



MEMBER ACADEMIES



Canadian Academy of Health Sciences
Académie canadienne des sciences de la santé



**Council of
Canadian
Academies**

ANNUAL
REPORT
2016/17

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MESSAGE FROM THE CHAIR OF THE BOARD

It's been another active and productive year at the CCA. The reports we launched in 2016/17 were characteristically diverse, exploring everything from the risks of marine shipping to strengths in regenerative medicine to subnational science policy. We also received eight new assessment referrals on a wide range of topics, such as policing in Indigenous communities, integrated natural resource management, learning experiences offered by business schools, and medical assistance in dying.

As an independent, not-for-profit organization, we have built our reputation over the past 11 years on our ability to convene the best experts in their respective fields to assess the evidence on complex topics of public interest. Our rigorous process ensures quality and objectivity. The support of our Member Academies has been invaluable — the Royal Society of Canada (RSC), the Canadian Academy of Engineering (CAE), and the Canadian Academy of Health Sciences (CAHS) — and their Fellows, including many of our expert volunteers. Members of our Board of Governors and Scientific Advisory Committee also provide valuable oversight and strategic thinking critical to the good governance of the CCA.

In September 2016, we welcomed two new members to our Board: Pierre Lortie, C.M., FCAE, Senior Business Advisor at Dentons LLP and Past President of the CAE; and Tom Brzustowski, O.C., FRSC, FCAE, member of the Board of the Institute for Quantum Computing at the University of Waterloo and of the Waterloo Global Science Initiative.

On behalf of the CCA and the Board, I would also like to thank departing members, whose contributions and commitment are greatly appreciated: Henry Friesen, C.C., FRSC, FCAHS, Distinguished Professor Emeritus and Senior Fellow, Centre for the Advancement of Medicine, Faculty of Medicine, University of Manitoba; Claude Jean, Executive Vice President and General Manager, Teledyne DALSA, Foundry Operation, Semiconductor; Peter MacKinnon, O.C., Former President and Vice-Chancellor, University of Saskatchewan; and Ted Morton, Executive Fellow at the School of Public Policy, Professor of Political Science, University of Calgary. The Scientific Advisory Committee also saw some departures this year: Sarah P. Otto, FRSC, Professor and Director of the Biodiversity Research Centre at the University of British Columbia, and Norbert Morgenstern, C.M., FRSC, FCAE, Professor Emeritus of Civil Engineering at the University of Alberta. Sincerest of thanks to both for their contributions.

We were deeply saddened to learn of the passing of Dr. Richard Marceau in September. Dr. Marceau was the Vice President, Research, at Memorial



University of Newfoundland, and a valued member of our Board from July 2015 until shortly before his death. He was President of the CAE from 2012 to 2014, and joined Memorial in 2013 after a distinguished career as an academic and professional engineer. Dr. Marceau was a true champion of the work of both the CCA and the CAE, and his passing marks a tremendous loss for many.

Collectively, the contributions and commitment of all of our dedicated expert volunteers have helped shape the CCA into the well-respected organization it is today. We look forward to the year ahead and are confident that the combined knowledge and skills of our expert panel members, Board of Governors, Scientific Advisory Committee, Member Academies, and staff will only enhance the CCA's success in the years to come.

Margaret Bloodworth, C.M.
Chair, Board of Governors
Council of Canadian Academies

MESSAGE FROM THE PRESIDENT AND CEO

In simple terms, annual reports present opportunities for organizations to look back on their accomplishments and activities in the previous year, and describe these to the community. To do so, it is easiest to use metrics that can be counted and compared from year to year. In the case of the Council of Canadian Academies, we measure ourselves by the work we are mandated to carry out: since 2005 we have been conducting assessments of the evidence on some of the most interesting and important topics facing Canada.

So, how did we do this year? We received eight assessment referrals — the most we've received in a single year — on a range of fascinating topics: the transportation needs of an aging population; the state of S&T and industrial R&D in Canada; integrated natural resource management; regenerative medicine; subnational science policy; medical assistance in dying; policing in Indigenous communities; and learning experiences offered in business schools. This list reflects how diverse the needs are when it comes to taking a science-informed approach to policy development.

If referrals are a function of the perceived value of CCA expertise, completed projects are evidence of it. We completed five projects in 2016/17: *Commercial Marine Shipping Accidents: Understanding the Risks in Canada*; *The Value of Commercial Marine Shipping to Canada*; *Preliminary Data Update on Canadian Research Performance*

and International Reputation; *Building on Canada's Strengths in Regenerative Medicine*; and *Science Policy: Considerations for Subnational Governments*.

These are the CCA's tangible outputs and by such measures, 2016/17 was a good year. Indeed, the five completed assessments brings our total productivity since our 2005 inception to 43 evidence-based reports — a substantial body of knowledge.

