CANADA FOUNDATION FOR INNOVATION

# ANNUAL REPORT 20<sup>13</sup>/<sub>14</sub>

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# MESSAGE FROM THE CHAIR AND THE PRESIDENT & CEO

An annual report is an opportunity to reflect on what was accomplished in the past year and witness the transformation taking place. The Canada Foundation for Innovation has the privilege of a front-row seat on the ever-advancing research landscape in Canada. Each year, our funded institutions open new world-class research facilities, hundreds of talented researchers receive new infrastructure support and Canadian research labs continue to produce significant breakthroughs and tangible outcomes that benefit Canadians.

And 2013-14 was no exception. Our celebrated moments include the June 2013 ribbon cutting for Dalhousie University's Ocean Sciences Building, a 7,000-squaremetre complex that brings several of the institution's worldleading ocean experts together in a collaborative space.

In September, McGill University welcomed Luda Diatchenko from the University of North Carolina at Chapel Hill as Canada Excellence Research Chair in Human Pain Genetics. With research infrastructure support from the CFI, Diatchenko's work will position McGill — already an international leader in pain research, education and patient care — among the world's best in the field of personalized pain research.

In March 2014, Graham Pearson of the University of Alberta was lead author of a paper in *Nature* describing evidence that more than 400 kilometres below the Earth's surface, there could be as much water as there is in all the planet's oceans put together, a fundamental discovery that helps shed light on the origin of the Earth's water.

Of course, not all the CFI's achievements are as dazzling as is the extraordinary work carried out in our funded facilities — a fair bit of elbow grease goes into upholding our principle of excellence in everything from our program delivery to how we communicate and our day-to-day operations — but none of our accomplishments are accidental. While our annual report is an opportunity to look back, we, as an organization, are always looking forward, toward our vision that Canada's researchers lead the world in contributing to competitiveness, prosperity and quality of life.

Part of that vision includes encouraging collaborations between institutions and between the private sector and our funded institution. To that end, last fall the CFI launched the Research Facilities Navigator, a searchable online directory of participating research labs and facilities in universities, colleges and research hospitals across Canada that are open to working with business. Almost 300 labs from virtually every discipline have submitted entries for the Navigator, and the number is growing. In many of these labs, we see discovery research side by side with applied research, an advantage for businesses that want access to the most advanced knowledge and for researchers who tell us that industry brings a valuable perspective which helps propel their work forward.

In documenting our activities over the past fiscal year, we see the signs of an ongoing transformation taking place. Continued investment in the full spectrum of discovery and applied research in this country means that in CFI-funded facilities across Canada, our researchers are, in many ways, undeniably leading the world. It's a momentum not likely to be broken, and as we look forward to our goals for 2014-15, we anticipate a bright future for research in Canada.



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

Dr. Gilles G. Patry President & CEO

# ABOUT THE CFI

## THE CANADA FOUNDATION FOR INNOVATION GIVES INSTITUTIONS AND THEIR RESEARCHERS THE TOOLS THEY NEED TO THINK BIG AND INNOVATE.

By investing in state-of-the-art facilities and equipment in Canada's universities, colleges, research hospitals and non-profit research institutions, the CFI is helping to attract and retain the world's top talent, to train the next generation of researchers and to support private-sector innovation, which strengthens the economy and improves the quality of life for all Canadians.

The CFI has a well-established, rigorous, competitive and independent merit-review process that rewards research excellence. The CFI relies 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 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.

The CFI funds 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.

To date, the CFI has committed more than \$6.1 billion in support of 8,487 projects at 143 research institutions in 68 municipalities across Canada. CFI contributions, along with those from institutions and their partners, have resulted in an investment of almost \$14 billion in research infrastructure in Canadian institutions since the CFI began.

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 for all Canadians. By supporting the country's capacity for world-class research, the CFI is playing a vital role in producing social, economic, environmental and health benefits for Canadians.

To date, the CFI has committed more than **\$6.1 billion** in support of **8,487 projects** at **143 research institutions** in **68 municipalities** across Canada. Opened June 5, 2013 — Dalhousie University's **Steele Ocean Sciences Building** is a hub for ocean experts, bringing major Canadian research networks, such as the research group of the Canada Excellence Research Chair in Ocean Science and Technology, the Ocean Tracking Network and the Marine Environmental Observation Prediction and Response Network, together under one roof.

