Executive Summary

Graduate Program in Human and Molecular Genetics
Cyclical review year 2011-2012

Approved by the Graduate Program Evaluation Committee
Faculty of Graduate and Postdoctoral Studies
Meeting of November 26, 2013

<table>
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<th>Name of Program Reviewed</th>
<th>Human and Molecular Genetics</th>
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| Degrees                  | • Master of Science, Specialization in Human and Molecular Genetics  
                           • Doctor of Philosophy, Specialization in Human and Molecular Genetics |
| Responsible academic units | Collaborative:              |
|                          | • Biochemistry               |
|                          | • Cellular and Molecular Medicine |
|                          | • Neuroscience               |
| Courses                  | • HMG8103 Advanced Topics in the Molecular Biology of Human Diseases I  
                           • HMG8105/BCH8105 Advanced Topics in the Molecular Biology of Human Diseases II  
                           • HMG8600 Special Topics in Human and Molecular Genetics |
| Final Evaluation         | Good quality program         |

Significant Strengths of the Program

The Collaborative Program in Human Molecular Genetics is unique in that its theme cuts across the research interests of faculty members from four different graduate programs. Students apply human and molecular genetics to a wide range of disciplines, including cell biology, neurobiology, biochemistry, stem cell biology, epigenetics and cancer research. Moreover, students can conduct research in areas that range from disease gene identification, to gene functional studies, to the generation and analysis of animal models of disease, to the design and development of genetic and novel therapeutics. The strength and diversity of the program provides research training at the MSc and PhD levels that is competitive with the best in Canada and the world.

Research is a key area of strength. HMG program members form a critical mass of researchers in a number of human and molecular genetic research areas and are recognized as leaders at the national and international level. These research areas include stem cell research (Sprott Centre for Stem Cell Research and the Stem Cell Network), neuromuscular disease (uOttawa Centre for Neuromuscular Disease), disease gene identification (large multi-center rare disease gene identification network – FORGE Canada and Care for Rare), and oncolytic virus therapy (ORCC). Program members are also building strength in other areas, including epigenetics and bioinformatics, and it is only a matter of time before these groups obtain greater recognition. HMG students also have an opportunity to join other collaborative research initiatives, based on their research interests.

Areas for Improvement and Enhancement
The Collaborative Program in Human and Molecular Genetics is unique and cuts across themes and research interests. As a result, the focus of the program can be somewhat unclear. One improvement would be to place more emphasis on the added value of the program, and how the learning outcomes differ from those of home programs.

A related area for improvement would be to increase awareness of collaborative specialization within the primary programs.

Although the program has four participating units, most of its students come from a biochemistry background. It is recommended that enrolment across the participating units be reviewed.

**Recommendations**

It is recommended that the program:

1. Put greater emphasis on the added value of the program, and how its learning outcomes differ from those of other programs
2. Increase awareness of specialization within the primary programs
3. Promote enrolment from all the participating units

**Implementation Plan**

**Calendar and Deadlines**

The above mentioned recommendations should be addressed in the next cyclical review report. The next cyclical review is to be completed by July 1, 2019.

**Authorities**

The authorities who are responsible for implementing and monitoring the recommendations include the director of the Collaborative Program in Human and Molecular Genetics and the vice-dean of graduate studies at the Faculty of Medicine.