But as with all numbers, the story behind them provides further insight about an organization's accomplishments. For instance, *Science Policy: Considerations for Subnational Governments* reflects a recognition of the importance of provincial science policy and its connectedness to federal investments in science; we can imagine it may stimulate further discussion. *The Value of Commercial Marine Shipping to Canada* used a new type of economic modelling to delve



more deeply into the state of the science. *Building on Canada's Strengths in Regenerative Medicine* was completed in a timely manner to inform federal discussions about funding for this exciting area of science. And our *Preliminary Data Update on Canadian Research Performance and International Reputation* has informed the Fundamental Science Review, *Investing in Canada's Future: Strengthening the Foundations of Canadian Research*.

Over the last year, some assessments challenged us to think more broadly about what we mean by *evidence*. Often, assessing evidence is straightforward: review the literature on a subject; bring experts together to deliberate on it; assess the breadth, depth, and quality of the evidence; and publish findings and conclusions in a report. The referral by Health Canada and Justice Canada to undertake an assessment on Medical Assistance in Dying (MAID) reflects an accomplishment of a different kind, and may require an expansive

approach to assessing evidence. MAID is permitted across Canada, following the passage in June 2016 of Bill C-14, but three distinct circumstances were not included in the legislation: MAID for mature minors; advance requests for MAID; and MAID when mental illness is the sole underlying medical condition. These issues were identified as particularly complex and worthy of further study, prompting the federal government to seek independent reviews. In the case of MAID, there is a modest but not exhaustive number of published empirical and social science papers and related literature to review; there are a small number of jurisdictions where legislation exists; and there are professional practice guidelines, codes of conduct, and other types of social, ethical, and cultural knowledge to consider.

Similarly, our assessment on Indigenous policing has also challenged us to consider other “ways of knowing,” while our assessment on the transportation needs of an aging population has encouraged us to

look for methodologies outside of traditional science-based approaches. If defining evidence is challenging, weighing the evidence is equally difficult.

No account of the CCA’s year would be complete without acknowledging the central importance of our Member Academies, without whom there would be no CCA. The Royal Society of Canada, the Canadian Academy of Engineering, and the Canadian Academy of Health Sciences and particularly their senior leadership (Maryse Lassonde, Douglas Ruth, and Carol P. Herbert respectively) have brought wisdom and commitment to envisioning how best we should function. Moreover, the Fellows of the Member Academies are a key source of membership for expert panels, while the leadership teams within each Academy provide key guidance and input throughout the assessment process, including the planning process, study designs, expert panel nominations, and dissemination processes.

We look forward to another year of delivering key information to help inform decision-making, and continuing to think about how we can become more relevant and responsive in our approaches to providing evidence to policy-makers.



Eric M. Meslin, PhD, FCAHS
President and CEO
Council of Canadian Academies

WHO WE ARE AND **WHAT WE DO**

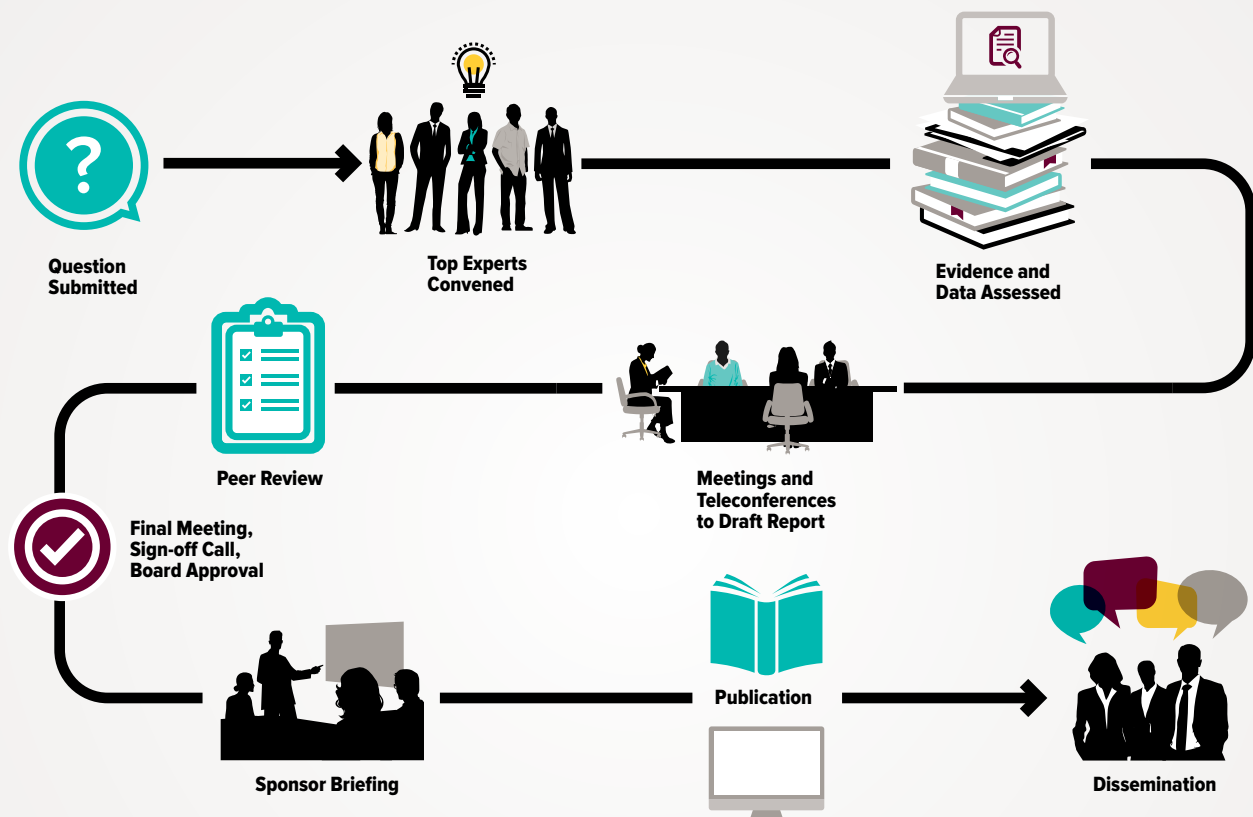
The Council of Canadian Academies (CCA) is an independent, not-for-profit organization that convenes the best experts in their respective fields to assess the evidence on complex scientific topics of public interest, in order to inform decision-making in Canada. Led by a Board of Governors and guided by a Scientific Advisory Committee and its Member Academies, the CCA's work encompasses a broad definition of *science*, incorporating the natural, social, and health sciences as well as engineering and the humanities.