Image: Dalhousie University





Opened September 13, 2013 — The University of Waterloo's **Centre for Intelligent Antenna and Radio Systems** is a world-class facility that specializes in electromagnetic communications research. Its unique infrastructure and computational power is used to develop the next generation of wireless technologies for applications in areas ranging from automotives to health sciences and telecommunications.

Image: University of Waterloo



Opened February 27, 2014 — The University of British Columbia's **Djavad Mowafaghian Centre for Brain Health** is a state-of-the-art facility dedicated to both research and patient care in the fields of neuroscience, neurology and psychiatry.

Image: Don Erhardt, The University of British Columbia's Faculty of Medicine



Opened February 26, 2014 — Université Laval's **Laboratoire audionumérique de recherche et de création** is a leading-edge music studio equipped with sophisticated recording equipment that facilitates collaborations between professional musicians, professors and students.

Image: Dragos Chiriac, Université Laval

## **GOVERNANCE**

#### **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.



Kevin P. D. Smith, Chair



Louise Proulx, Vice-chair



Chad Gaffield

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Ingrid Pickering (appointed June 2013)



Gordon F. Stovel

Albert Friesen



John Weissenberger

#### **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.



Sandra Greer



Heather Munroe-Blum



Linda Humphreys

•



Leigh Murphy



Margaret Bloodworth (appointed June 2013)



Sheila A. Brown

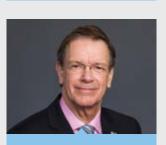


Carolyn Cross

\*

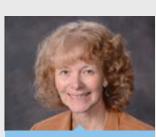


William Driedzic



**Rod McInnes** 





Liz Harrison (term expired June 2013)



David Fung, Co-chair, Members



Linda Hohol (term expired June 2013)



Michel Kelly-Gagnon



John Anthony Boeckh







Marie-Andrée Mallette



Emőke Szathmáry



Roland Hosein, Co-chair, Members

**Rick Miner** 



Ronald Morrison



Vianne Timmons

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

# **RANGES OF REMUNERATION**

#### **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-ofpocket expenses incurred while performing their duties or attending CFI meetings. In 2013-14, the remuneration of Board Directors ranged from \$0 to \$16,750.

For the fiscal year ending March 31, 2014, compensation for CFI staff was within the following annual salary ranges:

#### **CFI Management (Officers)**

of Financigomone (officiero)	
<b>Gilles G. Patry</b> President and CEO	\$211,200 to \$295,700
<b>Robert Davidson</b> Vice-President, Programs and Planning	\$139,900 to \$193,700
<b>Manon Harvey</b> Vice-President, Finance and Corporate Services	
<b>Pierre Normand</b> Vice-President, External Relations and Communications	
Employees*	
Director, Programs	\$110,900 to \$147,900
Director, Communications Director, Corporate Services Director, Evaluation and Outcome Assessment Director, Finance	<b>\$96,500</b> to \$128,800
Manager, Financial Monitoring Manager, John R. Evans Leaders Fund Senior Programs Officers Senior Programs Planning Officer	\$87,700 to \$116,800
Manager, Administration Senior Analyst, Finance Senior Evaluation Officer Senior Financial Monitoring Officer	\$79,000 to \$104,800



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# RESULTS AND GOALS

IN THIS REPORT, THE RESULTS OF THE PAST YEAR AS WELL AS THE CFI'S GOALS FOR THE COMING YEAR HAVE BEEN ORGANIZED UNDER FOUR OBJECTIVES:

- Attract and retain the world's top research talent;
- Enable world-class research and technology development that leads to social, economic, environmental and health benefits for Canada;
- Support private-sector innovation and commercialization; and
- Enhance accountability to responsibly steward public funds.

## ATTRACT AND RETAIN THE WORLD'S TOP RESEARCH TALENT

# The CFI helped to attract and retain the world's top research talent in 2013-14 by:

**Building world-class research facilities.** Approximately \$83.1 million was committed to 473 projects at universities across Canada under the John R. Evans Leaders Fund (JELF).

The **John R. Evans Leaders Fund (JELF)** is designed to ensure that institutions have the infrastructure resources necessary to attract and retain top research talent.

# In 2014-15, the CFI will continue to help attract and retain the world's top research talent by:

**Equipping labs with cutting-edge tools.** New JELF proposals will be reviewed and funding provided for the infrastructure necessary to help the best of today's and tomorrow's researchers conduct their work.

