

# FULL STEAM AHEAD

Annual report  
2014-15



**INNOVATION.CA**

CANADA FOUNDATION FOR INNOVATION | FONDATION CANADIENNE POUR L'INNOVATION

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# CONTENTS

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- 02 Full steam ahead
- 04 Overview
- 14 Governance
- 16 Fund
- 24 Evaluate
- 28 Communicate
- 32 Manage
- 36 Financial statements

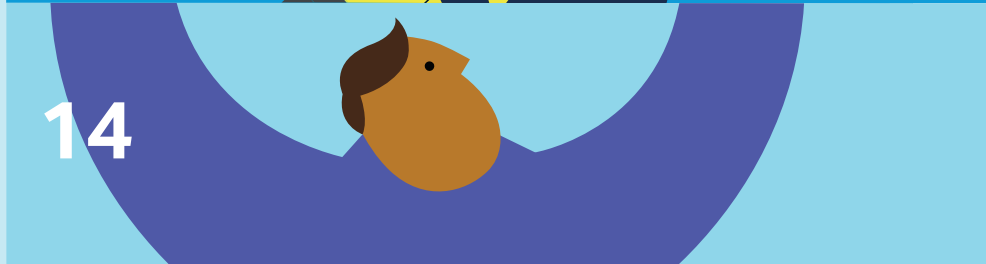
02



04



14



16



24



28



32



36



# FULL STEAM AHEAD

Propelling Canadian research  
toward the leading edge

Research in Canada is a national success story worth celebrating: this is a line we at the Canada Foundation for Innovation have repeated many times over the past year, and we continue to see evidence that it's true. There are examples across the country of world-class research facilities that are instrumental in maintaining Canada's position as a world leader in research, and each year new facilities open that push the boundaries of Canadian research even further.

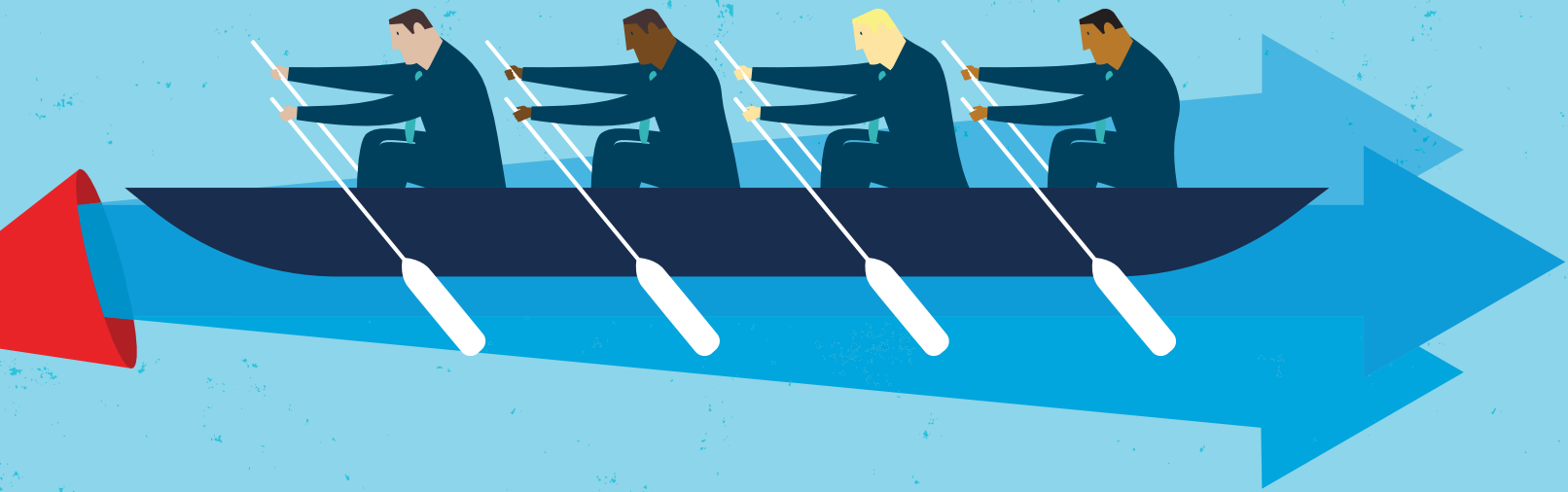
In September 2014, the University of Ottawa opened the Advanced Research Complex which houses Canada's only accelerator mass spectrometer, a 44-tonne, state-of-the-art piece of equipment that is capable of measuring radioisotopes at trace concentrations in anything from human tissues to soil samples. The university will use this infrastructure to advance research in energy, health and the environment. The impressive complex and the research expertise within it allow the University of Ottawa to maintain its place as a global leader in the study of photonics and a powerhouse in geoscience research.

The Research Institute of the McGill University Health Centre opened in February 2015. Its \$100 million contribution from the CFI makes it our largest single investment in a project to date. The institute puts Canada at the forefront of a transformation in modern health care in which physicians and nurses work seamlessly alongside researchers to better understand diseases and to more readily leverage discoveries into new diagnostic tools, improved therapies and more strategic approaches to community health.



Read about **three facilities that opened their doors** this year, beginning on page 8.





From coast to coast, we have seen the transformative impact of public investments in research infrastructure. And, as we were drafting this report in April, the Government of Canada's welcome announcement in Budget 2015 of \$1.33 billion for the CFI — the largest single investment to date in support of research infrastructure — ensures that the Canadian research success story continues.

It also speaks to the inherently forward-looking approach of the CFI. State-of-the-art research infrastructure is, by its very nature, costly, and often takes years to acquire, build and commission. So, to position our universities and colleges at the cutting edge in the coming decades, we need to invest significantly now, as Budget 2015 will do.

Of course there is considerable legwork behind administering the funds that build a world-class research system, and 2014–15 was a testament to that. Our programs staff conducted no fewer than five competitions concurrently, overseeing our globally esteemed merit-review process for nearly 750 different proposals under our various funds and launching several new funding opportunities, including the new Cyberinfrastructure Initiative. And those are just some of the highlights. There are also extensive national consultations required to ensure our programs continue to meet the needs of the research community, not to mention the important work of tracking and evaluating the results of our investments, and communicating those benefits to Canadians.

As we look toward 2015–16, we see another productive year ahead, with merit-reviews for the Cyberinfrastructure Initiative being conducted in the summer and fall, the review of applications for the John R. Evans Leaders Fund, and proposals for the College-Industry Innovation Fund due in May and October.

In addition, during the coming year we'll be busy planning ahead for the first awards of the Budget 2015 allocation, which are set to begin in 2017 — the year we will also mark our 20th anniversary.

There is little doubt that Canadian research has made great strides in recent decades, and the momentum created by CFI-funded labs and facilities builds year after year. Canadian research is worth celebrating and, for those of us on the ground, it's full steam ahead.



**Kevin P. D. Smith**  
Chair, Board of Directors



**Gilles G. Patry**  
President & CEO

# OVERVIEW

By investing in state-of-the-art facilities and equipment in Canada's universities, colleges, research hospitals and non-profit research institutions, the CFI helps attract and retain the world's top talent, train the next generation of researchers and support private-sector innovation.

Canada's future prosperity depends on its ability to generate knowledge and ideas that result in new products and services, create wealth, enhance social foundations, sustain the environment, and ultimately improve the health and quality of life of all Canadians. The CFI supports the country's capacity for world-class research and, as a result, plays a vital role in producing benefits for Canadians.

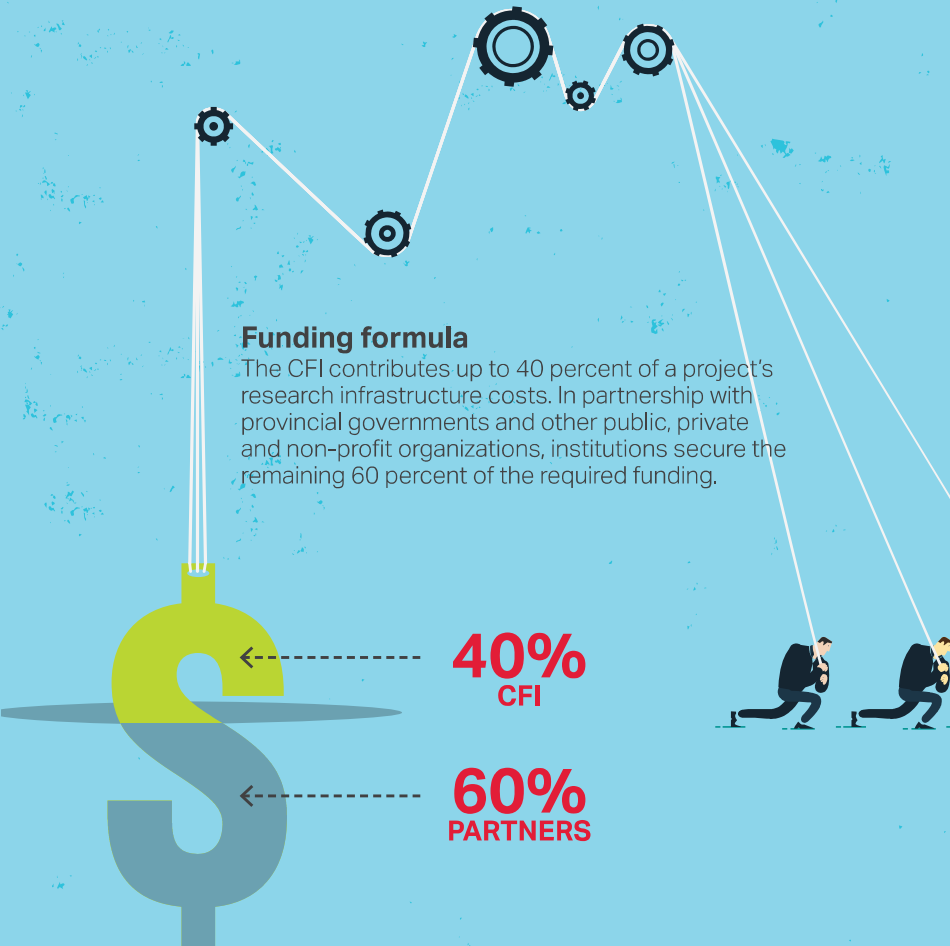
## THE CFI'S ROLE IN CANADIAN RESEARCH

The objectives of the CFI, according to the 2014 contribution agreement with the Government of Canada are to:

- > **Support economic growth and job creation**, as well as health and environmental quality through innovation;
- > **Increase Canada's capability** to carry out important world-class scientific research and technology development;
- > **Expand research and job opportunities** by providing support through research infrastructure for the development of highly qualified personnel; and,
- > **Promote productive networks and collaboration** among Canadian universities, colleges, research hospitals, non-profit research institutions and the private sector.

As a result of the investments of the Government of Canada through the CFI, research institutions have a greater capability to attract and retain the world's top research talent; train the next generation of researchers; enable researchers to undertake world-class research and technology development that lead to social, economic and environmental benefits for Canada; and support private-sector innovation and commercialization.

To date, the CFI has committed more than **\$6.5 billion** in support of **9,038 projects** at **145 research institutions** in **69 municipalities** across Canada.



### Funding formula

The CFI contributes up to 40 percent of a project's research infrastructure costs. In partnership with provincial governments and other public, private and non-profit organizations, institutions secure the remaining 60 percent of the required funding.

CFI contributions, along with those from institutions and their partners, have resulted in an investment of **\$15.4 billion in research infrastructure** in Canadian institutions since the CFI was created.

## Our merit-review process: funding excellence

The CFI has a well-established, rigorous, competitive and independent merit-review process that rewards research excellence. We rely on experts from around the world to ensure that only the best projects are funded. CFI funding is awarded to institutions, and all funding proposals must support the institutions' strategic research plans.

Eligible Canadian institutions apply for support through a particular CFI fund, and all proposals are assessed on three main criteria: the quality of the research and need for infrastructure; the project's contribution to strengthening the capacity for innovation; and the potential benefits of the research to Canada.



