



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

Boosting Investment in Scientific Research: An Important Piece for Post-COVID-19 Economic Recovery and Readiness for Future Challenges

Written Submission for the Pre-Budget Consultations in Advance of the Upcoming Federal Budget

Prepared by:

The Canadian Society for Molecular Biosciences – CSMB



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

RECOMMENDATIONS

That the Government implement all recommendations from the 2017 Fundamental Science Review, notably:

Recommendation 1: That the Government significantly increase investment in science and discovery research in line with the recommendations of the Report, by 25%.

Recommendation 2: That the Government increase investment in training of the next generation of scientists, over 4 years, to an additional \$140M per year (increases at \$35M per year).

Recommendation 3: That the Government increase its investment in the Research Support Fund, over 4 years, to an additional \$478M to help institutions across Canada to support their researchers as effectively and efficiently as possible.

Recommendation 4: That the Government increase investments to support investigator initiated fundamental research at CIHR, NSERC and SSHRC by increased investments into the granting councils.



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

Conceived in 1957, the **Canadian Society for Molecular Bioscience (CSMB)** is a professional association of researchers involved in Biochemistry, Cell Biology, Molecular Biology and Genetics. Our members are mostly from universities and academic research institutions from all over the country and are the ones that are responsible for investigator-driven research.

Alongside the scientific community, we recognize that fundamental research provides the knowledge base without which innovation and technological development will not take place. As scientists, we conduct internationally recognized research and train highly qualified individuals who represent the country's future. The funds we receive through open grant competitions are used to pay for all aspects of the research project including the salaries of our highly qualified personnel, and stipends for our undergraduate, graduate and fellows. These important middle-class jobs that exist because of continued federal support. In addition, a strong fundamental research community in Canada is a beacon for recruitment and retention of highly qualified immigrants. Thus, the impact of federal research funding on Canada's productivity, competitiveness and international reputation as a world leader in scientific and innovation is significant and should be seen as a national priority.

A strong scientific and research community is a fundamental building block for a strong, improving economy. Research is the lifeblood of innovation, which is the key to investment, job creation and productivity. Investment in fundamental research also ensures that our best and brightest minds remain in Canada after they graduate, as well as creating an environment to attract the world's best and brightest to come to Canada. Without investment in basic research, commercial innovation simply does not exist.

Investment in scientific and health research also translates to a healthier and more productive population. This has never been more evident than in the past 7 months, as the world faces the worst global pandemic in 100 years. The COVID-19 pandemic has caused the most severe global economic downturn since the great depression. Thanks to a well-trained and well-equipped scientific community, however, Canada was prepared to react quickly to the challenges of the pandemic, and was able to mount a significant research effort towards a vaccine and antiviral



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

treatments. Without prior investments in basic research, Canada would not have the knowledge nor the infrastructure to act among the major players in the world to fight this global pandemic. It is essential that the Canadian government ensures that this response is ongoing and this requires increased support for the scientific infrastructure and talent in this country to support recovery from the impacts of this pandemic and prepare for the next one. A strong vibrant and highly skilled community of scientists is at the core of Canada's national preparedness.

While the COVID-19 pandemic has brought the need for investment in research to the forefront, with Canadian scientists leading global teams in pursuit of viable vaccines, overall Canada's commitment to its scientists is falling behind other countries. Canada's investment in research and development has steadily declined over the past 10 years, making us the only G7 nation to hold this distinction.

Canada is spending only 1.5% of its GDP on research and development; and despite the commitments to science in Budget 2018, our investment continues to decline. Expenditures in the higher education sector are also increasing at a slower pace than the OECD average. Long after the current pandemic has been solved, we need continued political commitment to reclaim our standing as a world-leader in scientific research and innovation, so that if and when we are faced with another global crisis, we can meet the challenge head on as we did for COVID-19.

Fortunately, the roadmap of action necessary to restore Canada as a global leader in scientific and health research has already been provided to the government. In June 2016, the Federal Government appointed an Advisory Panel on Federal Support for Fundamental Science. In 2017 the Panel published its report, [The Fundamental Science Review](#).

While many of the report's recommendations have been acted on, for which the scientific community is incredibly thankful, there are some key recommendations that have not. The Canadian Society for Molecular Biosciences (CSMB) is recommending that the Federal Government implement all of the recommendations of the 2017 Fundamental Science Review, in an effort to fully support our scientific research community. This report was universally accepted and endorsed by the Canadian scientific community, and articulated the urgent need to restore investment in fundamental research.

Specifically, four key recommendations have not been fully acted on. The need to implement these recommendations has grown even stronger with the onset of the



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

global pandemic caused by COVID-19. Specifically, we are calling on the Government to implement the following recommendations.

Recommendation 1: That the Government significantly increase investment in science and discovery research in line with the recommendations of the Report, by 25%.

IMPACT: This investment would address the steady decline in research funding in Canada thereby positioning Canada to innovate and discover on the global stage, promote greater international collaboration, create interdisciplinary opportunities, and lead high-risk ventures that will ensure Canada a ready to face the next global health challenges ahead.

Recommendation 2: That the Government increase investment in training of the next generation of scientists, over 4 years, to an additional \$140M per year (increases at \$35M per year).

IMPACT: This is essential if Canada is to leverage its talent and drive innovation and discovery. A commitment to training the next generation of scientists will ensure Canada retains its best and brightest and not run the risk that our youth investments leave Canada for better opportunities. As scientists are curiosity-driven, the attainment of their full potential requires that opportunities and resources are available for scientific projects across a wide range of topics in both basic and applied research.

Recommendation 3: That the Government increase its investment in the Research Support Fund to help institutions across Canada to support their researchers as effectively and efficiently as possible.

IMPACT: Cutting-edge discovery research such as the Canadian scientific teams searching for a COVID-19 vaccine, takes place in universities, hospitals and research institutes across the country and their infrastructure is increasingly in need of upgrades from legacy platforms, repairs and replacements. Our scientists require state of the art infrastructure to continue to innovate, discover and create new knowledge.



Canadian Society for Molecular Biosciences
Promoting and advancing molecular understanding of biology

Société canadienne pour les biosciences moléculaires
Promotion et avancement de la compréhension moléculaire de la biologie

Recommendation 4: That the Government increase investments to support investigator initiated fundamental research at CIHR, NSERC and SSHRC by increased investments into the granting councils.

IMPACT: The current level of operational support at the tri-councils is insufficient to support Canadian researchers at internationally competitive rates. The erosion of the funding base has been slowed forcing many promising biomedical research laboratories across the country to reduce their research efforts or close entire research programs, release highly trained personnel, and stop training the next generation of scientists. This fundamentally threatens our preparedness for the next pandemic since basic science training is foundational to so many aspects of public health, medicine and biomedical research into therapies

In closing, we would like to thank the Standing Committee on Finance for the opportunity to present a submission for consideration in the 2021 Pre-Budget Consultations. By implementing a multi-year strategy for major investments in research-related activities in Canada, as laid out in the Fundamental Science Review, we strongly believe we can help restart our economy and jump start scientific discoveries in Canada.