## **ATTRACTING THE BEST AND BRIGHTEST**

Of the 146 CFI-funded project leaders newly recruited to institutions in 2012-13, 144 said that CFI-funded infrastructure was an important factor in their decision to join the institution. Sixty percent of these new recruits came from outside Canada.

#### Country from which CFI-funded project leaders were recruited



## TRAINING THE NEXT GENERATION

In 2012-13, 26,226 highly qualified personnel — including undergraduates, graduate students and post-doctoral fellows were trained on CFI-funded infrastructure. During the same year, 1,843 post-doctoral fellows and graduate students who used CFI-funded infrastructure completed their training and moved into the workforce.

#### Trainees entering the workforce





In June 2013, the Leaders Opportunity Fund was renamed the **John R. Evans Leaders Fund** to pay tribute to the outstanding contributions of John R. Evans, the CFI's first Board Chair.

Evans served as the CFI's Board Chair between 1997 and 2007. In that capacity, he inspired the CFI to innovate, catalyzing the creation of novel funding mechanisms for research infrastructure that have transformed Canada's research landscape.

Image credit: Friends of CIHR, Henry G. Friesen International Prize in Health Research

# LOOKING OUT FOR LYNX

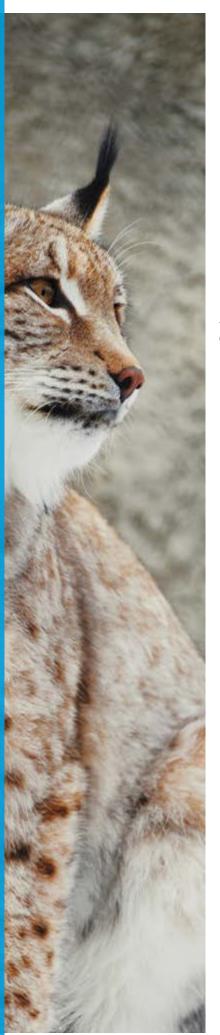
Dennis Murray, a terrestrial ecologist at Trent University, studies how certain animals (and sometimes entire populations) respond to environmental hazards. His scientific mission is to find genetic signals that reveal what may happen as these animals face a rapidly changing environment.

Murray received JELF funding in March 2013, and for the 2014 field season, he will be armed with the latest tag-and-track gear — about 10 sophisticated radio collars funded by the CFI. He and his students plan to harness the collars onto the scruffs of lynx in places like Washington State, where the cats are rapidly being edged out by invasive species such as bobcats and coyotes. The collars will beam information to satellites that will then ricochet the data to Murray's desktop computer, informing him of the exact location of each collared lynx at any given moment. The data he collects will complement genetic information his research team extracts from blood samples taken when the lynx are collared. The complete picture — genes and behaviour — will give Murray a sense of how well lynx are adjusting to changing conditions in their habitat.

"We're not predicting the extinction of the lynx entirely," says Murray, "but they probably can't adapt fast enough in marginal or deteriorating boreal environments." It is along these edges, where invasive species are staking a claim while the lynx's forest habitat changes dramatically, that Murray predicts the strongest selective pressure will occur, changing the animals in ways that may not be visible now but are likely being coded in their genes.

Over time, subtle changes in DNA can lead to adaptations that help species survive or even thrive in completely different environments. But alterations at the genetic level can be a gamble, particularly if they do not happen quickly enough in response to a changing environment.

So Murray is on a mission to prevent that fate from coming to pass. He will analyze genetic samples from lynx for a signal of an internal response to a rapidly changing environment. The picture that emerges will provide policy-makers with information they can use to protect one of Canada's most iconic creatures.



## ENABLE WORLD-CLASS RESEARCH AND TECHNOLOGY DEVELOPMENT THAT LEADS TO SOCIAL, ECONOMIC, ENVIRONMENTAL AND HEALTH BENEFITS FOR CANADA

# The CFI enabled world-class research and technology development in 2013-14 by:

**Bolstering leading-edge research.** The 2015 Innovation Fund competition was launched in January 2014. The CFI will invest up to \$250 million in infrastructure costs for funded projects.

The **Innovation Fund** provides funding for transformative infrastructure projects across all disciplines and areas of research that will underpin cutting-edge research and have a structuring effect on Canada's research landscape.

