Representation, Feedback and Support:

Canadian Alliance of Student Associations' Submission to Canada's Fundamental Science Review

CASA | ACAE

Executive Summary

Students play a critical role in the development of research in Canada. They are involved in every facet of discovery, supporting large research teams, initiating their own projects, and being one of the largest consumers of research. The Canadian government has long understood students' importance in this area, and has fostered and supported their drive to discover through grant funding and infrastructure development.

The Canadian Alliance of Student Associations (CASA) sees clear opportunities to further acknowledge the student perspective in Canada's approach to the fundamental sciences. The federal government is one of the primary sources of research funding in the country and the practices, procedures, and expectations of its application process directly influence students, their supervisors and institutions. While the latter two groups have direct say in how this process occurs, students have been left without feedback or representation.

On September 30th, CASA provided the federal government with students' recommendations for how to improve fundamental science research in Canada. CASA recommends:

Recommendations:

» The federal government move to require a student sit on the granting board of the tri-agencies (SSHRC, CIHR, NSERC)

» The federal government review and update its tri-council agency evaluation protocol for funding applications

» The federal government support complete research costs, at a cost of $286.5 million per year.

Could the application processes for funding be improved? If so, what would you suggest? Are there issues with the matching programs associated with various funding programs? If so, how could this be improved?

A number of reforms are necessary to ensure a more fair and supportive process for student research applicants. Specifically, the Canadian Alliance of Student Associations (CASA) recommends that tri-council granting agencies [Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC)] adopt policies on harmonized application approaches, feedback on applications, and non-discriminatory anonymous application rules. These low-cost reforms would have a major impact on the ability of students to plan for their academic years, reduce the stress and anxiety associated with the application process, and increase fairness in the disbursement of funds among these research agencies.

For master's students, the Canadian Graduate Scholarship – Master's Program (CGS-M), supports up to 2500 students across Canada each year and is managed jointly between the three tri-council granting agencies.[1] Each year, institutions are allocated a certain number of CGS-M scholarships that they can award from each tri-council agency. Students must apply on a harmonized research portal website created for the tri-council agencies.[2]

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This harmonized approach for master's students is successful in reducing confusion; however, there are aspects that remain in need of improvement. In the 2015-2016 academic year, CGS-M scholarships were due at various institutions by December 1st, 2015, but students did not receive any updates until April 1st, 2016, when they were informed of the result of their application.[3] For four months, there was no correspondence to applicants. All CGS-M applicants would benefit from the creation of a more transparent evaluation process, which would engage students and inform them of the status of their application on an ongoing basis.

While the centralized research portal website has proven useful for master's candidates and administrators to navigate, the application process for doctoral students is not nearly as streamlined. Doctoral scholarships within the tri-agencies are not jointly managed, with each different council agency having different criteria, timelines, and available awards. Wide variability also exists in how doctoral awards are processed, with some applicants applying directly to the granting agency and in other cases, through their home institutions. The application process should be streamlined and consistent for all students across Canada, similar to the harmonized CGS-M application process and Research Portal for master's students.

Furthermore, a critical step in the evaluation process is still missing across all levels of tri-council agency scholarship awards: feedback. Very little, if any, feedback is given to unsuccessful tri-council agency award applicants regarding their application. This feedback could be critical for

1 National Sciences and Engineering Research Council of Canada, *Canada Graduate Scholarships – Master's Award Allocations*, 2015, Accessed online: http://www.nserc-crsng.gc.ca/Students-Etudiants/CGSAllocations-QuotasBESC_eng.asp

2 National Sciences and Engineering Research Council of Canada, *Canada Graduate Scholarships*, Master's Program, 2015 Accessed Online: http://www.nserc-crsng.gc.ca/Students-Etudiants/PG-CS/CGSM-BESCM_eng.asp

3 University of Waterloo – Graduate Studies, *TriAgency Canada Graduate Scholarships Master's*, November 2015, Accessed online: https://uwaterloo.ca/graduate-studies/waterloos-harmonized-tri-council-cgs-m-timeline

students who decide to apply for next year, as well as valuable feedback for master's candidates who then go on to become doctoral students.

Improving anonymity in applications is an important reform for resolving two areas of concern for many student applicants. First, this would assist in eliminating personal bias that may arise from personal relationships in academic settings. Secondly, it would help to eliminate the chance of other biases based on race, gender, or cultural background from impacting students' application result, by keeping those personal characteristics confidential and separate.

"The introduction of a blind or anonymous CV / application process would reduce the likelihood of bias impacting the assessment."

Anonymity is important because the student's home department does the first evaluation on a student's application. Graduate students can develop strong personal relationships with faculty in their department and it is due to those relationships that applications cannot be objectively evaluated at the department level.

Studies have also shown that scientists (both female and male) have shown bias when reading CVs based on the assumed gender of the applicant as well as on names that are 'non-anglicized'.[4] In a popular study where the same CV was randomly assigned a male or female name, both men and women who evaluated the CV were considerably more likely to hire the male candidate than the female candidate.[5] The introduction of a blind or anonymous CV/ application process would reduce the likelihood of bias impacting the assessment.

» In conclusion, it is important that the federal government review and update its tri-council agency evaluation protocol for funding applications. CASA values the significant investments in research made by this government in Budget 2016, but believes that those dollars will be most effective if coupled with an updated funding application system.