**Funding decisions are made**  
by the CFI Board of Directors.

3

The proposal undergoes the  
**merit-review process.**

2

When a proposal is received, CFI staff conduct an **administrative review** to make sure it's complete and that the requested infrastructure is eligible.

1

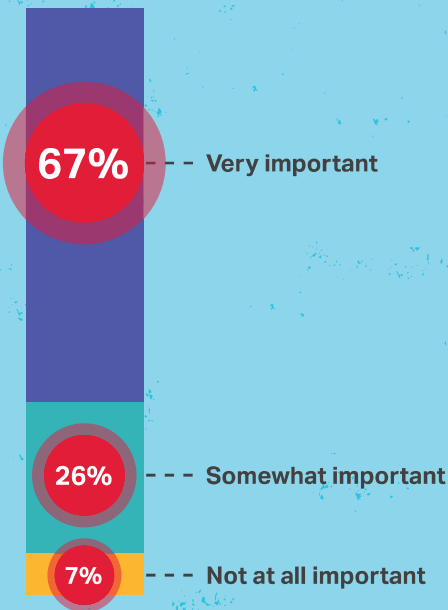
# THE RESULTS ARE IN

Highlights of results from the 2014 *Project progress reports*\*

## KEEPING TALENT IN CANADA

93 percent of project leaders reported that CFI-funded infrastructure was important in their decision to stay at their institution. This demonstrates that infrastructure plays a key role in the retention of some of Canada's best researchers.

### Importance of infrastructure in decision to stay at institution

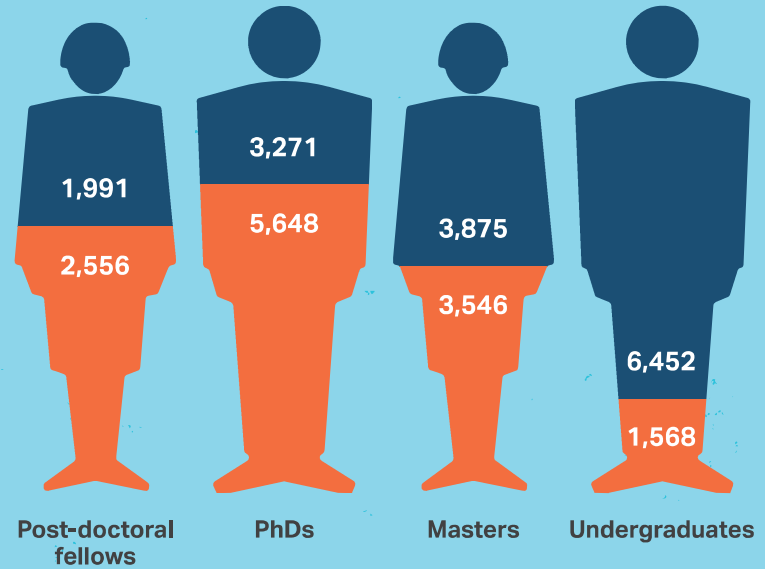


## TRAINING THE NEXT GENERATION

97 percent of project leaders reported that CFI-funded infrastructure was a key resource for the next generation of research leaders.

### Types of trainees using infrastructure

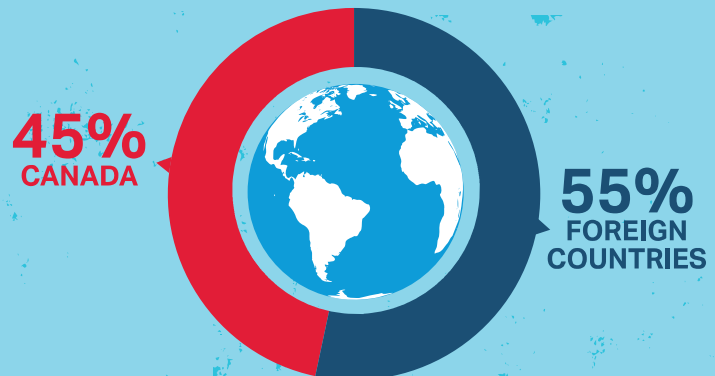
- First-time users
- Repeat users



## ATTRACTING THE WORLD'S BEST

Among 217 project leaders newly recruited to an institution, 55 percent came from outside Canada with the majority coming from the United States. Of those from outside Canada, nearly half were foreign citizens, suggesting CFI-funded infrastructure contributed to attracting international talent.

### Origin of recruited project leaders



## FROM RESEARCH TO INNOVATION

CFI-funded infrastructure has contributed to the development of new technologies and the creation of new companies.

**264**

provisional patents

**143**

patents granted

**57**

licensing agreements

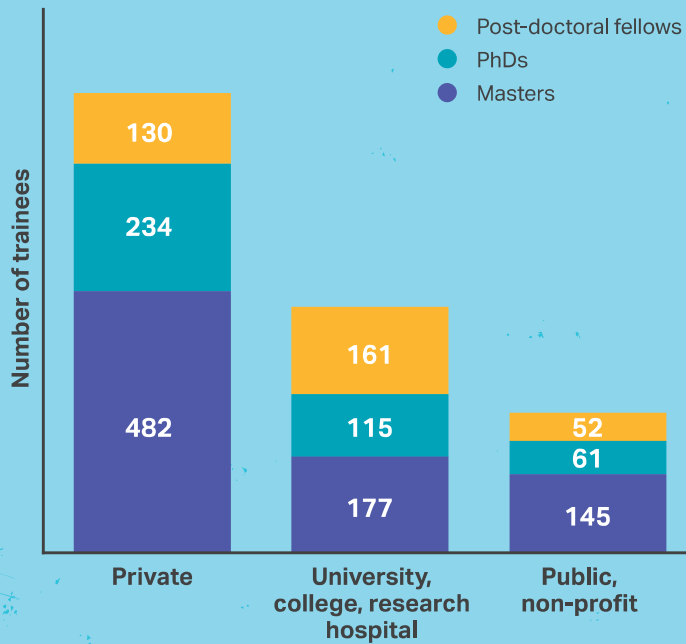
**51**

spin-off companies

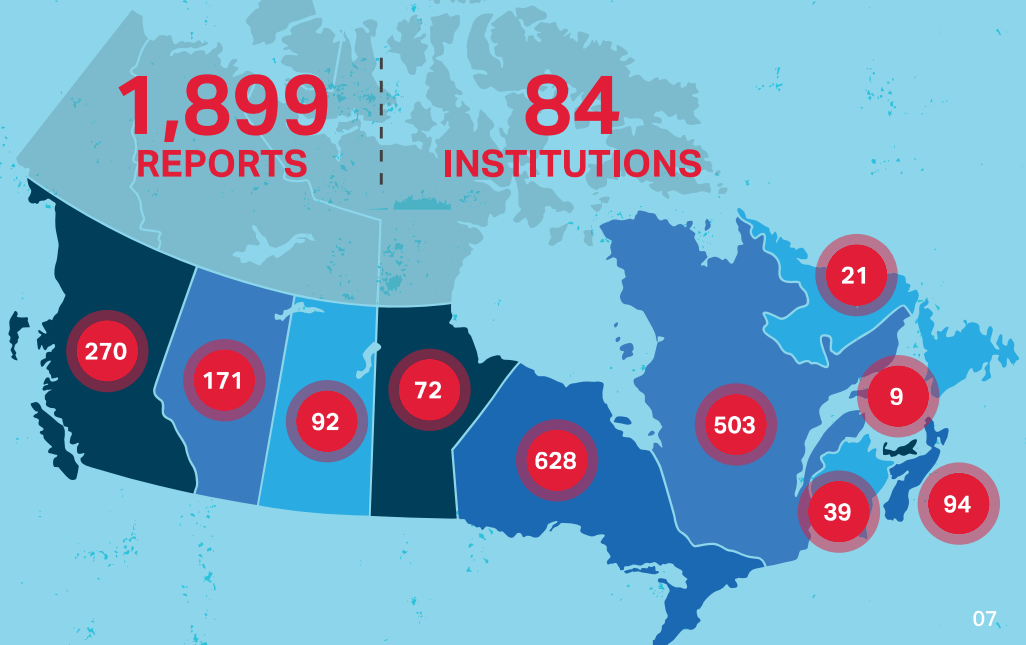
## EXPANDING JOB PROSPECTS

Highly qualified personnel (HQP) who have trained on CFI-funded infrastructure got jobs in various economic sectors.

### Employment in Canada by sector



### COMPOSITION OF THE 2014 SAMPLE





# AT THE FOREFRONT OF HEALTH CARE

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**To forge the future of health care, the Research Institute of the McGill University Health Centre is closing the gaps between biomedical research, clinical medicine and population health**

## **OPENED FEBRUARY 2015**

The Research Institute of the McGill University Health Centre (RI-MUHC) is at the forefront of a transformation happening in modern health care. The complex nature of medical problems like diabetes, cancer and respiratory ailments demands that physicians and nurses work seamlessly alongside researchers to better understand diseases and to more readily leverage discoveries into new diagnostic tools, improved therapies and more strategic approaches to community health. The RI-MUHC is designed to serve this very purpose.

The new state-of-the-art research arm of the MUHC super-hospital in Montréal — funded in



part by the CFI — was created from the research institutes of five hospitals scattered around the city. The facility is made up of three main components: the Centre for Translational Biology, which carries out genetics and epigenetics research to understand the nature of diseases; the McConnell Centre for Innovative Medicine, the only centre in Canada where patients from the hospital can participate directly in clinical trials without having to leave the facility; and the Centre for Outcomes Research and Evaluation, which conducts population research to evaluate and improve the effectiveness of health interventions on society as a whole. Together, these centres will help bridge the gap between biomedical research, clinical medicine and population health.

**“Health research  
is changing  
because society  
has changed.”**



**Vassilios Papadopoulos**, Executive Director,  
Research Institute of the McGill University Health Centre

**“This has great  
potential to turn  
young physicians  
onto doing research,  
which is essential  
for the future.”**



**Basil Petrof**, Program Leader,  
Translational Research in Respiratory Diseases,  
Research Institute of the McGill University Health Centre



# ANIMAL-FEED AFICIONADOS

**The University of Saskatchewan's Canadian Feed Research Centre will make meat, dairy and egg production safer for consumers and more profitable for livestock and grain farmers**

## **OPENED OCTOBER 2014**


You know the old adage, "You are what you eat"? Well, if you include meat, eggs or dairy products in your diet, you may also want to pay attention to what farm animals eat.

That's the thinking behind the Canadian Feed Research Centre (CFRC), a research feed mill in North Battleford, Sask., which is owned by the University of Saskatchewan. The CFRC's mandate is to improve what we feed livestock — for our health as well as a better bottom line for both livestock and grain farmers — and to do it consistently.

Much is at stake, says Tom Scott, who was Research Chair in Feed Processing Technology at the University of Saskatchewan and the centre's academic liaison when the centre opened. Livestock feed represents more than half the cost of producing animal protein for human consumption. And, as Scott points out, even small efficiencies in the most expensive input can make a huge difference in profit for dairy, beef, pork and poultry farmers. Improving how grain is processed into animal feed can also optimize its nutritional value and boost livestock yields.


Most livestock feed is made from grains considered unsuitable for human consumption, such as the meal that remains after oil is extracted from oilseeds and the leftover grain from the production of ethanol. Improving how these ingredients are processed into animal feed can reduce costs for feed-mill operators, says Scott, and can open up new markets for grain farmers and fetch higher prices. "Every year in Canada, we grow 40 million tonnes of wheat and barley," he says, "and on average, 20 percent is damaged due to growing or storage conditions. That becomes feed grain. If we get a frost in August, up to 70 percent of our grain can be damaged. But if we can get more value out of that grain, it increases the demand — including for export — and producers can get better prices."