**Funding big science.** Support was continued for the four initiatives that received funding in the 2012 Major Science Initiatives (MSI) Fund competition: Canadian Light Source, at the University of Saskatchewan; Compute Canada/Calcul Canada; SNOLAB, in Sudbury, Ont.; and Ocean Networks Canada, at the University of Victoria. MSIs are complex, resource-intensive national facilities that require governance, management and operational excellence to fully exploit their capabilities and enable world-class research. To support this, the first annual MSI workshop was organized, which brought together delegations from each of the four funded MSIs and internationally recognized experts in the fields of governance, management and operations of large-scale science facilities to share experiences, expertise and best practices in the operations and governance of major science facilities.

A special competition under this fund was announced in February 2014 to expand the support of the ongoing operations and maintenance (O&M) needs of unique national research facilities. The CFI will invest up to \$25 million over three years to cover a portion of the total eligible O&M costs of funded facilities.

### The Major Science Initiatives (MSI) Fund

provides unique, large-scale national research facilities with the operating funds necessary to enable them to fully exploit their capabilities. The 2014 **special competition** is intended to assist national research facilities that support world-class research by complementing existing operations and maintenance resources.



# DATA MINING THE PAST

Andrew Piper's research team in McGill University's department of languages, literatures and cultures is building a "culture box," a hub of high-powered computers that will analyze historical texts for patterns which have never before been seen or considered.

The cluster of computers will be able to house up to several hundred terabytes of data and sort through "massive amounts of visual data, connecting patterns of text within and among cultures and periods through time," says Piper, an associate professor at McGill. "These relationships are critical to understanding how different cultures from diverse periods and geographical regions communicated their ideas through space and time."

Unlike modern documents, in which the text is clear and distinct and thus searchable through a process called optical character recognition, the letters and words of historical publications were often handwritten and decorated with swoops, swirls and images common to the period. But these embellishments render such documents difficult to search digitally because computer programs cannot recognize words or letters that may be adorned differently from one page to the next.

Piper's project will introduce a novel bypass around the issue of character recognition: image recognition. Each page from global historical texts will be broken down into thousands of zoomed-in images, like overlaying a sheet of graph paper and taking a picture of each small square. More than one million images will be captured and computed. The results will allow researchers to "data mine" heritage documents, searching for and seeing recurring textual motifs that Piper says could speak volumes about cultures of the past.

"The way we understand culture is primarily through text," says Piper. "The goal of the Global Currents project is to find a computational method for quickly comparing very different cultural texts and cultural contexts." Piper says he hopes his project will reveal connections between the way people wrote and the way they related to the written word across such cultures through time. The ability to search through and understand historical networks, he says, will provide new insights into otherwise unknown global relationships well before the advent of globalization.



**Optimizing our investments.** In an effort to support the portion of operating and maintenance (O&M) costs associated with state-of-the-art equipment, nearly \$80 million in O&M costs was provided through the 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.

**Partnering to support top-notch research.** McGill University was awarded \$75,200 through the Digging into Data Challenge to support an international research effort led by Andrew Piper (see "Data mining the past," page 11). This initiative is a collaboration with nine other international granting agencies.

The Cancer Genome Collaboratory, a state-of-the-art cloud computing facility at the University of Toronto, was awarded more than \$1 million from the CFI through the Discovery Frontiers: Advancing Big Data Science in Genomics Research program.

The **Digging into Data Challenge** is a multinational funding initiative that supports computationally intensive social science and humanities research on the use of big data.

It is led by the National Endowment for the Humanities (United States) in collaboration with nine other international granting agencies: the CFI; the Social Sciences and Humanities Research Council; the Natural Sciences and Engineering Research Council; the Netherlands Organisation for Scientific Research; the Arts and Humanities Research Council (United Kingdom); the Economic and Social Research Council (United Kingdom); the Institute of Museum and Library Services (United States); the Netherlands eScience Center; and JISC (formerly the Joint Information Systems Committee) (United Kingdom).

**Discovery Frontiers: Advancing Big Data Science in Genomics Research** is a joint funding initiative with the Natural Sciences and Engineering Research Council, the Canadian Institutes of Health Research, Genome Canada and the CFI to support innovative research on computationally intensive genomics challenges.

