

Basic Science, eh?

Funding fundamental research in Canada



FUNDAMENTAL RESEARCH:

BASIC

DISCOVERY

is the endeavor to understand humanity and the natural world, and it is conducted without specific consideration of an end product.

&

APPLIED RESEARCH:

seeks to develop practical solutions to specific challenges.

INNOVATION

APPLICATION

LOSS OF FUNDAMENTAL RESEARCH SUPPORT

Decline in expenditures on fundamental research between 2005 and 2015, taking into account growth in number of researchers



-36%
LOSS IN NATURAL SCIENCES & ENGINEERING



-31%
LOSS IN SOCIAL SCIENCES & HUMANITIES

INCREASING NUMBERS OF CANADIAN RESEARCHERS NOW RECEIVE NO FEDERAL RESEARCH FUNDING



IMPACTS ON THE CANADIAN RESEARCH COMMUNITY

The proportion of researchers who reported that they only conducted fundamental research plummeted from

24% for 2006-2010 to **1.6%** for 2011-2015

We asked researchers who previously performed ONLY fundamental research (>10 years ago) why their research is now partly applied:



80%

INDICATED THE CHANGE WAS FUNDING RELATED

FEWER CANADIANS WILL PURSUE CAREERS IN RESEARCH



56%

of surveyed Canadian researchers believe that changes to research funding reduce the likelihood that young Canadians will pursue research careers.

“If we don't take the lead on answering the big questions, then we will be the ones buying technology, not selling it.”

Cathleen Crudden, president of the Canadian Society for Chemistry Chemistry World May 14 2013

THE FUNDING GAP

Restoring fundamental research funding availability for Canadian researchers to 2005 levels would require investments to NSERC, SSHRC and CIHR totalling:

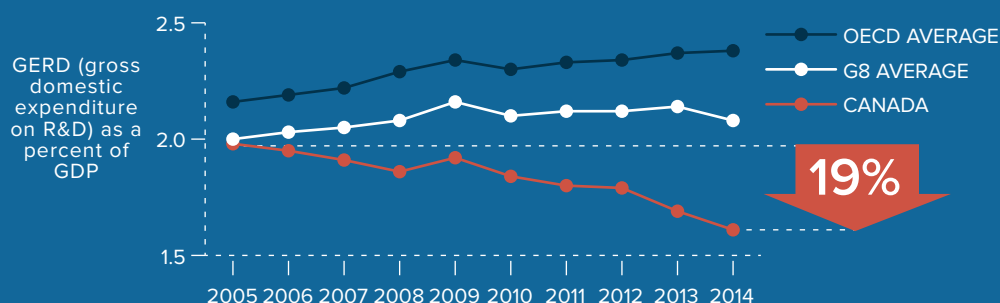
\$459 MILLION IN UNREALIZED RESEARCH EXCELLENCE



SOLUTIONS

1. Link fundamental research funding to number of active Canadian researchers
2. Reinvest in fundamental research to close the accumulated funding gap

CANADA IS LOSING THE R&D RACE



RESTORING CANADA'S COMPETITIVENESS IN FUNDAMENTAL RESEARCH:

The View from the Bench

Authors: Baum, J.K., Dodd, M., Tietjen, K., and Kerr, J.

ISBN: 978-3-8047-3760-0

Available from: <https://globalyoungacademy.net/gyafun1>



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