Livestock feed sales are worth about \$6 billion a year in Canada. The pet-food industry is worth another \$5 billion. "I think we have the capacity to add value to that," says Scott, "to increase the demand for our products."



**"I really believe they are on the doorstep of something great with this centre."**





CFRC researchers will look at several aspects of animal feed to unlock that added value. For example, three important pieces of equipment — a flaking line, a hammer mill and a roller mill — will feature in experiments to reduce grain-particle size, since the smaller the particle, the greater its surface area, making it easier for livestock to digest.

Researchers at the centre will also investigate new ways to improve the quality and consistency of canola meal. Left over after crushing canola for biofuels and edible oils, this high-protein, high-fibre meal has long been an important ingredient in animal feed. But since its nutritional value can be quite variable, canola meal is often underpriced.

The CFRC is the only feed-research facility in the world with both pilot-scale and high-volume commercial processing lines, so when its researchers hit on an important innovation, they can roll it out on a commercial scale.

That's a major consideration for Saskatchewan dairy farmer Jack Ford. Improved feed that can be quickly commercialized will, in turn, help his cows produce milk with higher levels of fat, protein and good microbes, netting him a better return on his investment.

As chair of the research committee of the Saskatchewan Milk Marketing Board, Ford is also keen to see the CFRC develop feed that could meet the standards of a country such as New Zealand, which markets its dairy products around the world. New Zealand's strict regulations on the importation of feed are designed to safeguard against potential contaminants, such as naturally occurring grain fungi. If the centre's researchers can develop processes to reduce the risk of such contaminants to close to zero — and do it consistently — Canadian feed producers and processors could see a significant market open up. "I really believe they are on the doorstep of something great with this centre," says Ford. "Yes, Saskatchewan livestock producers will benefit, but this will also benefit Canada as a whole."

# THE FUTURE OF MANUFACTURING IS ADDING UP

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**Mohawk College's new Additive Manufacturing Resource Centre is introducing students and industry to a transformation in the way we make things**

## **OPENED JANUARY 2015**

A revolutionary shift is taking place in workshops and factories around the world. To understand what's happening, imagine Michelangelo working on his famous sculpture, David. But instead of hammering on a rough block of stone, he's working with a squeeze-tube of mysteriously liquid marble, building up the famous body in precise layers — soles of the feet first, then toes, ankles and on up.

"When a sculptor is chiselling a statue out of a block of stone," explains Tony Thoma, Dean of Engineering Technology at Mohawk College in Hamilton, Ont., "that's the equivalent of 'subtractive' manufacturing. You're leaving a lot of dust and rock on the ground. But with 'additive' manufacturing, you're building something up."

Additive technology is causing a revolution in how we make things — and it's the focus of applied research at Mohawk's Additive Manufacturing Resource Centre (AMRC).

The 1,500-square-foot centre is built around two remarkable machines that fabricate objects layer by layer. Computers in the devices begin by reducing three-dimensional digital models of objects to "slices." Then, slice by slice, thin layers of plastic or metal powder are spread on a plate in the appropriate shape. Lasers melt and harden each powder layer, fusing it with the one below. Because it works somewhat in the same way an inkjet printer works, the process is also called "3-D printing."

The commercial-grade machines at AMRC can print components in a variety of materials, including titanium, stainless steel and plastic. The capacity to print metals in particular makes the centre a valuable real-world test-bed for manufacturers. "The machines," says Thoma, "are similar to ones that General Electric has just purchased to make turbine blades for jet engines."

Additive technology eliminates much of the costly waste of subtractive manufacturing — think of those marble chips in Michelangelo's studio. But more importantly, the slice-by-slice approach can make it much simpler to build objects that would otherwise be tedious and expensive to make, if not impossible.

As one of Thoma's colleagues likes to say: "You can't drill a curved hole, but you can print one."

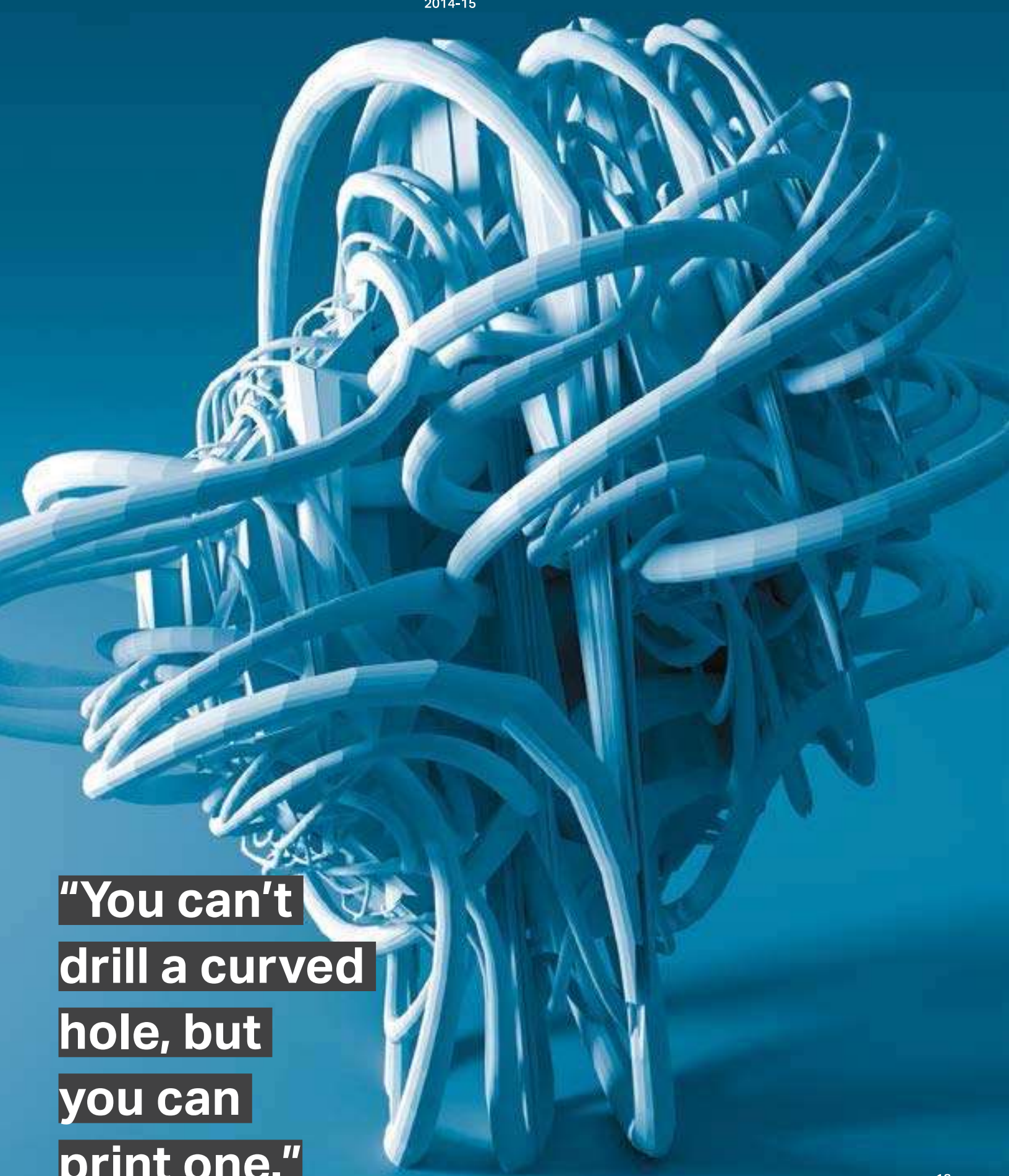
With clever design, 3-D printers can even produce — in a single session — multi-part objects that would otherwise take 15 or 20 steps of casting, machining and assembly. Result: more cost savings and potentially stronger and lighter parts.

The new centre will enable Mohawk to graduate designers and technicians who know how to work with the emerging technology. But the college also wants to expose manufacturers to the ways additive methods can improve quality while reducing costs. The college is partnering with medical researchers to develop sophisticated, one-off parts for robotic cancer biopsy machines, and to apply 3-D printing to the creation of advanced prosthetics.

For now, the biggest implications of additive technology are for manufacturers of complex, high-value components in fields like medicine and aviation. But as the new technology matures and becomes more affordable, Thoma foresees widening applications, just as digital printing on paper has steadily replaced more traditional methods.

He also thinks additive manufacturing will help Canada compete in a global market. "It's going to help us keep the work we've got by lowering costs, and by creating new products that could never have been made before."





**"You can't  
drill a curved  
hole, but  
you can  
print one."**

# GOVERNANCE



**Kevin P. D. Smith**  
Chair



**Louise Proulx**  
Vice-chair



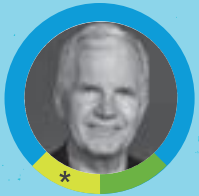
**Margaret Bloodworth**



**Sheila A. Brown**



**Carolyn Cross**



**Albert Friesen**



**Chad Gaffield**  
(resigned August 31, 2014)



**Michel Kelly-Gagnon**



**Rod McInnes**



**Ingrid Pickering**



**John Weissenberger**



**David Fung**  
Co-chair to June 2014



**Roland Hosen**  
Co-chair



**Linda Humphreys**  
Co-chair starting July 2014



**John Anthony Boeckh**



**Harold Cook**



**Sandra Greer**



**Marie-Andrée Mallette**



**Rick Miner**



**Ronald Morrison**



**Heather Munroe-Blum**



**Leigh Murphy**



**Emőke Szathmáry**



**Vianne Timmons**

- Board Directors
- Members
- Audit and Finance Committee
- Investment Committee
- Governance and Nominating Committee
- Members Governance and Nominating Committee
- \* Committee Chair

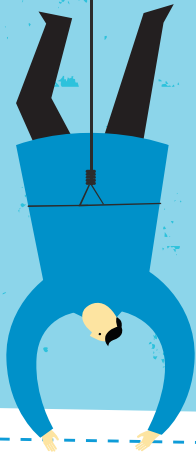
# RANGES OF REMUNERATION



William Driedzic



Gordon F. Stovel

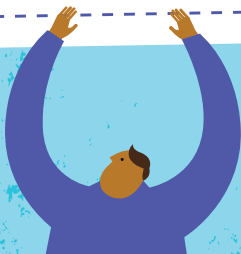


## Board of Directors

The CFI Board of Directors is composed of a maximum of 13 individuals from a variety of backgrounds, each Director offering a unique perspective and understanding of the research community and bringing expertise from one or more of the private, institutional, academic, research and government sectors. The Government of Canada appoints six Directors, including the Chair, while the remaining Directors are appointed by CFI Members. Directors are nominated and appointed for three-year terms.

## Members

The Board of Directors reports to Members — a higher governing body similar to a company's shareholders but representing the Canadian public. Members are nominated and appointed for a five-year term. They meet in June each year and are responsible for appointing up to seven of the Board Directors, appointing external auditors, reviewing audited financial statements and approving the annual report prior to its distribution at the annual public meeting.



## BOARD OF DIRECTORS AND MEMBERS

Directors opting to receive remuneration from the CFI are entitled to an annual retainer of \$5,000. Committee Chairs receive \$7,500, and the Board Chair receives \$10,000. Directors are also entitled to receive a per diem fee of \$750 for attending Board or committee meetings and a \$500 fee for attending a committee meeting associated with a Board meeting. Members are not entitled to any remuneration. Members and Directors may, however, be reimbursed for any reasonable out-of-pocket expenses incurred while performing their duties or attending CFI meetings. In 2014–15, the remuneration of Board Directors ranged from \$0 to \$15,250.