**Consulting with the research community to support a digital Canada.** The CFI brought together a number of the country's leading researchers to help determine the parameters of its next cyber-infrastructure initiative.

#### In 2014-15, the CFI will continue to enable worldclass research and technology development by:

**Funding excellence.** The CFI will provide up to \$250 million in new infrastructure funding through the 2015 Innovation Fund and up to \$25 million through the 2014 MSI special competition.

**Investing in cyber-infrastructure.** Based on the results of the 2014 consultations, the CFI will launch a cyber-infrastructure competition focused on supporting, among other things, advanced-research computing capacity, massive data storage and new technologies for managing, organizing and analyzing complex research datasets.



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# ELECTRIC CARS: MELTING RESISTANCE

"What's the main thing that keeps you from buying an electric car?" asks Gregory Patience of École Polytechnique de Montréal.

The answer is easy: cost.

But that may not be a prohibitive factor for long. Patience was awarded almost \$1 million in September 2013 through the CFI's Automotive Partnership Canada Fund, and he and his team, along with industrial partner Clariant (Canada), are working on a new technology that will halve the cost of cathodes, a major component of lithium-ion batteries for electric cars.

The process, which involves heating the main cathode ingredients — iron, lithium and phosphorus — to a molten state, then letting the mixture cool into solid form, allows the use of less expensive materials and produces superior performance. And the melting stage provides a way to reuse materials from old batteries to make new ones. New research equipment is helping the team scale up the process to industrial quantities.

Once these batteries are on the market, the resulting savings will help melt a lot of resistance to electric cars: roughly \$3,000 to \$4,000 shaved off the current sticker price.

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## SUPPORT PRIVATE-SECTOR INNOVATION AND COMMERCIALIZATION

# The CFI supported private-sector innovation and commercialization in 2013-14 by:

**Giving the private sector a competitive edge.** Three projects were awarded a total of almost \$1.5 million through the College-Industry Innovation Fund. The CFI awarded four projects a total of \$4.35 million through the Automotive Partnership Canada Fund.

The **College-Industry Innovation Fund** supports emerging applied-research capacity in Canada's colleges and polytechnics. Colleges can submit proposals under stream 1, which supports projects with established partnerships with private-sector organizations, or stream 2, which is administered jointly with the College and Community Innovation-Innovation Enhancement grants from the tri-council. The tri-council consists of the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council and the Canadian Institutes of Health Research.

Through the CFI, the **Automotive Partnership Canada Fund** provides essential infrastructure support to research institutions for significant collaborative research and development activities that promote innovation in the Canadian automotive industry.

**Launching an online directory of research labs and facilities.** In November 2013, the CFI launched the Research Facilities Navigator, which, by the end of March 2014, included more than 300 CFIfunded labs in universities, colleges and research hospitals across Canada that are open to working with business (see sidebar).

**Encouraging researchers to demonstrate the relevance of their research.** In all our programs, researchers are asked to demonstrate the relevance and economic benefits associated with the research they will be conducting with CFI-funded equipment and facilities.

#### In 2014-15, the CFI will continue to support privatesector innovation and commercialization by:

**Supporting applied research at colleges.** The CFI expects to launch the next College-Industry Innovation Fund competition in mid-2014, with a budget of up to \$8 million.

**Connecting businesses with research.** The CFI Research Facilities Navigator will continue to expand and be promoted among business audiences.

#### The Navigator: where business finds research

The CFI launched the Research Facilities Navigator in November 2013. This is a searchable directory of participating research labs and facilities in universities, colleges and research hospitals across Canada that are open to working with business.

By March 2014, more than 300 CFI-funded labs from virtually every discipline had voluntarily submitted entries for the Navigator, and the number is growing.

For CFI-funded research facilities, the Navigator is a way to promote their research capabilities to the private and public sectors in order to establish new partnerships and collaborations.

For companies, it is a venue to find the research facilities, equipment and expertise that can help their businesses grow, stay competitive, design new or better products or processes and foster relationships with highly skilled people.

## ENHANCE ACCOUNTABILITY TO RESPONSIBLY STEWARD PUBLIC FUNDS

### The CFI enhanced accountability in 2013-14 by:

**Evaluating the outcomes and impacts of its funding.** This year's activities included an assessment of how the CFI helps Canada build global influence, one of the organization's six strategic directions; the release of the annual Report on results; the release of the inaugural Platform outcome measurement study report, which focused on the Canadian Research Knowledge Network; and the production of a highlights piece from a socio-economic impact assessment that focused on some of Canada's advances in medical imaging.

