

# 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:

INNOVATION  
APPLICATION

seeks to develop practical solutions to specific challenges.

## 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

**“ 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**



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

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

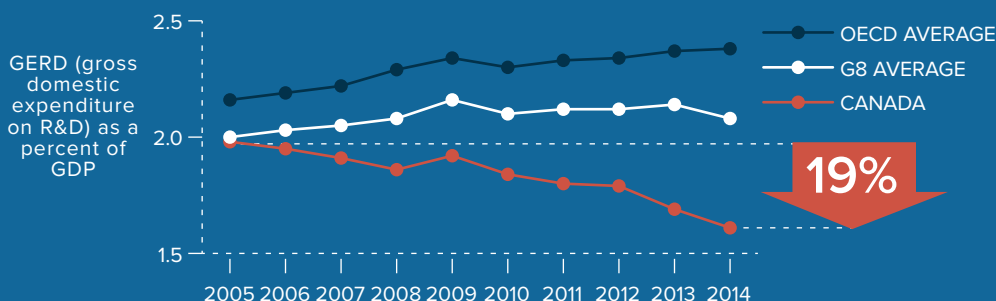
## FEWER CANADIANS WILL PURSUE CAREERS IN RESEARCH



**56%**

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

## 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.

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