning outcomes with strategic goals of the program, faculty and University of Ottawa.

Define the actions to undertake:

The Graduate Program Director and the CMM Graduate Program Committee will:

1. undertake a curriculum review every 2 years, beginning July 2022, taking into consideration the job market, the program goals and the Faculty and University's strategic plans.

2. All course coordinators will be required to submit a course syllabus to the Program Director prior to each session which will include course content and evaluation methods with the goal of reducing redundancy.

3. Align experience/expertise of CMM faculty members with course offerings and knowledge dissemination that complements the researchenvironment.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
2	Program Director	 complete curriculum review by July 1st, 2022 Submission of course syllabi to Program Director for data capture beginning in September 2021. 	 Reduced redundancy in theoretical course offerings Better alignment of course learning outcomes and teaching methods with the state of the discipline Increased opportunity for innovation in course offerings Enhanced participation of the professorship in program design and offering. 	 Adoption of routine curricular review and continual curriculum renewal Improved student feedback relating to course offerings 	To be completed by the Evaluation Committee when reviewing the progress report

FOCUS AREA #3: TEACHING AND EVALUATION

Recommendation 1: The program establish a process to track research outputs.

Define the actions to undertake:

1. Develop an Annual Dissemination Report to be completed by all students once a year in September beginning in year 2 of studies that specifically tracks publications, conference participation and science outreach activities.

2. Capture data from CVs provided at the time of thesis submission for exit data

3. Acknowledging that some research outputs from graduate-level studies occur after graduation, alumni tracking will be implemented 1 and 2 years aftergraduation.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
1	Assistant Dean, Graduate and Postdoctoral Studies	Data capture as of September 2021 using the Annual Dissemination report. Implementation of thesis submission CV data as of September 2021.	Capture of research outputs (publications, conference presentations) on an annual basis up to 2 years after graduation will provide robust data supporting the research intensity of our programs and the success of our students. Further, annual capture will allow us long-term to analyze trends longitudinally to better understand the path to publication in the context of our programs.	 streamlined process to capture data and process data on an annual basis. updated longitudinal data capture for the graduate programs at the Faculty of Medicine used to inform curricular change 	To be completed by the Evaluation Committee when reviewing the progressreport

Recommendation 6: The program explore the viability of yearly increasing the graduate stipends proportionally to the inflation rate.

Define the actions to undertake:

The program has implemented an increase in graduate stipends from \$17,500 to \$19,000 for the MSc and from \$19, 000 to \$21,000 for the PhD effective September 1st, 2020. The stipends for graduate studies are harmonized for several programs requiring broad consultations of the Faculty of Medicine's professorship.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
3	Vice-Dean, Graduate and Postdoctoral Studies	September 1, 2020	New stipend rates are implemented.	New stipend policy had been adopted. Reduced financial stress among graduate students, to be captured by student surveys conducted every 2 years.	To be completed by the Evaluation Committee when reviewing the progress report

Recommendation 7: The program remind graduate students that they have the ability to call more frequent Thesis Advisory Committee (TAC) meetings, if needed.

Define the actions to undertake:

1. Update the program website to indicate clearly that students are empowered to call TAC meetings as needed. The program is confident that mechanisms are in place to support students who require more guidance.

2. Include, during program orientation sessions to new students, information regarding the TAC meetings, the expected frequency and the possibility of having more frequent meetings if desired.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
1	Assistant Dean, Graduate and Postdoctoral Studies and Program Director	May 1 st , 2021	Updated program website including the following statement "While an annual TAC meeting is required, students may call more frequent TAC meeting to support their success in the program."	 improved understanding of the procedures by students track frequency of TAC meetings across the programs to inform program structure change if required. 	To be completed by the Evaluation Committee when reviewing the progress report

Recommendation 8: The program add a section to the Web site for prospective students to know that all offers of admission to the program are conditional on identifying a supervisor.