The **Report on results** is an annual summary of **Project progress report (PPR)** data. PPRs are completed annually by CFI-funded project leaders for up to five years and include information on the attraction and retention of researchers and highly qualified personnel, the quality and useful life of infrastructure, research advancement, technology transfer and benefits for Canadians.

#### The Platform outcome measurement study

assesses the outcomes of major specialized or multi-purpose research infrastructure. These "platforms" enable advanced research and support the development of research capacity of a broad, geographically distributed community of users.

#### A socio-economic impact assessment is a

systematic analysis of the economic, social and cultural impacts, outputs and outcomes related to a particular set of investments.

# Communicating with Canadians

To keep members of the public informed about the research that the CFI supports, the organization undertakes several communications efforts. Key among them are a showcase of multimedia stories from CFI-funded facilities on Innovation.ca and a monthly email newsletter, *Innovation now*, to which anyone can subscribe.

The CFI also published a 12-page supplement in The Globe and Mail in November 2013 that showcased university and college research partnerships with the private sector. The supplement included opinion pieces by Dr. Gilles G. Patry, president and CEO of the CFI, and the Honourable Greg Rickford, then Minister of State for Science and Technology. Dr. Patry also published opinion pieces in The Hill Times and Research Money, and national and regional media picked up a number of stories on the research enabled by CFI funding.

In 2014-15, the CFI will focus its communications activities on strengthening its role as a trusted voice in the national conversation on research and innovation in Canada.



Results and goals

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**Monitoring the use of CFI funds.** Six monitoring visits and 11 contribution audits or other cost reviews were undertaken. The CFI reviewed almost 800 interim and final financial reports.

**Monitoring visits** are conducted at recipient institutions to assess the adequacy of the policies, processes and controls in place for the management of CFI-funded projects.

**Contribution audits** or other cost reviews are 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 and with all other applicable CFI policies and guidelines.

Institutions are required to submit **financial reports** for each CFI-funded project at specific intervals, based on the risk of each project.

**Promoting efficiency and effectiveness.** Wherever possible, the CFI worked with institutions to reduce the administrative requirements associated with CFI awards. To ensure that accountability was not compromised, stakeholder surveys and internal reviews were conducted. As a result, a risk-based approach to the oversight of CFI-funded projects was adopted, the processes for finalizing awards were streamlined, redundancies were removed from proposal forms, the approach to institutional monitoring visits was revised and reporting frequencies for financial reports were reduced. In addition, the CFI made several improvements to the functionality and efficiency of the CFI Awards Management System, the online system used by research institutions to apply for and manage funding.

# The CFI's prudent management of public funds

Federal funding from the Government of Canada is now provided to the CFI in annual installments based on the estimated cash requirements for the year. Previously, payments were provided in lump sums, and the current investment balance is rapidly decreasing as disbursements of funds are at a high level and are expected to remain as such in 2014-15. This is due to several previously approved projects reaching maturity and to the implementation of projects approved under the 2010 Funding agreement.

The funds entrusted to the CFI are invested in accordance with its investment strategy and investment policy, the principal objective being the preservation of capital to meet future cash requirements. The CFI's investment strategy and investment policy were both reviewed in the fall of 2013 by the CFI Investment Committee, This Board of Directors committee is charged with overseeing the management and investment of CEI funds.

# In 2014-15, the CFI will continue to enhance accountability by:

**Continuing to assess the outcomes of research enabled by CFI funding.** Activities over the coming year will include the completion of the Overall performance evaluation and value-for-money audit; an assessment of CFI-funded research infrastructure use; implementing an Outcome measurement study; exploring candidate areas for another socio-economic impact assessment; undertaking a Platform outcome measurement study on the CCGS Amundsen research icebreaker; and renewing the CFI Performance, evaluation, risk and audit framework.

The **Overall performance evaluation and value-for-money audit** evaluates the overall performance of the CFI's activities and funded projects and is carried out at least every five years as part of the CFI's Funding agreement with the Government of Canada.

An **Outcome measurement study** explores the extent to which funding provided by the CFI and its partners has had a transformative impact on the Canadian research landscape in a particular research theme.