For the fiscal year ending March 31, 2015, compensation for CFI staff whose remuneration exceeded \$100,000 was within the following annual salary ranges:

## CFI MANAGEMENT (OFFICERS)

### Gilles G. Patry

President and CEO  
\$213,700 to \$299,200

### Robert Davidson

Vice-President, Programs and Planning  
\$141,600 to \$196,000

### Manon Harvey

Vice-President, Finance and Corporate Services  
\$141,600 to \$196,000

### Pierre Normand

Vice-President, External Relations and Communications  
\$141,600 to \$196,000

## EMPLOYEES

### Director, Programs

\$112,200 to \$149,700

### Director, Communications

### Director, Corporate Services

### Director, Evaluation and Outcome Assessment

### Director, Finance

\$97,700 to \$130,300

### Manager, Corporate Finance

### Manager, Financial Monitoring

### Manager, John R. Evans Leaders Fund

### Senior Programs Officers

### Senior Advisor, Policy and Planning

\$88,800 to \$118,200

### Manager, Administration

### Manager, Information Management/Information Technology

### Manager, Public Affairs

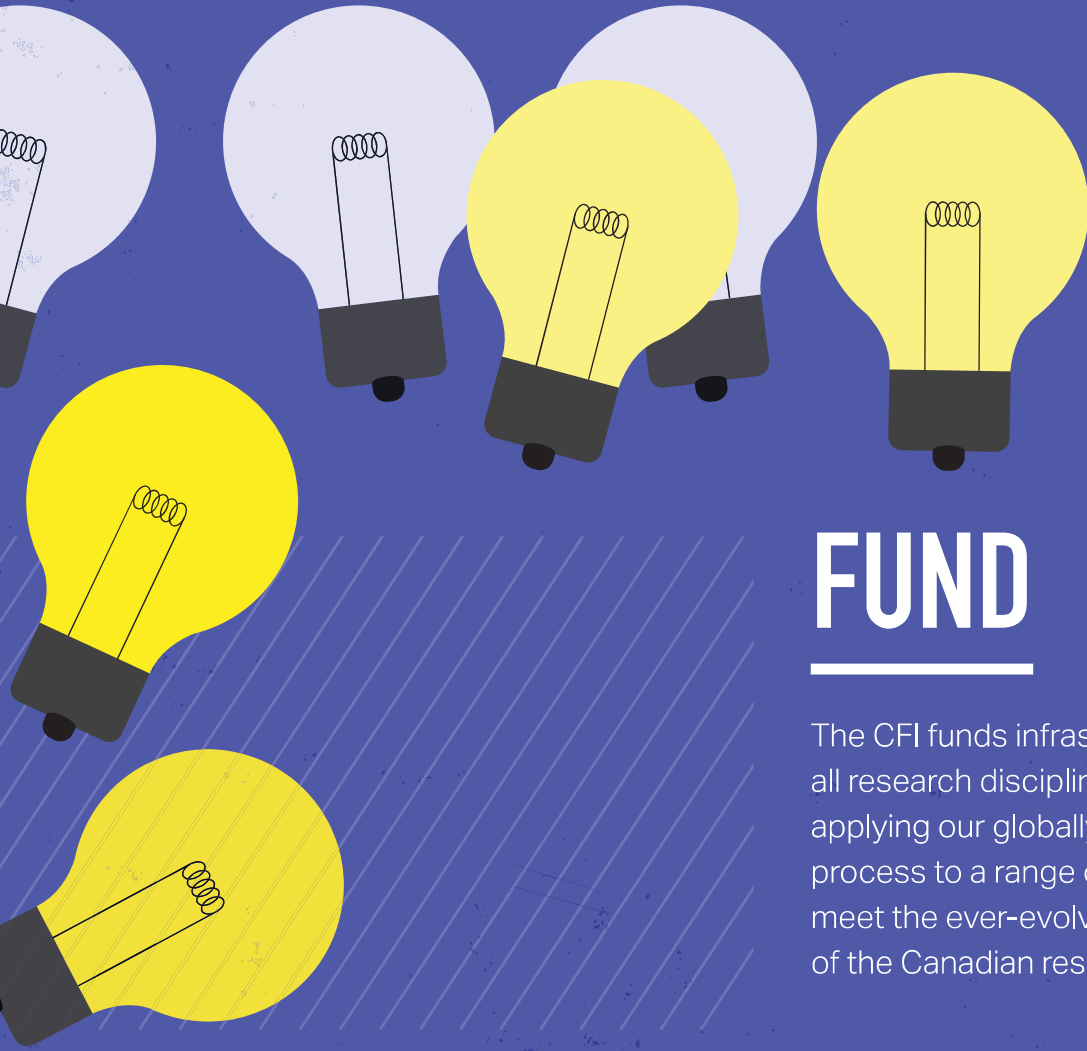
### Senior Evaluation Officer

### Senior Financial Monitoring Officer

\$79,900 to \$106,100







# FUND

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The CFI funds infrastructure projects across all research disciplines. We do this by applying our globally recognized merit-review process to a range of funds, designed to meet the ever-evolving infrastructure needs of the Canadian research community.

## OUR FUNDS

### MAJOR SCIENCE INITIATIVES FUND:

provides unique, large-scale national research facilities with the operating funds necessary to enable them to fully exploit their capabilities.

**INNOVATION FUND:** provides funding for transformative infrastructure projects — across all disciplines and areas of inquiry — that will underpin cutting-edge research and have a structuring effect on Canada’s research landscape.

### JOHN R. EVANS LEADERS FUND:

designed to ensure that institutions have the infrastructure resources necessary to attract and retain top research talent.

### CYBERINFRASTRUCTURE INITIATIVE:

supports Canada’s advanced research computing network through Compute Canada and cutting-edge, domain-specific research data infrastructure projects.

### COLLEGE-INDUSTRY INNOVATION

**FUND:** enhances applied research and technology development capacity in Canada’s colleges and polytechnics. This fund seeks to enhance the capacity of colleges to support business innovation in Canada by providing them with state-of-the-art, industry-relevant research infrastructure to foster partnerships with the private sector in a specific area of strategic priority to the institution. The fund consists of two streams, one of which is jointly administered with the three federal research granting agencies.

### AUTOMOTIVE PARTNERSHIPS CANADA:

provides essential infrastructure support to research institutions for significant collaborative research and development activities that promote innovation in the Canadian automotive industry.

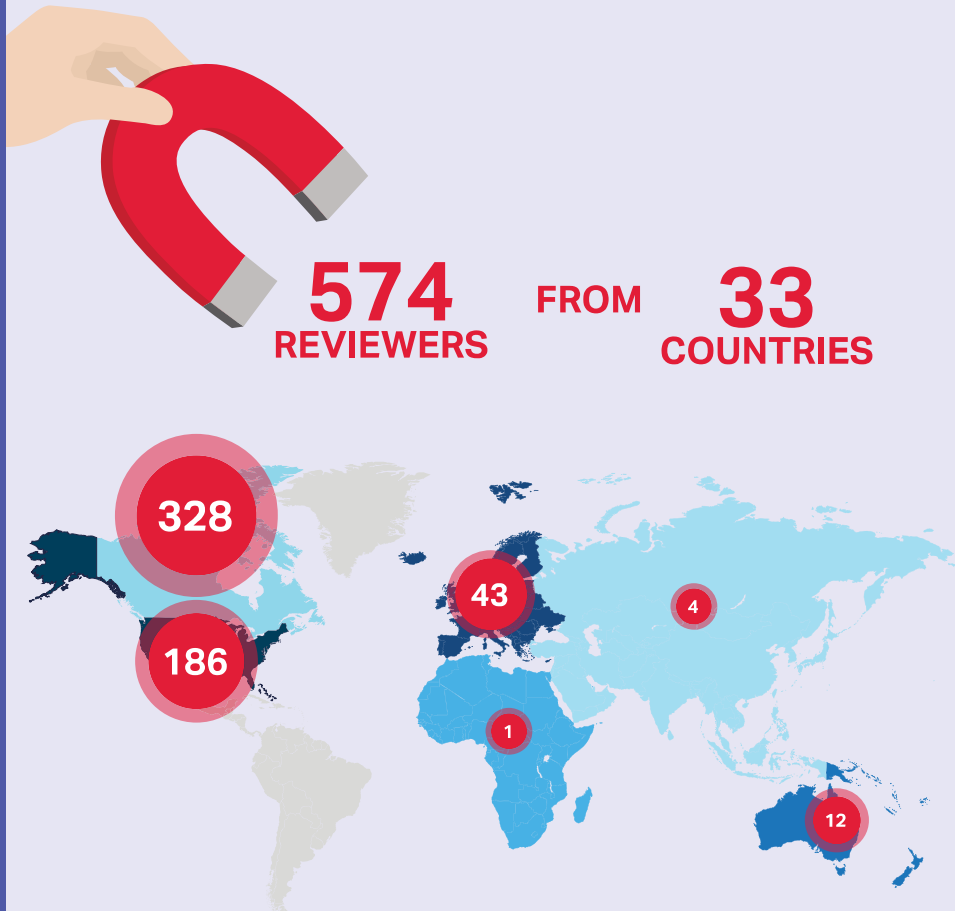
## JOHN R. EVANS LEADERS FUND

In 2014–15 the CFI committed \$51.2 million to 302 projects spanning all disciplines — from health sciences to humanities to engineering — at 55 institutions across Canada through the John R. Evans Leaders Fund. This fund offers institutions the opportunity to acquire cutting-edge infrastructure to support the work of their leading research faculty, and to create competitive research support packages to attract new researchers.

This year’s projects included, for example, the world’s only super-database that matches drug exposure to gestational age, which Anick Bérard, a professor in the faculty of pharmacy at the Université de Montréal, will use to provide crucial insight for pharmaceutical use during pregnancy. And, at McMaster University, business professor Khaled Hassanein is building a state-of-the-art testing lab that will allow him to measure how online shoppers respond to different e-commerce sites.

### By the numbers

In 2014–15, 395 proposals were received for the John R. Evans Leaders Fund (JELF). The Quebec Government led the review of 76 proposals received from the province, and the Canada Research Chair (CRC) Secretariat led the review of 93 proposals to the JELF–CRC partnership fund. To assess the remaining 226 proposals, the CFI recruited 574 reviewers from 33 countries.





## CYBERINFRASTRUCTURE INITIATIVE

The Cyberinfrastructure Initiative was launched to enhance the capacity of Canadian institutions and researchers to conduct leading-edge research in areas of demonstrated strength by supporting the infrastructure needs of data- and computationally-intensive research. In 2014-15, we conducted extensive pan-Canadian consultations with institutions and the research community to define and inform the objectives and guidelines of the initiative. This culminated in the launch of two challenges to the community: one for research data infrastructure and another for the upgrade of the pan-Canadian advanced research computing platform, managed by Compute Canada. Each of the challenges will consist of two competitions; one each in 2015-16 and 2016-17. The CFI received 70 Expressions of Interest for the first research data infrastructure challenge in February 2015.

## COLLEGE-INDUSTRY INNOVATION FUND

Three projects were awarded a total of almost \$1.5 million in 2014-15 through the College-Industry Innovation Fund (CIIF). These projects include work on hazardous industrial waste management, development of food preservation technologies, and enhancing building information modelling applications. In fall 2014, two CIIF competitions were launched, one in each of the two streams of the fund, with an available budget of up to \$10 million.

## AUTOMOTIVE PARTNERSHIPS CANADA

Two Automotive Partnerships Canada proposals with a CFI research infrastructure component were awarded a total of more than \$316,000 in 2014-15 for innovative automotive research. One of the projects funded, at the University of Waterloo, is creating durable automotive suspension components made of magnesium alloys. The second project, at Western University, is developing thermoplastics for automotive applications. This funding program reached the end of its mandate in 2014 and is no longer accepting proposals.

## INFRASTRUCTURE OPERATING FUND

The Infrastructure Operating Fund provides up to 30 percent of CFI capital awards to assist institutions in the operations and maintenance of CFI-funded infrastructure. In 2014-15, we provided \$92.8 million to operate and maintain research infrastructure through this fund.