Define the actions to undertake:

While students are not required to identify a supervisor prior to applying the graduate program, all offers of admission are conditional on identifying a supervisor. This is clearly stated in the admission offer (corresponding to the alternative approach proposed by the reviewers). We do not believe that any modifications are required to address this concern.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
low	Assistant Dean, Graduate and Postdoctoral Studies	N/A	N/A	Statements to this effect are already included in the admission offer and the website under Programs and Admission. No further action is required.	To be completed by the Evaluation Committee when reviewing the progressreport

Recommendation 9: The program put in place initiatives to help addresses the mental health of students.

Define the actions to undertake:

The Faculty of Medicine takes the mental health and wellness of its learners very seriously. Through collaboration with the Faculty of Medicine Wellness Office, we now have 2 clinical counsellors available to support graduate students. We have implemented a wellness campaign that includes (i) a communication strategy (lab fridge magnets, website information, syllabus statements); (ii) peer mentoring programs (Grad Buddies), (iii) Faculty development (Psychological First Aid, More Feet on the Ground); and (iv) regular student surveys related to mental health and wellness with the objective of program development.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
1	Assistant Dean, Graduate and Postdoctoral Studies in collaboration with the Faculty Wellness Office	 (i) Communication strategy is implemented. Fridge magnets have been distributed and the Graduate Studies website as well as the Faculty Wellness Office website has been updated. (ii) The Grad Buddies Peer mentoring program has been implemented and now received Faculty-level support to promote participation of both mentors and mentees. Mentors have also received specialized training from human resources to enhance their skills. (iii) The Faculty Wellness Office in coordination with the Mental Health Advisor for the University 	 improved support for graduate-student mental health and wellness increased visibility of services available to graduate students at the Faculty of Medicine Appropriate alignment of services and student needs. 	 Adoption of a regular mental health and wellness survey to inform and develop programs to support challenges faced by our students. Track Wellness service use in collaboration with the Faculty Wellness Office to determine is resources are adequate and fully exploited. Capture participation data for the peer mentoring program 	To be completed by the Evaluation Committee when reviewing the progress report

has offered More Feet on the
Ground Training to faculty.
(iv) A student survey will be conducted in Spring/Summer 2021 and will be repeated every 2 years.

FOCUS AREA #5: RESOURCES

Recommendation 5: The program establish a formal mentorship program for new faculty including expectations of their roles and workload in teaching, research, and service.

Define the actions to undertake:

A formal mentorship program exists for all new faculty consisting of a committee with a minimum of three more senior professors. The mentorship committee advises new faculty members on career progressions towards promotion and tenure as well as graduate-level supervision. Workloads are mandated through the collective agreement via the Departmental Teaching and Personnel Committee (DTPC) and assigned using a workload formula considering research and administrative duties. New faculty are advised of general expectations for teaching, service and research although these may vary considerably depending on research intensity.

The Faculty's Office of Continuing Professional Development has also committed to developing a workshop which could ensure all new professors understand their role and responsibilities as thesis supervisors.

Priority Level*	Assigned Person or Persons	Deadline to attain the objective	Expected results	Implementation Indicators	Progress on the actions taken: accomplished, to be sustained, to be continued, to be developed
2	Program Director and Departmental Chair Faculty of Medicine's Office of Continuing Professional Development	July 2022	 Completion and distribution of a booklet for new faculty that includes the expectations for graduate-level supervision and the policies and procedures governing graduate studies. Implementation of scheduled faculty development sessions that clearly define the responsibilities of a graduate student thesis supervisor and 	 New faculty feedback on the appropriateness and usefulness of the booklet, mentorship committee and faculty development training Tracking of registrations for Faculty Development sessions related to graduate studies. 	To be completed by the Evaluation Committee when reviewing the progress report

Faculté / Faculty : Medicine

Programme(s) évalué(s) / Program(s) evaluated:

Master of Science, Cellular and Molecular Medicine; Doctorate in Philosophy, Cellular and Molecular Medicine Cyclical review period: 2019-2020

Program / Department Chair :

Dr. David Lohnes

Chair

Department of Cellular and Molecular Medicine

Dord These

Signature

2021-05-12

Date

Faculty Dean :

Dr. Bernard Jasmin Dean and Professor Faculty of Medicine

2021-05-14

Signature

Date