4 Simon Peacock and Anne Condon, *Gender Bias in Peer Review of Faculty,* February 2009, Accessed Online: http://wwest.sites.olt.ubc.ca/files/2010/10/2009-FoS-Equity-Training-in-Recruitment-and-Selection-Process.pdf

5 Steinpreis et al. *The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study, Sex Roles*, 1999.

Does the federal science funding community (e.g. the granting councils, the CFI and agencies or organizations that distribute funds supporting investigator-led research) consult with students and follows to ensure that their programs are aligned to the changing needs of researchers? If so, how? If not, should it and how should it?

CASA believes that students should be actively engaged in shaping the strategic direction of the publicly funded programs that affect students. Currently, the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), and the Canadian Institutes of Health Research (the tri-agencies) do not have representation from student researchers within their governance bodies, despite the fact that student programs are a substantial component of their activities. Fellowships, scholarships, prizes, and research funding distributed to students represent a large part of tri-agencies' annual budget.

Increasing representation of student researchers within the tri-agency governance structure will help make the tri-agencies more responsive to the needs of their sectors and improve the decision-making capacity of the agencies. It will also make them more accountable to the researchers that they serve. A 2006 review of SSHRC and NSERC highlighted that the agencies should strengthen efforts to encourage and support younger members of the research community, and, in order to improve governance structures, that they should make greater efforts to consult with new faculty, graduate students, and post-doctoral fellows.[6] Similarly, a self-study performed by SSHRC identified the need for a wider representation on the councils from Canadian society, as an essential component to the operation of effective granting councils, as well as credibility.[7] Undoubtedly, student input on the administration of these programs is valuable to understanding how to improve them. However, since 2006, very little has been done to improve the student consultation process with regards to the governance of the tri-agencies.

Student perspectives represent the next generation of researchers, innovators and professors, who will undoubtedly approach research projects in ways that are different from previous generations. Through meaningful engagement with student researchers, the tri-agencies will remain responsive to the changing needs of researchers now and into the future. Formalized student representation will enhance the tri-agencies' foresight and ability to anticipate for the needs of future researchers.

» In sum, providing space for student representation on any governance body is valuable for students and for the decision-making body as a whole. While these bodies should, on principle, include students when the programs they administer directly impact students, there are also inherent benefits to having students involved in the governance of these agencies. Student voices provide youthful perspectives, fresh eyes and innovative ways of thinking, and bring legitimacy to the work performed within the tri-councils. Just as innovation is valued in the research supported by the tri-agencies, so should innovative ideas be valued within the governance structures of the tri-agencies themselves.

6 Mitchell, James R. *A Review of NSERC and SSHRC*. Sussex Circle. December 15, 2006.
7 Ibid.

Are there international programs, structures, models, or best practices that Canada should consider adopting? If so, please explain why these should be considered.

Creating an environment that supports and enables Canadians to conduct top-tier research requires grant funding that supports more than just projects. Researchers rely on an array of supports to bring their innovations to the world. Whether securing the latest equipment, getting access to the most cutting-edge research, or ensuring that Canadian research can be brought to market, the Canadian government plays a critical role in supporting the complete costs of research.

The complete cost of research includes those that cannot be directly attributed to a specific research project, but are required to conduct research. These "hidden" expenses include the costs of administering and managing research activities ranging from upgrading a library computer network to renovating laboratories and conducting basic maintenance.

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In 2007-2008, the federal government provided $332 million, representing approximately 21.5% of the total funding for the three research councils to begin covering these costs.[8] However, estimates have continued to place these indirect costs of research at between 50% and 65% of the direct costs of research, depending on the field of study.[9] This means that Canadian post-secondary institutions must continuously pull from other already strained budget lines to make effective use of the research funds that they have been granted.

In the United States, the United Kingdom, the European Union and Australia, indirect costs are reimbursed at far higher levels than in Canada. The United States has been funding indirect research costs since 1947 and that funding currently averages about 52.3% of direct research costs. In the European Union, the funding is between 40% and 60% of direct costs and in the United Kingdom it is over 50%.[10]

CASA believes that the federal government should adequately fund the indirect costs of research. Such funding should be both sustainable and independent of other funding mechanisms. Considering that the indirect costs of research are estimated to be at least 40% of the direct cost, the indirect costs of research should increase its funding to universities according to the following table:

Table 1: Proposed formula of funding for the indirect costs of research.

Level	Rate
1st bracket of $100,000	80%
2nd bracket of $900,000	50%
3rd bracket of $6,000,000	50%
Balance	37.5%

This yields an average funding of 40% across universities in Canada and would cost $286.5 million per year.

» CASA recommends the federal government support the complete cost of research at a cost of $286.5 million per year.

8 Fédération étudiante universitaire du Québec, 2013. Study on the Indirect Costs Program
9 Conférence des recteurs et des principaux des universités du Québec, 2011. Élections fédérales. Intervention de la CREPUQ : Le gouvernement fédéral doit poursuivre ses efforts pour le développement de la recherche universitaire
10 Sylvain, Christian, Association of Universities and Colleges of Canada, Indirect Costs Reimbursement in the USA: Facts and Fiction; rate quoted is from 1997 but rates were very consistent throughout the 1990's.
4. Association of Universities and Colleges of Canada, 2009. Funding of the Institutional Costs of Research : An International Perspective., Accessed online: http://www.aucc.ca/wp-content/uploads/2011/07/institutional-costs-international-2009-05-e.pdf

Our Members

About CASA

Established in 1995, the Canadian Alliance of Student Associations (CASA) is a non-partisan, not-for-profit national student organization composed of 21 student associations representing 250,000 post-secondary students from coast to coast. CASA advocates for a Canadian post-secondary education system that is accessible, affordable, innovative, and of the highest quality.

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