### Investments in 2014-15



#### INNOVATION FUND

(See page 22)



#### INFRASTRUCTURE OPERATING FUND

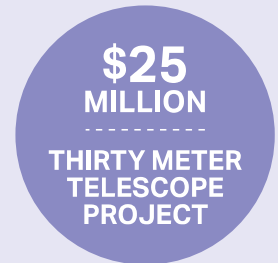


#### JOHN R. EVANS LEADERS FUND



#### MAJOR SCIENCE INITIATIVES FUND

(See page 20)



#### SPECIAL DISBURSEMENT\*



#### COLLEGE-INDUSTRY INNOVATION FUND



#### AUTOMOTIVE PARTNERSHIPS CANADA

\* Announced in the 2015 Federal Budget and authorized by the Government of Canada

# MAJOR LEAGUE SCIENCE

The nine unique research facilities funded under the 2014 Major Science Initiatives special competition will help to ensure Canada remains a world leader in research and innovation

From the complex effects of weather patterns in outer space to the unexplored depths of the ocean to some of our most pressing issues in human health and all the atoms and electrons in between, the nine world-class facilities that received funding from the **2014 MAJOR SCIENCE INITIATIVES SPECIAL COMPETITION** are enabling Canadian and international researchers from multiple institutions and disciplines to explore the world in unprecedented detail.

## FUND

### The Canadian Centre for Electron Microscopy McMaster University

Researchers at the Canadian Centre for Electron Microscopy (CCEM) at McMaster University explore the world at the nano and atomic scale through advanced electron microscopes and sample preparation suites that are unique in Canada and among the best in the world. Among the applications of the work conducted at CCEM, researchers have helped government regulators study materials related to the safe operation of nuclear power plants and contributed to the development of everything from lightweight alloys for cars and artificial bones to tuberculosis detectors and light emitting diodes for efficient, long-lasting light bulbs.

Image: Richardjohnson.ca



### Super Dual Auroral Radar Network University of Saskatchewan

The Super Dual Auroral Radar Network (SuperDARN) is an international network of 10 countries and more than 30 radars worldwide that are used to explore the electrically charged region of the Earth's upper atmosphere, the ionosphere.

It plays a vital role in helping to understand the interaction between solar wind, the Earth's magnetic fields and the ionosphere, and the potential impact on communications satellite operations, utility and power networks, and the accuracy of global air, land and marine navigation systems.

The University of Saskatchewan is the Canadian lead, overseeing five SuperDARN radars located in Saskatchewan, the Northwest Territories, British Columbia and Nunavut, which scan a five-million-square-kilometre area over northern Canada and beyond.

Image: University of Saskatchewan, SuperDARN



### Advanced Laser Light Source Université du Québec, Institut national de la recherche scientifique

At the Advanced Laser Light Source (ALLS) in suburban Montréal, researchers address fundamental questions of physics and chemistry using high-power femtosecond lasers to explore materials on an ultrashort time scale (1 femtosecond = 0.000 000 000 000 001 second).

“Complex experiments can be conducted at ALLS that are not possible in any other Canadian laboratory,” says ALLS Director François Légaré. The high-power femtosecond lasers allow researchers to create real-time, dynamic images to track the incredibly high-speed movements of atoms and electrons. “Think of your eyes, for example, which can track a man running but they cannot see the four legs of a horse leaving the ground when the horse is running,” says Légaré. “That requires a faster resolution.”

Image: Université du Québec, Institut national de la recherche scientifique



## MAJOR SCIENCE INITIATIVES FUND

The Major Science Initiatives (MSI) Fund was launched in 2010 to enable unique, large-scale national research facilities to fully exploit their research capabilities by contributing to their operating and maintenance (O&M) costs for a five-year period ending in 2017. In March 2012, the CFI Board approved investments in four projects: the Canadian Light Source at the University of Saskatchewan; Compute Canada; SNOLAB in Sudbury, Ont.; and Ocean Networks Canada in Victoria, B.C. In 2014, all but the Compute Canada initiative (which will be reviewed in May 2015) underwent a mid-term review. This review aims to assess the scientific excellence of the research activities enabled by the facility, as well as its organizational and operational effectiveness, and to monitor and measure progress and provide recommendations for best practices of management and governance. As a result, the CFI Board approved continuing O&M support for all three projects for the final two years of the MSI funding (2015–16 and 2016–17).

In order to secure and strengthen additional unique national research facilities that support world-class research, the loss of which would represent a serious setback for Canada, a special competition for the MSI Fund was held in 2014. In November, the CFI Board of Directors approved \$25 million to support the operating and maintenance costs of nine additional facilities from across Canada.

### The projects funded under the 2014 Major Science Initiatives special competition were:

**Canadian Research Icebreaker CCGS Amundsen**  
Université Laval

**Plateforme de recherche en sciences humaines  
et sociales, Érudit.org**  
Université de Montréal

**Biodiversity Institute of Ontario**  
University of Guelph

**Toronto Centre for Phenogenomics**  
Mount Sinai Hospital and The Hospital for Sick Children

**NCIC Clinical Trials Group Central Operations  
and Statistics Office**  
Queen’s University

**Canadian Scientific Submersible Facility**  
University of Alberta

**The Canadian Centre for Electron Microscopy**  
McMaster University

**Advanced Laser Light Source**  
Université du Québec, Institut national  
de la recherche scientifique

**Super Dual Auroral Radar Network**  
University of Saskatchewan

# REAPING THE REWARDS

## The projects supported by the 2015 Innovation Fund form the vanguard of Canadian research

The projects funded under the **2015 INNOVATION FUND** endeavour to position the country as a global leader in a field of research, from outer space to the surgeon's table to our interconnected day-to-day world.

The state-of-the-art infrastructure funded will transform the Canadian research landscape; the work it supports will propel Canadian research towards the leading edge.

Here are a few examples:

## FUND

### Keeping Canada at the frontier of particle physics

**Carleton University in collaboration with McGill University, Simon Fraser University and University of Victoria**

Upgrades to the ATLAS detector — the scientific apparatus that enabled the 2012 discovery of the Higgs Boson by the Large Hadron Collider at the European Laboratory for Particle Physics (CERN) in Switzerland — will keep Canada at the forefront of particle physics. To probe new questions in this field, physicists plan to crank up the capabilities of CERN's particle accelerators, and ATLAS needs an upgrade to keep up. The Canadian ATLAS research team will develop new electronic and detector components that will allow ATLAS to filter, in real-time, the billions of collisions happening every second inside the collider and retain just 1,000 events each second for later analysis. In this way, the events being recorded will allow researchers to search for new phenomena and improve our understanding of known particles.

Image: CERN

### The science of the art of music

**McGill University in collaboration with Université de Montréal**

The sound isolated Multimedia Room at McGill University's Schulich School of Music can simulate the acoustics of just about any performance venue in the world. The Salle Claude Champagne at the Université de Montréal is a superb concert hall. These two exceptional spaces will be transformed into the world's leading facility for studying live performance, movement of sound in space, and distributed performance in which members of an ensemble are geographically separated, but performing simultaneously. Both spaces will be retrofitted with equipment to measure and manipulate acoustics and a grid of cameras and microphones to monitor reactions of performers and audience members. In these two interconnected spaces, neuroscientists can study how large numbers of performers coordinate their actions and the factors that lead listeners to perceive the sounds of different instruments as blended or distinct in orchestral works.

Image: Salle Claude Champagne, Andrew Dobrowolskyj

### Healing hearts, livers and lungs for transplant

**The University Health Network's Organ Repair Laboratory**

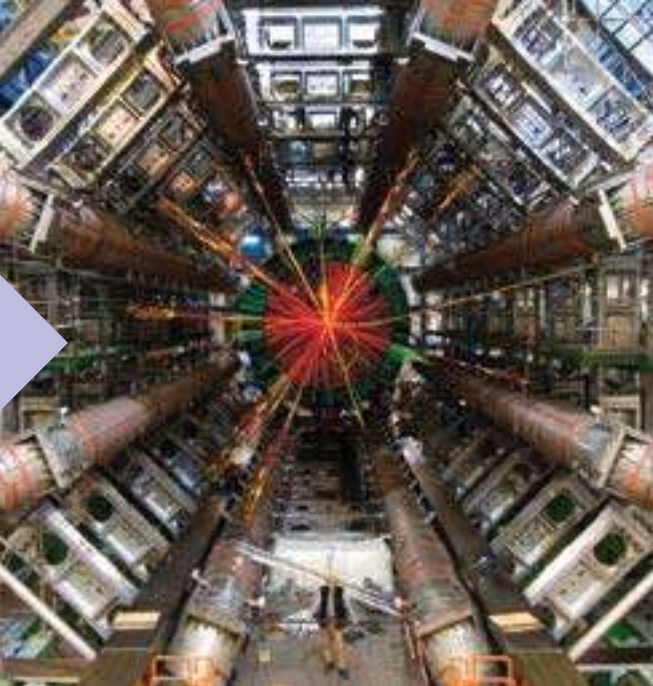
In Canada and around the world, wait lists for organ transplants are often years long and three quarters of donated organs can't be used because the disease or trauma that caused death often also damaged organs. But what if damaged hearts and livers could be healed outside the human body in order to become suitable for transplantation?

The Organ Repair Laboratory at Toronto General Hospital (part of the University Health Network) is the first in the world to do just that. Since 2008, upwards of 150 human lungs have been repaired using the Toronto General's Ex Vivo Lung Perfusion System, which is essentially an incubator that provides lungs with life support including air and nutrients to keep them alive outside of the body while they repair. It also allows surgeons a protective environment to test the organs to determine if they are ready to be transplanted.

This capability will be expanded to hearts and livers in the new lab and the concept could eventually be applied to all organs including pancreases and kidneys.

Image: Shaf Keshavjee, UHN





## INNOVATION FUND

In March 2015, the CFI Board of Directors approved \$259 million from the Innovation Fund to support 87 projects at 52 institutions. The competition, launched in January 2014, involved 305 proposals, requesting more than \$819 million for an available competition budget of \$250 million. The selection process involved three stages of merit-review.

Under the theme “Striving for global leadership and reaping the benefits,” the projects funded through the 2015 Innovation Fund support promising and innovative directions in research or technology development in areas where Canada is currently, or has the potential to be, competitive on the global stage. These initiatives allow institutions and their researchers to build on and enhance an emerging strategic priority area, accelerate current research and technology development work, or take established capabilities to a globally competitive level.

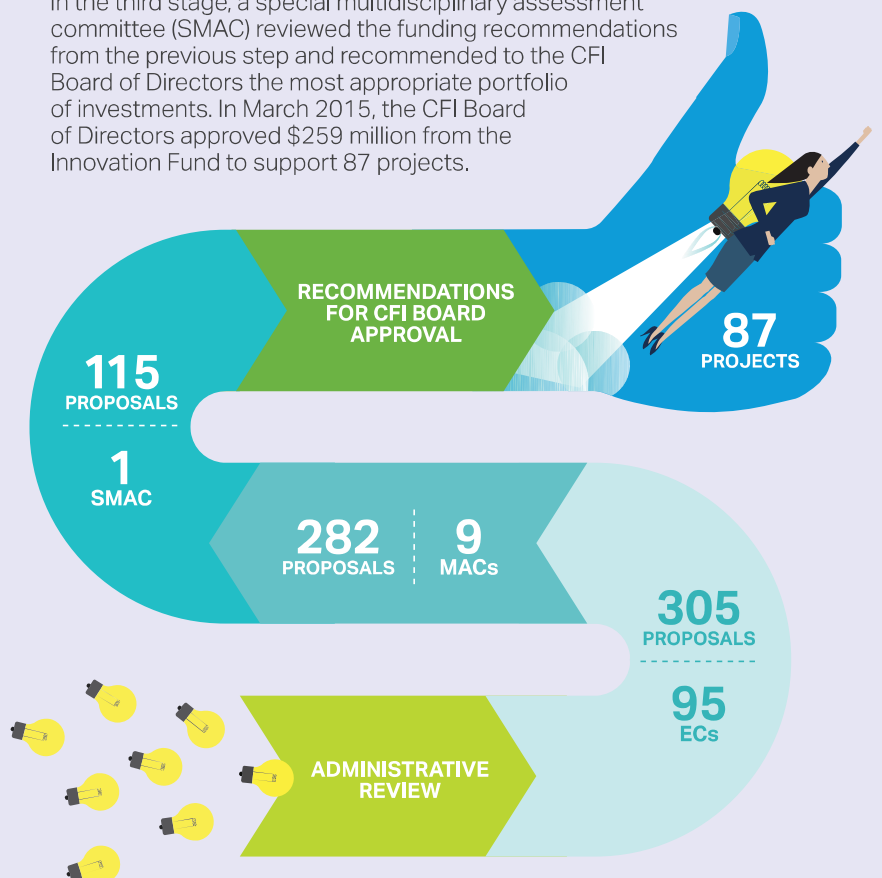
### The Innovation Fund’s merit-review process

Each of the three stages of the 2015 Innovation Fund merit-review process built on the activities and results of the previous stage.