The **Performance, Evaluation, Risk and Audit Framework** outlines the Foundation's risk assessment, management plan and performance measurement and evaluation strategy.

**Continuing to seek efficiencies.** The guidelines for the CFI's policies and programs will be refined, and new post-award functions for the CFI Awards Management System will be launched.

# FINANCIAL STATEMENTS



#### 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 (CFI), which comprise the statement of financial position as at March 31, 2014 and the statements of operations and of cash flow 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.

#### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audits 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 auditor's 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 auditor considers 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 opinions.

#### Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the CFI as at March 31, 2014, 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.

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Chartered Professional Accountants, Chartered Accountants Licensed Public Accountants

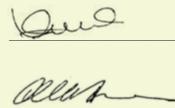
June 17, 2014

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# Statement of financial position as at March 31, 2014

	2014	2013
	\$	\$
ASSETS		
Current assets Cash	20,008,662	453,652
Interest and other receivables	5,501,538	10,716,318
Investments (Note 4)	893,239,892	1,220,286,208
Prepaid expenses	248,471	241,598
Capital assets <i>(Note 5)</i>	4,647,174	4,160,674
	923,645,737	1,235,858,450
LIABILITIES AND NET ASSETS Current liabilities		
Accounts payable and accrued liabilities	961,639	796,853
Deferred lease inducement (Note 6)	75,339	107,627
European Research Area - Canada project deposits	22,359	21,462
	1,059,337	925,942
DEFERRED CONTRIBUTIONS (Note 7)		
Expenses of future years	917,939,226	1,230,771,834
Capital assets	4,647,174	4,160,674
	922,586,400	1,234,932,508
COMMITMENTS (Note 8)		
NET ASSETS (Note 9)		-
	923,645,737	1,235,858,450

#### **APPROVED BY THE BOARD**



Director

Director

# Statement of operations year ended March 31, 2014

	2014	2013
	\$	\$
REVENUE (Note 7)		
Recognition of deferred contributions related to amounts granted to eligible recipients	406,899,214	549,812,706
Recognition of deferred contributions related to current year operations	12,306,370	12,308,401
Amortization of deferred contributions related to capital assets	678,408	644,115
	419,883,992	562,765,222
EXPENSES		
Grants to eligible recipients	406,899,214	549,812,706
General and administration	12,306,370	12,308,401
Amortization of capital assets	678,408	644,115
	419,883,992	562,765,222
EXCESS OF REVENUE OVER EXPENSES		

# Statement of cash flow year ended March 31, 2014

	2014	2013
	\$	\$
OPERATING ACTIVITIES		
Excess of revenue over expenses	-	-
Items not affecting cash:		
Amortization of capital assets	678,408	644,115
Amortization of deferred contributions related to capital assets	(678,408)	(644,115)
Net increase in amortization of discount/premium on investments	901,796	10,509,604
Net decrease in deferred contributions related to expenses of future years	(398,132,608)	(534,581,554)
	(397,230,812)	(524,071,950)
Changes in non-cash operating working capital items (Note 11)	5,341,302	(4,083,029)
	(391,889,510)	(528,154,979)
Capital		
Purchase of capital assets	(1,164,908)	(1,117,682)
Increase in deferred contributions	1 1 6 4 0 0 0	1 117 600
related to capital assets	1,164,908	1,117,682
INVESTING ACTIVITIES		
Purchase of investments	(864,484,003)	(754,767,908)
Proceeds on disposal of investment	1,190,628,523	1,029,268,728
	326,144,520	274,500,820
FINANCING ACTIVITIES		
Grants received (Note 7)	85,300,000	249,000,000
NET CASH INFLOW (OUTFLOW)	19,555,010	(4,654,159)
CASH, BEGINNING OF YEAR	453,652	5,107,811
CASH, END OF YEAR	20,008,662	453,652

## Notes to the financial statements

March 31, 2014

### 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. 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 receivable 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 rate and terms:

Leasehold improvements	term of the lease
Furniture and other equipment	5 years
Computers and software	3-5 years
Award management system	8 years

25

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 collectibility 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, 2014, the CFI has met its objective of having sufficient liquid resources to meet its current obligations.

