

**Final Assessment Report**  
Submitted by SUPR-G to SCAPA

<b>Program:</b>	<b>Scientific Computing Collaborative Graduate Program</b>	
Degrees Offered:	Masters or PhD	
Approved Fields:		
External Consultants:	Nikolas Provotas, Professor, McGill University	An-Chang Shi, Professor, McMaster University
Internal Reviewers:	Nandi Bhatia, Professor, Western University	

**Executive Summary**

The one day visit of the Scientific Computing Collaborative Graduate Program, and pointed out ways in which the program could be further strengthened. Overall, the support the continuation of this program, identifying it as “well-structured and innovative,” providing “incremental value” to students getting trained in the field of Scientific Computing. Some points that external reviewers identified as the program’s strengths while also offering suggestions for improvement.

**Strengths of Program:**

High competence of faculty in research, teaching, training of students, and strong record of publication  
 Collaborative nature of the program offers an innovative approach to the teaching of scientific computing at the graduate level  
 Learning outcomes are well expressed in the brief as well as in course descriptions  
 Program’s requirements are clearly articulated, both in the brief and in the course structure, and course structure is appropriate  
 Relevance of the program and its ability to bridge a severe training gap at the undergraduate level, a gap based on limited competency in scientific computing in most undergraduate curricula in Canada  
 High quality of students  
 Excellent resources that include the Sharcnet facility, library materials, study rooms, group workrooms, and seminar practice rooms

**Recommendations for improvement & Enhancement:**

Learning outcomes are defined, identifying concrete learning outcomes for the program would be useful (for example, learning how to program, formalizing knowledge of numerical techniques, innovative thinking, gaining formal credibility on their diploma). Some clarification as to how specific courses measure these learning outcomes is recommended. Clarification regarding requirements for the seminar course and Sharcnet workshop would be helpful.

- The Sharcnet element of teaching is an exciting component of the program and should be both promoted and further expanded to better address the program's needs in terms of consolidating students' experience and skills
- Scientific Computing is relevant to many disciplines that are not currently included within the scope of the program. Broadening participation, and course offerings, to include appropriate aspects of biology, biochemistry, health sciences, finance, computer science, statistics, and "big data" would help with interdisciplinary outreach and would increase program enrolment.

Recommendations required for Program sustainability:	Responsibility	Resources	Timeline
Upgrade the Sharcnet course to a "capstone" course, which will enable clear documentation for professional development	Core faculty	Sharcnet	Sept. 2015
Introduce programming courses for students with insufficient programming background	Core faculty		Sept. 2015
Promote the Program through advertisement, an improved website, and an active recruitment strategy, in order to achieve higher enrolments	Director, Chairs of participating programs, graduate chairs	Program	Sept. 2015

Define a mission statement and high-level outcomes for the Program through consultation