First, 61 expert committees (ECs) conducted initial assessments of the 305 proposals received. Proposals received from Quebec institutions were reviewed by 34 expert committees convened by the Fonds de recherche du Québec; this step narrowed the proposals to just 282.

Next, nine multidisciplinary assessment committees (MACs) reviewed proposals of similar size and scope and made recommendations for funding those that best met the competition objectives.

In the third stage, a special multidisciplinary assessment committee (SMAC) reviewed the funding recommendations from the previous step and recommended to the CFI Board of Directors the most appropriate portfolio of investments. In March 2015, the CFI Board of Directors approved \$259 million from the Innovation Fund to support 87 projects.



EVALUATE





# EVALUATE

The CFI maximizes efficient and effective program design and implementation, and ensures that it remains accountable to its stakeholders by supporting, tracking, analyzing and reporting on corporate performance. We also track and evaluate the performance and impact of funded research infrastructure projects.

## ASSESSMENT APPROACHES

### PROJECT PROGRESS REPORTS:

progress reports completed by CFI project leaders each year for up to five years on their funded infrastructure project.

### OVERALL PERFORMANCE EVALUATION AND VALUE-FOR-MONEY AUDIT:

an independent third-party evaluation and audit carried out at least every five years as part of the CFI's funding agreement with the Government of Canada, to examine the effectiveness and efficiency of the CFI in delivering on its mandate.

### PERFORMANCE, EVALUATION, RISK AND AUDIT FRAMEWORK:

inspired by the Treasury Board Secretariat's guidelines for developing performance measurement strategies. It serves as a guide for how the organization manages risk and tracks and assesses its performance.

### PLATFORM OUTCOME MEASUREMENT

**STUDY:** assesses the outcomes of major specialized or multi-purpose research infrastructure that enables advanced research and supports the development of research capacity of a broad, geographically distributed community of users.

Visit [Innovation.ca](http://Innovation.ca) for more about performance and evaluation at CFI.



## TRANSPARENCY IN HOW WE OPERATE

In 2014–15, an independent review of the CFI's performance was conducted, culminating in an *Overall performance evaluation and value-for-money audit* of the CFI. The performance evaluation found that CFI programs are responsive to changing priorities in Canada's research landscape yet remain anchored in the organization's core mandate and focus on excellence. It also confirmed that the CFI continues to build on its past successes and is meeting the expected results of its 2010 funding agreement. The report recognized that the country's research community relies on — and will continue to rely on — CFI support.

According to the value-for-money audit, the CFI is a “robust and mature” organization that fulfils its duty in an economical and effective manner. Both the performance evaluation and the audit conclude the CFI operates in an efficient manner and uses government funds appropriately.

The CFI also refreshed and updated its *Performance, evaluation, risk and audit framework*. As part of this process, we revisited our organizational risks and the strategies we have put in place to mitigate them, and streamlined and simplified our performance framework.

## TAKING STOCK OF THE IMPACT OF OUR INVESTMENTS

In 2014–15, we completed our second *Platform outcome measurement study*, which looked at the research icebreaker, Canadian Coast Guard Ship *Amundsen*. In 2003, the CFI helped fund the retrofit of the icebreaker, transforming it into the country's only dedicated research vessel outfitted with state-of-the-art labs and equipment. We convened an international panel of experts to the icebreaker in Quebec City in November 2014.

The panel concluded that “the *Amundsen* platform is enabling science of the highest international quality and is facilitating the translation and application of new knowledge to address societal issues of major consequence for the Arctic regions of Canada and for other Arctic settings.”

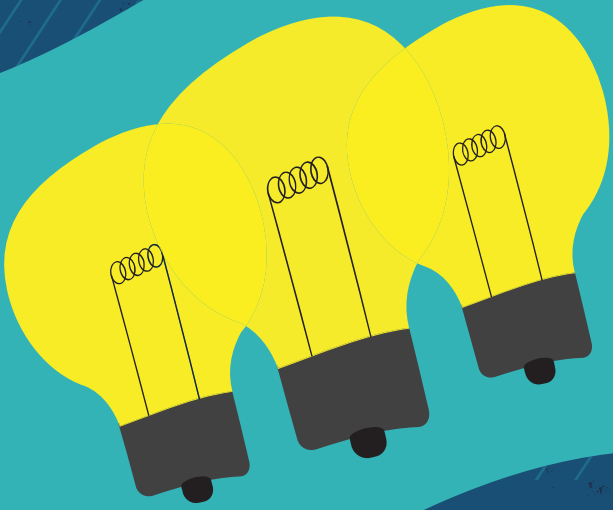
They also observed that “the *Amundsen* research program has had a major impact on the productivity, reach and influence of Canadian Arctic science as shown by the strong publication record and by the seminal papers produced on such topics as sea ice and ecological research in the Beaufort Sea.”





**"The *Amundsen*  
platform is  
enabling science  
of the highest  
international  
quality."**

COMMUNICATE



# COMMUNICATE

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By telling the stories of the research the CFI enables, from how genomics is helping get to the root causes of autism, to new insights into how technology in the classroom is changing the way we teach the youngest among us, to how CFI-funded infrastructure is helping uncover answers to the most fundamental questions about our universe; by holding events to celebrate new investments and new labs and facilities; and by weighing in on issues of importance to the research community through timely commentaries, the CFI ensures Canadians know the impact it has had on Canadian research, and how that research affects their lives.



## BY THE NUMBERS



2,150

new Twitter followers



1,991

retweets



93

new profiles listed on the Navigator



47

stories written



42

videos produced



40

events



20

podcasts created



7

commentaries published

## THE NAVIGATOR

The CFI Research Facilities Navigator, launched in November 2013, is an online database of research labs and facilities in Canadian universities, colleges and research hospitals that are open to working with business. It offers institutions a way to promote their research capabilities to the private and public sectors and helps companies find research facilities that have the equipment and expertise they can access to grow their business and stay competitive.

The Navigator is helping to make connections. The Additive Manufacturing Resource Centre at Hamilton's Mohawk College, for example, has received about a dozen inquiries since it joined the Navigator from companies seeking their 3-D prototyping infrastructure and expertise.

In 2014-15, 93 new listings were added to the Navigator, bringing the total to 448 listings representing 77 institutions.

Image: Additive Manufacturing Resource Centre, Mohawk College

## CONNECTING BUSINESS TO RESEARCH

On November 17, 2014, the CFI and Senator Kelvin Ogilvie co-hosted "Connecting Business to Research," an event on Parliament Hill. The gathering showcased successful collaborations between business and research happening in state-of-the-art facilities across the country, like the one between Emily Carr University of Art + Design and Vancouver-based Rayne Longboards. The company used the university's 3-D printing studios to design, 3-D print, cast and road-test new high-performance skateboard wheels that are easier to customize and are dramatically less expensive to tool than most other wheels on the market. Members of the parliamentary community engaged with researchers and their private-sector partners, helping raise awareness of the tangible economic outcomes of the research supported by the Government of Canada.

Left to right: Ed Holder, Minister of State (Science and Technology); Graham Buksa, Rayne Longboards; Gilles Patry, CEO of CFI. Image: Alexandre Brault

## EVENTS

The CFI organized three national funding announcements, including events at McMaster University in Hamilton in April 2014 and at the University of Saskatchewan in January 2015, announcing funding from the John R. Evans Leaders Fund, as well as one at Université Laval in January 2015, announcing the results of the 2014 Major Science Initiatives special competition.

In addition, we participated in five joint funding announcements with the Natural Sciences and Engineering Research Council, and attended 18 openings and inaugurations of CFI-funded facilities across Canada.

In December 2014, Heather Munroe-Blum (right), Chair of the Canada Pension Plan Investment Board, former Principal and Vice-Chancellor of McGill University, and a Member of the CFI, spoke at the CFI's annual public meeting in Ottawa on the subject, "What can we do better to deliver prosperity to Canadians over the next 150 years?"





## A VOICE FOR RESEARCH

The CFI was active in the research and innovation discourse in Canada over the past year, with commentary by Gilles Patry, President and CEO of the CFI, appearing in publications across the country. Among the pieces published was one that appeared in the *Toronto Star* in May, which argued that unprecedented pressure on aging urban infrastructure, from changing weather patterns to demographics, means the technologies of past decades simply won't cut it in the 21st century. The problem demands increasingly innovative and cost-effective solutions that universities and colleges across the country are developing.

In October, the *Ottawa Citizen* published a commentary by Patry arguing that when we talk about research in Canada, we must look beyond the negative narratives that so often make the headlines so we don't lose sight of all the ground we have gained. If we allow that to happen, we put at stake public support for the kind of research funding that will continue to propel Canadian science and technology even further forward.



# MANAGE

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Once we disburse funds to an institution, we have a responsibility to oversee how that money is spent. To do this, we have adopted a risk-based approach, which means that the nature and extent of our oversight activities are tailored to the risks facing each institution and project. Since the CFI was created, recipient institutions have constantly improved their practices for the administration of CFI awards. When visiting institutions, we have seen that they maintain adequate policies, practices, processes and controls. In addition, adjustments are rarely required as a result of our audit activities. These results are reflective of strong institutional practices.





## OVERSIGHT ACTIVITIES

**MONITORING VISITS:** conducted at recipient institutions, where their policies, practices, processes and controls are discussed and evidence is reviewed in order to assess how adequately they manage CFI-funded projects.

### CONTRIBUTION AUDITS AND OTHER

**COST REVIEWS:** undertaken to ensure that the funding received by an institution for a given project has been used in accordance with the agreed-upon terms and conditions of the award agreement for that project and with applicable CFI policies and guidelines.

**FINANCIAL REPORTS:** must be submitted by institutions for each CFI-funded project at specific intervals, based on the complexity and risk of each project.



## INVESTMENT PLAN

We continue to invest the funds entrusted by the Government of Canada in accordance with our investment strategy and investment policy, the principal objective of which is the preservation of capital to meet future cash requirements. The CFI's investment strategy and investment policy were both reviewed in the fall of 2014 by the CFI Investment Committee. This Board of Directors committee is charged with overseeing the management and investment of CFI funds.

The CFI's declining investment balance and related investment income are reflective of disbursements to institutions and the multi-year funding model used to transfer funds to the CFI. Previously, the Government of Canada provided federal funding in single lump-sum payments; since 2006, funding is provided in annual installments based on the estimated cash requirements for the year.

## MONITORING VISITS

Using a risk-based approach, we select which institutions are subject to a monitoring visit in a given year. This year, we conducted three monitoring visits where we reviewed the institutions' policies, practices, processes and controls. We also shared good practices used by recipient institutions for the management of CFI funds, and highlighted opportunities where the institutions could increase efficiency and reduce administrative burden. The feedback obtained from institutions during these visits also helps us ensure that our policies, guidelines and expectations are clear and adequate.

