

# RENEWING CANADA'S COMMITMENT TO RESEARCH AND DEVELOPMENT

The University of Toronto endorses urgent recommendations to strengthen funding and oversight of higher education research in Canada.

## WHY IS FUNDAMENTAL RESEARCH IMPORTANT?

Consistent federal investment in research and development at Canadian universities has increased our understanding of the world, powered economic growth, provided students with a world-class education and improved the health and well-being of countless Canadians.

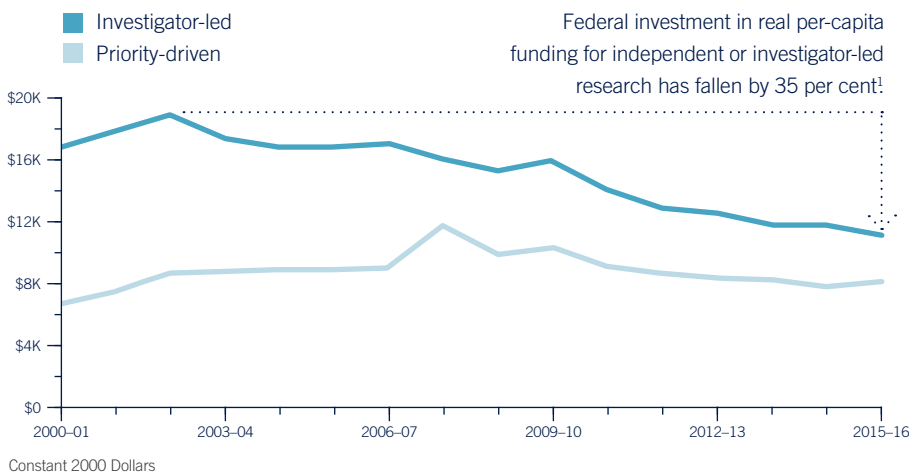
Fundamental research is the bedrock of scientific and intellectual discovery and a major driver of innovation. Breakthrough ideas and technologies such as MRI machines, lasers, the polio vaccine, cellphones and artificial intelligence were developed over years—sometimes decades—of independent, investigator-led research in universities.

## WHAT IS THE STATE OF FUNDAMENTAL RESEARCH IN CANADA TODAY?

In 2016, Canada's federal government commissioned an independent panel of experts, led by University of Toronto President Emeritus David Naylor, to gauge the state of fundamental research.

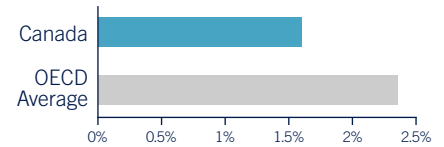
Canada's Fundamental Science Review found that **federal support for fundamental research has flatlined over the past 10 years**, as funding shifts away from fundamental research and toward government-designated priority projects. Drawing funds from early-stage research to pay for late-stage development threatens to cut off innovation at the source.

This stall in funding is already affecting Canadian research. The number of Canadian publications and citations lags behind Canada's global peers, and Canadian research output is growing more slowly than the world average (2003–2014) in most fields. Meanwhile, twice as many Canadians have won research-related Nobel Prizes in the U.S. compared with researchers working in Canadian research institutions.



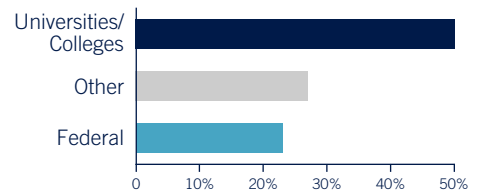
Canada contributes less than its global peers

Per cent of GDP to research



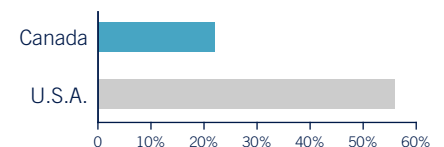
Canada is below the OECD average in research spending as a percentage of GDP.<sup>2</sup>

Funding to research and development



The federal government contributes less than 25 per cent of funding for R&D in higher education institutions, making Canada a global outlier.<sup>3</sup>

Reimbursement of indirect costs of research



The Canadian government on average reimburses a smaller percentage of operational and administrative costs to universities compared with the United States.<sup>4</sup>

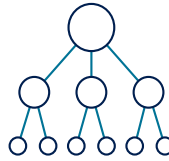
## HOW DO WE REVERSE THIS TREND?

In its report, Canada's Fundamental Science Review laid out several key recommendations to improve the state of research and development in Canada. These include:



### Strengthening and rebalancing funding

Reinvest in the three main federal research grant councils, with a 30 per cent funding increase of \$485 million over four years.



### Improving governance and co-ordination

Improve co-ordination and oversight across the main federal research granting councils by establishing a new National Advisory Council on Research and Innovation.



### Supporting personnel

Provide greater financial support for careers at all stages of the research and development pipeline, and better address issues of equity and diversity.



### Planning for facilities and operations

Increase funding for research support, overhead and indirect institutional costs associated with higher education research.

## WHAT IS THE UNIVERSITY OF TORONTO'S POSITION?

The University of Toronto applauds the Canadian government's support for cutting-edge research initiatives in recent years, but it believes a commitment to stable, long-term funding and improved co-ordination among granting agencies is necessary for Canada to compete with other leading research-driven nations.

We believe the report provides a sensible, affordable and comprehensive roadmap for a multi-year reinvestment in Canadian research, which is on the verge of decline.

Therefore, the University of Toronto strongly supports in full the recommendations put forward in Canada's Fundamental Science Review.

## THE UNIVERSITY OF TORONTO: A LEADER IN FUNDAMENTAL RESEARCH

The University of Toronto has a long history of supporting research in the sciences, humanities and social sciences. We are deeply committed to equity and diversity in the recruitment and retention of our faculty, staff and students, and in supporting the next generation of U of T scholars. With government support, researchers at U of T developed insulin, touch screen technology, stem cell therapy and artificial intelligence. These ideas alone have saved the lives of countless diabetic patients, formed an integral part of smartphone technology, laid the groundwork for regenerative medicine, and revolutionized the global economy. We truly understand the power of research to change lives for the better.

## FOR MORE INFORMATION

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Contact: Andrew Thomson,  
Chief of Government Relations  
[gicr@utoronto.ca](mailto:gicr@utoronto.ca)  
Simcoe Hall, 27 King's College Circle  
Toronto, ON M5S 1A1

<sup>1</sup>*Investing in Canada's Future: Strengthening the Foundations of Canadian Research*. Canada's Fundamental Science Review, 2017, p. 113.

<sup>2</sup>*Ibid.*, p. 30.

<sup>3</sup>*Ibid.*, p. xiv.

<sup>4</sup>*Ibid.*, p. xxii; USA average based on AAU 2016 data.