### 4. Investments

Investments comprise the following financial instruments:

		2014		2013
	Fair value	Cost and carrying value	Fair value	Cost and carrying value
	\$	\$	\$	\$
Money market funds	198,265,408	198,272,854	-	-
Bonds	323,577,252	318,944,066	695,995,553	690,019,942
NHA mortgage-backed securities	377,564,655	376,022,972	533,088,577	530,266,266
	899,407,315	893,239,892	1,229,084,130	1,220,286,208

#### 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, 2014, 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 \$5.1 million (2013 – \$7.5 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, 2014, a 1% increase in market price would result in an increase of the fair value for investments of approximately \$9 million (2013 - \$12 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 market risks are appropriately managed.

Coupon rates for bonds held to maturity range from 1.99% to 4.78% (2013 - 2.00% to 5.04%). The rates for mortgage-backed securities range from 1.69% to 4.35% (2013 - 1.69% to 4.85%).

#### 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 2014 and June 2014 (2013 - NIL). Bond maturities range between April 2014 and March 2017 (2013 - between April 2013 and March 2017). The maturities of mortgage-backed securities range between April 2014 and October 2016 (2013 - between May 2013 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% (2013 - 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

Capital assets consist of the following:

			2014	2013
	Cost	Accumulated amortization	Net book value	Net book value
	\$	\$	\$	\$
Leasehold improvements	2,627,417	2,530,065	97,352	136,296
Furniture and other equipment	894,816	819,822	74,994	86,322
Computers and software	1,470,857	1,343,968	126,889	189,819
Awards management system	5,608,373	1,260,434	4,347,939	3,748,237
	10,601,463	5,954,289	4,647,174	4,160,674

As of March 31, 2013, the capital assets' cost and accumulated amortization were \$9,436,554 and \$5,275,880 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, 2014, the unamortized balance is \$75,339 (March 31, 2013 - \$107,627).

### 7. Deferred contributions

The CFI finalized a new Contribution Agreement with the Government of Canada in March 2014 for \$499.85 million allocated through the 2012 Economic Action Plan.

The CFI now operates under two active Funding Agreements and one Contribution Agreement with the Government of Canada. As at March 31, 2014, the Government of Canada had committed \$5.49 billion in grants to the CFI under these agreements, of which \$4.60 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 \$85.3 million (March 31, 2013 - \$249 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.

2014	2013
\$	\$
1,230,771,834	1,516,353,388
85,300,000	249,000,000
22,237,884	28,657,235
(419,205,584)	(562,121,107)
(1,164,908)	(1,117,682)
917,939,226	1,230,771,834
	\$ 1,230,771,834 85,300,000 22,237,884 (419,205,584) (1,164,908)

#### **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.

	2014	2013
	\$	\$
Balance, beginning of year	4,160,674	3,687,107
Restricted grants applied toward the purchase of capital assets	1,164,908	1,117,682
Less amount amortized to revenue	(678,408)	(644,115)
Balance, end of year	4,647,174	4,160,674

## 8. Commitments

During the year, the CFI approved grants for a maximum amount of \$115.9 million (2013 - \$308.6 million). Total disbursements to eligible recipients during the fiscal year were \$406.9 million (2013 - \$549.8 million). As at March 31, 2014, the CFI has approved grants for a maximum amount of \$6,148.2 million, of which \$5,170.0 million had been disbursed. To date, the CFI has award agreements in place related to these approved grants in the amount of \$5,864.2 million and therefore, has outstanding contractual obligations of \$694.2 million at March 31, 2014.

The CFI estimates these obligations to be disbursed as follows:

	in millions of \$
2015	312.4
2016	180.5
2017	125.0
2018	55.5
2019	6.9
2020 and thereafter	13.9
Total estimated disbursements	694.2

The maximum grants awarded to date include \$58.0 million of grants that will be unused by eligible recipients. This has been confirmed through the final financial reports for infrastructure projects submitted by eligible recipients as at March 31, 2014.

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 \$1.2 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, 2014, amounted to \$662,023 (2013 - \$629,872).

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

	2014	2013
	\$	\$
Interest and other receivables	5,214,780	(3,331,811)
Prepaid expenses	(6,873)	(7,346)
Accounts payable and accrued liabilities	164,786	(711,578)
Deferred lease inducement	(32,288)	(32,288)
European Research Area - Canada project deposits	897	(6)
	5,341,302	(4,083,029)

### 12. Comparative figures

Certain comparative figures have been reclassified to conform to the current year's presentation.