## CONTRIBUTION AUDITS AND OTHER COST REVIEWS

A risk-based approach is also used to select which projects will be audited. We performed 12 contribution audits or other cost reviews in 2014-15. All projects with a CFI contribution exceeding \$10 million are automatically subject to an audit. The risk of a project determines the scope, nature and extent of the audit activities.

## FINANCIAL REPORTS

This year we received 1,063 financial reports from recipient institutions. These reports provide information on individual project costs, funding and timelines for the acquisition of the infrastructure. The frequency of financial report submissions ranges from quarterly reporting to reporting every two years, based on the complexity and risk of each project. We reviewed each of these financial reports to identify and address any issues.



## FINANCIAL HIGHLIGHTS

For the year ending March 31, 2015, our disbursements to eligible recipients remained high totalling \$389.3 million, only slightly less than the previous year when they totalled \$406.9 million. Operating expenses totalled \$14.8 million, up from \$13 million the previous year, which reflects the high volume of competitions and their proposal review activities. Our ratio of operating expenses as a percentage of annual disbursements to recipient institutions remained low at 3.8 percent in fiscal 2014-15, and cumulatively now stands at 3.1 percent since the CFI was created in 1997.

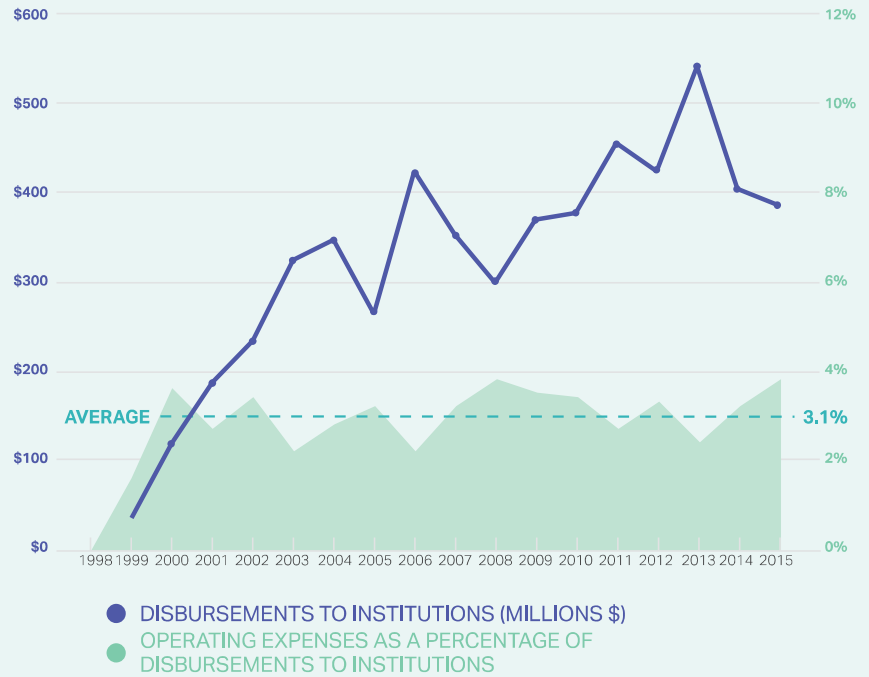
In 2014-15, the CFI approved grants for a maximum amount of \$455.4 million. Disbursements related to these grants will take place in future years as projects are implemented.

Since it began, the CFI has approved grants for a maximum amount of \$6.5 billion. CFI contributions, along with those from institutions and their partners, have resulted in an investment of approximately \$15.4 billion in research infrastructure.

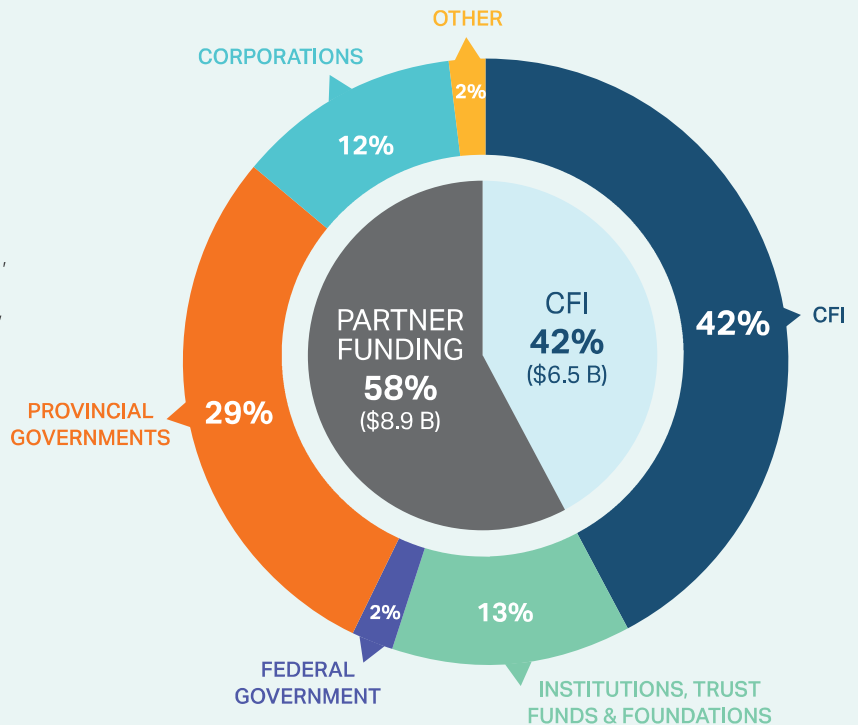
As at March 31, 2015, a total of \$699.3 million remains as deferred contributions related to expenses of future years. This amount is available for the purpose of making disbursements in subsequent years for CFI operations and for approved projects.

In 2014-15, the CFI received \$168.2 million in grants from the Government of Canada. As at March 31, 2015, the Government of Canada had committed \$5.49 billion in grants to the CFI, of which \$4.77 billion has been received. The balance will be received in future years, based on annual cash requirements.

**Annual disbursements to institutions and operating expenses as a percentage of disbursements (as of March 31, 2015)**



**CFI contributions and other funding sources: Total \$15.4 billion (as of March 31, 2015)**





# FINANCIAL STATEMENTS

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As at March 31, 2015



## INDEPENDENT AUDITOR'S REPORT

To the Members of the  
**Canada Foundation for Innovation,**

We have audited the accompanying financial statements of the **Canada Foundation for Innovation**, which comprise the statement of financial position as at March 31, 2015 and the statements of operations and of cash flows for the year then ended and a summary of significant accounting policies and other explanatory information.

### **Management's responsibility for the financial statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards for government not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

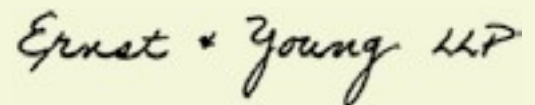
We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Opinion**

In our opinion, the financial statements present fairly, in all material respects, the financial position of the **Canada Foundation for Innovation** as at March 31, 2015 and the results of its operations and its cash flows for the year then ended in accordance with Canadian public sector accounting standards for government not-for-profit organizations.

### **Other Matters**

The financial statements of the **Canada Foundation for Innovation** for the year ended March 31, 2014 were audited by another auditor who expressed an unmodified opinion on those statements on June 17, 2014.



Ottawa, Canada  
June 16, 2015

Chartered Professional Accountants  
Licensed Public Accountants

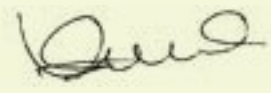


**STATEMENT OF FINANCIAL POSITION**

as at March 31

	<b>2015</b>	2014
	\$	\$
<b>ASSETS</b>		
<b>Current</b>		
Cash	<b>15,146,132</b>	20,008,662
Interest and other receivables	<b>4,842,113</b>	5,501,538
Investments (note 4)	<b>680,044,912</b>	893,239,892
Prepaid expenses	<b>216,148</b>	248,471
<b>Total current assets</b>	<b>700,249,305</b>	918,998,563
Capital assets (note 5)	<b>4,583,139</b>	4,647,174
<b>TOTAL ASSETS</b>	<b>704,832,444</b>	923,645,737
<b>LIABILITIES AND NET ASSETS</b>		
<b>Current</b>		
Accounts payable and accrued liabilities	<b>830,705</b>	961,639
Deferred lease inducement (note 6)	<b>43,051</b>	75,339
European Research Area - Canada project deposits	<b>—</b>	22,359
<b>Total current liabilities</b>	<b>873,756</b>	1,059,337
Deferred contributions (note 7)		
Expenses of future years	<b>699,375,549</b>	917,939,226
Capital assets	<b>4,583,139</b>	4,647,174
<b>Total liabilities</b>	<b>704,832,444</b>	923,645,737
Commitments (note 8)		
<b>Net assets (note 9)</b>	<b>—</b>	—
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b>704,832,444</b>	923,645,737

See accompanying notes

**ON BEHALF OF THE BOARD:**


Director



Director

**STATEMENT OF OPERATIONS**

Year ended March 31

	<b>2015</b>	2014
	<u>\$</u>	<u>\$</u>
<b>REVENUE</b> <i>(note 7)</i>		
Recognition of deferred contributions related to amounts granted to eligible recipients	<b>389,312,812</b>	406,899,214
Recognition of deferred contributions related to current year operations	<b>13,972,079</b>	12,306,370
Amortization of deferred contributions related to capital assets	<b>790,570</b>	678,408
	<u><b>404,075,461</b></u>	<u>419,883,992</u>
<b>EXPENSES</b>		
Grants to eligible recipients	<b>389,312,812</b>	406,899,214
General and administration	<b>13,972,079</b>	12,306,370
Amortization of capital assets	<b>790,570</b>	678,408
	<u><b>404,075,461</b></u>	<u>419,883,992</u>
<b>EXCESS OF REVENUE OVER EXPENSES</b>	<u><b>—</b></u>	<u><b>—</b></u>

See accompanying notes

**STATEMENT OF CASH FLOW**

Year ended March 31

	<b>2015</b>	2014
	<b>\$</b>	\$
<b>OPERATING ACTIVITIES</b>		
Net income (loss) for the year	—	—
Add (deduct) items not involving cash		
Amortization of capital assets	<b>790,570</b>	678,408
Amortization of deferred contributions related to capital assets	<b>(790,570)</b>	(678,408)
Net increase in amortization of discount/premium on investments	<b>4,993,000</b>	901,796
Net decrease in deferred contributions related to expenses of future years	<b>(386,763,677)</b>	(398,132,608)
	<b>(381,770,677)</b>	(397,230,812)
Net change in non-cash working capital balances related to operations ( <i>note 11</i> )	<b>506,167</b>	5,341,302
	<b>(381,264,510)</b>	(391,889,510)
Capital		
Purchase of capital assets	<b>(726,535)</b>	(1,164,908)
Increase in deferred contributions related to capital assets	<b>726,535</b>	1,164,908
	—	—
<b>INVESTING ACTIVITIES</b>		
Purchase of investments	<b>(1,238,911,289)</b>	(864,484,003)
Proceeds on disposal of investment	<b>1,447,113,269</b>	1,190,628,523
	<b>208,201,980</b>	326,144,520
<b>FINANCING ACTIVITIES</b>		
Grants received ( <i>note 7</i> )	<b>168,200,000</b>	85,300,000
	<b>168,200,000</b>	85,300,000
<b>Net increase (decrease) in cash during the year</b>	<b>(4,862,530)</b>	19,555,010
Cash, beginning of year	<b>20,008,662</b>	453,652
<b>Cash, end of year</b>	<b>15,146,132</b>	20,008,662

See accompanying notes

## NOTES TO FINANCIAL STATEMENTS

March 31, 2015

### 1. Description of business

The Canada Foundation for Innovation (CFI) was incorporated on April 25, 1997, under Part 1 of the Budget Implementation Act, 1997 (Act) for the purpose of making research infrastructure grants to Canadian universities, colleges, hospitals and non-profit research institutions to increase the capability for conducting high-quality research.

