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ASSOCIATION CANADIENNE DES NEUROSCIENCES

Written submission to the House of Commons Science and Research committee study on

*Government Of Canada's Graduate Scholarship and Post-Doctoral Fellowship Programs*

By the Canadian Association for Neuroscience

Submitted June 20, 2023

## Canada needs to stop the brain drain

*"We know our investments in building a cleaner economy and the good jobs that go with it, our investments in reconciliation and our **investments in science and research** are all things that are helping Canadians through these difficult times. We will continue to put Canadians at the heart of everything we do."*

-Justin Trudeau, February 1, 2023

Canada has much to lose by not supporting our young emerging scientists. Scientists in training (graduate students and postdoctoral fellows) pursue long careers in training, typically 5-10 years in total, before they can land a more permanent job. Even when the desire to stay in Canada is strong due to our enviable quality of life, our students are attracted by the much higher financial means available to them in the United States, Australia, the EU, and other countries. Indeed, salaries for trainees can be up to triple what is typically given at a Canadian university, making it financially sound to pursue an academic career outside of Canada. If Canada does not increase its support for science, the reality of the brain drain will continue to worsen.

The lower salary of our Canadian students stem largely from the lack of keeping up costs of research due partly to inflation, as our students rely mainly on two sources of income for their stipends: 1) federal research grants given to their supervisors through NSERC (Natural Sciences and Engineering Research Council), CIHR (Canadian Institutes of Health Research)



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and SSHRC (Social Sciences and Engineering Research Council), and 2) federal scholarships and fellowships, which are highly competitive and difficult to obtain (<10% success rate). Canada has established mechanisms for supporting the training of the next generation of researchers through the Canada Graduate Scholarships (CGS) program. However, trainees that successfully obtain a scholarship (i.e. Master's program; CGS-M), receive a \$17.5K CAD per year, an amount that has not kept up with inflation and has been stagnant since 2003. This is well below the low-income level cut-off of \$22K CAD for a person living alone in a major Canadian city. It is important to keep in mind that our students need to pay tuition on top of these awards which, depending on the university, can be up to 10,000/year. The NSERC website states that "This support allows these scholars to fully concentrate on their studies in their chosen fields". However, this is no longer accurate as the amounts of studentships have not kept up with increasing costs of living in Canada. This is extremely disheartening for students, who must now face rising housing costs and inflation. **Paying students a living wage is the base for equity, diversity and inclusion, and an essential requirement if we are to attract and retain the brightest minds from diverse backgrounds** and not only those who are independently wealthy. Diversity breeds discovery and innovation, and the best way to promote diverse ideas and solutions for Canada's toughest problems in climate change, health and economics, is to recruit from a diverse pool of applicants.

As two of our student members from Ontario commented:

Student 1

*I am the recipient of a CIHR Canada Graduate Scholarship (amount received is \$17,500). This amount of money, in addition to the amount I get as a research assistant, would not be enough money to pay for my expenses to live if I lived on my own. Thankfully, I live with my parents. If I didn't, I would need a part-time job to further support myself, which would take time away from my research and master's program studies. I think more government funding is absolutely necessary to support graduate researchers.*

Student 2

*As an NSERC PGSD holder who also receives additional funding I cannot imagine a student being in the position of relying solely on a PGSD award for PhD funding, particularly considering that doctoral degrees almost always run longer than the duration of the award and that the fixed value of the award leaves students particularly vulnerable to inflation risk. Even with additional funding sources my current compensation falls somewhere between 25% and 33% of that earned in industry by other students from my previous (computational) degrees who are doing similar work.*



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Currently, to obtain a job in academia is viewed as an uphill battle, with no clear indication that the situation will improve, which is a daunting prospect for trainees.

Decisive action is urgently needed. We recommend that funding for **Canada Graduate Scholarships be increased by 50% in the next budget**, and that it be indexed to inflation afterwards. This investment would allow Canada to retain its brightest minds and to attract new talent. Without it, our scientists in training will find it more favourable to bring their talent elsewhere and our universities will languish.

The Support Our Science (<https://www.supportourscience.ca/>) collective, led by graduate students across Canada, has advocated loudly to promote this simple message:

## **Pay Graduate Students and Postdoctoral Scholars a Living Wage**

Students have shared their recommendations through official budget consultation submissions, by marching on Parliament Hill, through direct letters to elected officials, and with partners, such as science associations like us, who have also included recommendations to increase support for graduate students in our pre-budget consultation briefs. The Fundamental science review in 2017 also had a recommendation to substantially increase the trainee budget which has not been implemented. It is difficult to understand for students and their community how and why their messages and commissioned reports for the federal government have been completely ignored.

## **A key to making Canada's workforce more inclusive: providing adequate funding for researchers at all career levels.**

Canadian neuroscience laboratories that perform fundamental research rely heavily on funding provided by the Canadian government through Tri-Agency support (CIHR, NSERC, SSHRC). Canada's research funding agencies have put in place important assessment and reporting tools to ensure that our research funding ecosystem is inclusive.

However, lack of adequate funding results in funding inequities, notably for graduate students, who receive funding below the poverty line as their supervisors cannot afford to pay them more. Project grants awarded by the CIHR in the open grant competition are the core funding mechanism for biomedical and clinical health research in Canada. **A large portion of the funds provided by these grants is used to pay salaries for graduate students and post-doctoral researchers** that do not get direct financial support through the Canada Graduate Scholarships program.

Unfortunately, the success rates for funding applications at CIHR have declined since 2005, from a 33% success rate to close to 19% in 2021 (less than one in five successful applications),

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leading to financial insecurity for laboratories. Current success rates are too low to maintain a diverse and flourishing research environment, as most excellent research projects go unfunded. Researchers spend months preparing and writing grant applications, while their chances of being successful are too low to be sustainable, further highlighting the lack of sufficient funding for this critical mechanism to support Canadian scientific research. A survey from 2016 from over 400 scientists across Canada identified research funding issues and insufficient funds to attract and retain highly qualified personnel as the top two greatest impediments to research in Canada. This is still the case today.

The stagnation in the CIHR budget between 2006 and 2023 is causing Canada to lose substantial terrain in research, talent, and discovery. The budget for CIHR has only increased by 8.7% (adjusted for inflation) from 2007-2008 to 2020-2021. Moreover, application pressure has increased (3850 applications in 2006 vs. 4395 in 2021), and the cost of experimental materials has increased at a rate higher than inflation.

**Canada's reputation as a leader in science is at stake.** To avoid irreversible loss in coming years, support for science and research needs to grow now. Increasing the government's investment in research will be key to attract emerging leaders in the field, keep research in our universities strong, and train the next generation of junior scientists. Action is needed now.

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