Grants received from the Government of Canada and related investment income are administered and invested in accordance with the requirements of the Act and the terms and conditions of the Funding and the Contribution Agreements between the CFI and the Government of Canada.

The CFI is a non-taxable entity under paragraph 149(1) I) of the *Income Tax Act* (Canada).

### 2. Summary of significant accounting policies

The financial statements have been prepared by management in accordance with Canadian public sector accounting standards for government not-for-profit organizations and include the following significant accounting policies:

#### Revenue recognition

The CFI follows the deferral method of accounting for contributions that include grants from the Government of Canada and potential donations from other sources.

Externally restricted contributions and related investment income are deferred and recognized as revenue in the year in which the underlying expenditures are incurred. A receivable is recognized if the amount to be received can be reasonably estimated and collection is reasonably assured.

Externally restricted contributions applied toward the purchase of capital assets are deferred and amortized to revenue on a straight-line basis, at a rate corresponding with the amortization rate for the related capital assets.

#### Grants to eligible recipients

Grants to eligible recipients are recognized as expenses as the disbursements of funds are authorized by management, and all eligibility criteria are met.

#### Investments

Investments are measured at amortized cost using the effective interest method of amortization. Purchases of investments are recorded on the settlement date.

#### Financial instruments

The CFI records interest and other receivables and accounts payable and accrued liabilities at amortized cost using the effective interest method of amortization. Cash is measured at fair value.

#### Capital assets

Purchased capital assets are recorded at cost while contributed capital assets, if any, are recorded at fair value at the date of contribution. Repairs and maintenance costs are charged to expense. When a capital asset no longer contributes to the CFI's ability to provide services, its carrying amount is written down to its residual value.

Capital assets are amortized on a straight-line basis using the following annual rates and terms:

<b>Leasehold improvements</b>	<b>term of the lease</b>
<b>Furniture and other equipment</b>	<b>5 years</b>
<b>Computers and software</b>	<b>3-5 years</b>
<b>Awards management system</b>	<b>remaining months to March 2021</b>

Development costs for the CFI awards management system are capitalized and amortized when the new functionalities become operational. Development costs are comprised mainly of professional services.



**Use of estimates**

The preparation of these financial statements requires CFI's management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the period. Actual results could differ from these estimates. These estimates are reviewed periodically and, as adjustments become necessary, they are reported in the periods in which they become known. The most significant estimates used in preparing these financial statements include assumptions used in determining the collectability of accounts receivable, the estimated useful lives of capital assets and the amount of accrued liabilities.

**3. Capital management**

In managing capital, the CFI focuses on liquid resources available for operations and to be disbursed to eligible recipients. The CFI's objective is to have sufficient liquid resources to continue operating in accordance with the Funding and the Contribution Agreements between the CFI and the Government of Canada, despite adverse events with financial consequences, and to provide it with the flexibility to take advantage of opportunities that will advance its purposes. The need for sufficient liquid resources is considered in the preparation of an annual corporate plan, including long-term cash flow projections and budget. Disbursements to eligible recipients and actual operating results are monitored and compared to the cash flow projections to ensure availability of sufficient liquid resources. As at March 31, 2015, the CFI has met its objective of having sufficient liquid resources to meet its current obligations.

**4. Investments**

Investments comprise the following financial instruments:

	2015		2014	
	Fair value	Carrying value	Fair value	Carrying value
	\$	\$	\$	\$
Money market funds	166,227,842	166,228,185	198,265,408	198,272,854
Bonds	273,598,968	268,795,643	323,577,252	318,944,066
NHA mortgage-backed securities	245,724,357	245,021,084	377,564,655	376,022,972
	<b>685,551,167</b>	<b>680,044,912</b>	899,407,315	893,239,892

**Fair value hierarchy**

Financial instruments are grouped into Levels 1 to 3 based on the degree to which fair value is observable:

- **Level 1** fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- **Level 2** fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices); and
- **Level 3** fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The fair value hierarchy requires the use of observable market inputs whenever such inputs exist. A financial instrument is classified to the lowest level of hierarchy for which a significant input has been considered in measuring fair value.

The financial instrument recorded on the Statement of financial position at fair value is composed of cash and is listed as Level 1.

**Market risk***Interest rate risk*

Interest rate risk arises when the value of an investment fluctuates due to changes in market interest rates.

For the year ended March 31, 2015, if the interest rates in bonds had a 1% increase or decrease with all other variables held constant, the increase or decrease in the interest earned for the year would have been approximately \$3.4 million [2014 – \$5.1 million]. The increase or decrease in the interest rate was not calculated for NHA mortgage-backed securities.

*Price risk*

Price risk is the risk that the fair value of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk), whether those changes are caused by factors specific to an individual financial instrument or its issuer, or factors affecting all similar securities traded in the market.

As at March 31, 2015, a 1% increase in market price would result in an increase of the fair value for investments of approximately \$7 million [2014 – \$9 million].

The CFI's grant commitments do not exceed the total of its investments, related investment income, and grants committed from the government that will be received in future years. The timing of investment maturities is matched to projected cash outflows. The degree of volatility is mitigated by the CFI's policy that it will not invest in shares, warrants or other equities, convertible debt securities, derivatives, swaps, options or futures. As such, management believes that interest rate and price risks are appropriately managed.

Coupon rates for bonds held to maturity range from 1.95% to 5.50% [2014 – 1.99% to 4.78%]. The rates for mortgage-backed securities range from 1.55% to 4.35% [2014 – 1.69% to 4.35%].

*Currency risk*

Currency risk is the risk that the fair value of a financial instrument will fluctuate because of changes in foreign exchange rates. The CFI is not exposed to currency fluctuations.

**Liquidity risk**

Liquidity risk is the risk of not being able to meet the cash requirements in a timely and cost effective manner.

The CFI matches the timing of investment maturities to projected cash outflows and, as such, liquidity does not present a significant financial risk to the CFI.

The maturities of money market funds range between April 2015 and June 2015 [2014 – between April 2014 and June 2014], Bond maturities range between June 2015 and June 2019 [2014 – between April 2014 and March 2017]. The maturities of mortgage-backed securities range between April 2015 and February 2018 [2014 – between April 2014 and October 2016].

**Credit risk**

Credit risk arises from the potential that the issuer of an investment will fail to perform its obligations. Concentrations of credit risk exist when a significant proportion of investments are invested in securities with similar characteristics or subject to similar economic, political or other conditions.

It is the CFI's policy to invest only in securities with at least AA investment ratings, or the equivalent. As well, the CFI's investment policy restricts the single largest issuer, in the case of all but AAA Government, to a maximum of 1% to 20% [2014 – 1% to 20%] of the total investment portfolio depending on the investment category. As such, management believes that credit risk is appropriately managed.

**5. Capital assets**

	<b>2015</b>			2014
	<b>Cost</b>	<b>Accumulated amortization</b>	<b>Net book value</b>	Net book value
	\$	\$	\$	\$
Leasehold improvements	<b>2,643,833</b>	<b>2,572,407</b>	<b>71,426</b>	97,352
Furniture and other equipment	<b>897,496</b>	<b>851,180</b>	<b>46,316</b>	74,994
Computers and software	<b>1,509,289</b>	<b>1,432,236</b>	<b>77,053</b>	126,889
Awards management system	<b>6,277,380</b>	<b>1,889,036</b>	<b>4,388,344</b>	4,347,939
	<b>11,327,998</b>	<b>6,744,859</b>	<b>4,583,139</b>	4,647,174

Total cost and accumulated amortization related to capital assets held at March 31, 2014 were \$10,601,463 and \$5,954,289 respectively.

## 6. Deferred lease inducement

In August 2011, the CFI entered into a ten-year lease extension for its premises with option to terminate after five years and received an inducement. The lease provides for three months free rent totalling \$161,440. This amount has been recognized as an inducement. The amortization of the inducement is over 60 months commencing in August 2011 at \$2,691 per month. As of March 31, 2015, the unamortized balance is \$43,051 [March 31, 2014 – \$75,339].

## 7. Deferred contributions

The CFI operates under two active Funding Agreements and one Contribution Agreement with the Government of Canada. As at March 31, 2015, the Government of Canada had committed \$5.49 billion in grants to the CFI under these agreements, of which \$4.77 billion had been received. The terms and conditions of these agreements call for remaining grants to be paid to the CFI annually, subject to sufficient appropriation by Parliament, based on the estimated cash requirements for the year. During the fiscal year, the CFI received \$168.2 million [March 31, 2014 – \$85.3 million] related to these agreements.

### Expenses of future years

Deferred contributions related to expenses of future years represent unspent externally restricted grants received to date, together with investment revenue earned, for the purpose of providing grants to eligible recipients and paying for operating and capital expenditures in future years.

	<b>2015</b>	2014
	<b>\$</b>	\$
Balance, beginning of year	<b>917,939,226</b>	1,230,771,834
Add grants received	<b>168,200,000</b>	85,300,000
Add restricted investment revenue earned	<b>17,247,749</b>	22,237,884
Less amount recognized as revenue	<b>(403,284,891)</b>	(419,205,584)
Less amount applied toward capital assets acquired	<b>(726,535)</b>	(1,164,908)
Balance, end of year	<b>699,375,549</b>	917,939,226



**Capital assets**

Deferred contributions related to capital assets represent the unamortized amount of restricted grants received and applied toward the purchase of capital assets. The amortization of capital contributions is recorded as revenue in the statement of operations on the same basis as the amortization of the related capital assets.

	<b>2015</b>	2014
	<b>\$</b>	\$
Balance, beginning of year	<b>4,647,174</b>	4,160,674
Restricted grants applied toward the purchase of capital assets	<b>726,535</b>	1,164,908
Less amount amortized to revenue	<b>(790,570)</b>	(678,408)
Balance, end of year	<b>4,583,139</b>	4,647,174

**8. Commitments**

During the year, the CFI approved grants for a maximum amount of \$455.4 million [2014 – \$115.9 million]. Total disbursements to eligible recipients during the fiscal year were \$389.2 million [2014 – \$406.9 million]. As at March 31, 2015, the CFI has approved grants for a maximum amount of \$6,521.3 million, of which \$5,559.3 million had been disbursed. To date, the CFI has award agreements in place related to these approved grants in the amount of \$6,067.1 million and, therefore, has outstanding contractual obligations of \$507.8 million at March 31, 2015.

The CFI estimates these obligations to be disbursed as follows:

	<b>in millions of \$</b>
2016	239.4
2017	139.4
2018	56.8
2019	51.6
2020	20.6
<b>Total estimated disbursements</b>	<b>507.8</b>

In August 2011, the CFI renewed the lease agreement for its premises at 230 Queen Street (Ottawa, Ontario) for a ten-year period ending July 31, 2021, with option to terminate after five years. The minimum annual lease payment related to these premises is approximately \$1.3 million.

### 9. Restricted contributions and net assets

The requirements of the Budget Implementation Act, 1997, which governs the CFI and the terms of its Funding and Contribution Agreements with the Government of Canada, externally imposes restrictions on all of the CFI's net assets. Investment revenue to be earned on the grants received from the Government of Canada is also restricted. Accordingly, the entire net assets of the CFI are deferred and taken into revenue as expenditures are made with no net asset balance outstanding at any time. A statement of changes in net assets has not been prepared since it would not provide additional useful information.

### 10. Pension plan

The employees of the CFI may elect to become members of the Association of Universities and Colleges of Canada Pension Plan, a defined contribution plan managed by Sun Life Financial Inc. The employer contributions made to the Plan during the year ended March 31, 2015 amounted to \$686,620 [2014 – \$662,023].

### 11. Changes in non-cash operating working capital items

	<b>2015</b>	2014
	\$	\$
Interest and other receivables	659,425	5,214,780
Prepaid expenses	32,323	(6,873)
Accounts payable and accrued liabilities	(130,934)	164,786
Deferred lease inducement	(32,288)	(32,288)
European Research Area - Canada project deposits	(22,359)	897
	<b>506,167</b>	<b>5,341,302</b>