Assessments are conducted by multidisciplinary and multi-sectoral panels of experts from across Canada and abroad who volunteer their time and lend their expertise and knowledge to the CCA. The overarching goal of CCA assessments is to evaluate the best available evidence on particularly complex issues where the science may be challenging to understand, contradictory, or difficult to assemble. This often means identifying emerging issues, gaps in knowledge and research, Canadian strengths, and international trends

and practices. Upon completion, assessments provide government decision-makers as well as researchers and stakeholders with high-quality information and evidence to develop informed and innovative public policy. Assessments can be referred to the CCA (or "sponsored") by foundations, non-governmental organizations, the private sector, or any level of government.

The CCA assessment process is guided by a professional staff and is completed through in-person

meetings, teleconferences, and many hours of research. To protect the independence of the assessment process, sponsors do not participate in the production of assessments, review drafts of reports, or propose any changes to reports before their release. This process ensures the highest integrity and objectivity of the work. All reports undergo formal peer review and are made available to the public free of charge in both official languages.



MEMBER **ACADEMIES**

The CCA's founding Member Academies are independent organizations that represent the finest minds in Canada. Their Fellows and senior decision-makers sit on the CCA's Board of Governors and Scientific Advisory Committee, and they are a key source of membership for expert panels. The Member Academies provide key guidance and input throughout the CCA's assessment process, including the planning process, study designs, expert panel nominations, and dissemination processes. The Member Academies of the CCA are: the Royal Society of Canada, the Canadian Academy of Engineering, and the Canadian Academy of Health Sciences.

THE ROYAL SOCIETY OF CANADA (RSC)



Founded in 1882, the Royal Society of Canada comprises the Academies of Arts, Humanities and Sciences as well as Canada's first national system of multidisciplinary recognition for the emerging generation of Canadian intellectual leadership, The College of New Scholars, Artists and Scientists. The RSC's mission is to recognize scholarly, research and artistic excellence, to advise governments and organizations, and to promote a culture of knowledge and in Canada alongside other national academies around the world.

- **99** New Fellows inducted
- **9** Campus visits
- **1** New Institutional Member
- **103** individuals donated to various RSC initiatives
- **80** New College Members
- **488** Nominations for Fellowship
- **130+** Guests visited Walter House
- **100+** Fellows volunteering on Committees
- **16** Medals and Awards presented



Council Members at the RSC Annual Business Meeting during the 2016 AGM in Kingston, ON



Induction & Awards Ceremony at the 2016 AGM in Kingston, ON



Walter House Reception in May 2016

THE CANADIAN ACADEMY OF ENGINEERING (CAE)



The CAE is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada. The Academy is an independent, self-governing, and non-profit organization established in 1987. Fellows are nominated and elected by their peers in recognition of their distinguished achievements and career-long service to the engineering profession. Fellows of the Academy, who number approximately 600, are committed to ensuring that Canada's engineering expertise is applied to the benefit of all Canadians.

- **43** new Fellows inducted in June 2016 & **52** new Fellows inducted in June 2017
- **3** reports released
- **6** national roundtables held on science, technology, and public policy
- **40+** Fellows met in Montréal in November 2016 focused on the rehabilitation and replacement of the Jacques Cartier and Champlain Bridges
- **NEW** Partnership with SAE Foundation Canada to offer an undergraduate scholarship in transportation and mobility engineering & an award for outstanding aerospace design



Joint CAE-CAHS event, CHUM Research Centre, Montréal, June 2017



CAE President, Douglas Ruth, FCAE, addressing the newly inducted Fellows, June 2017



New Fellows inducted June 2016

- **NEW** nominating partner for the Governor General's Innovation Awards
- Partnered with the Conference Board of Canada to hold the "Reshaping Energy" conference
- Participated in the Sept 2016 CAETS meeting in London, UK and the associated meeting of the Energy Working Group
- Sent two young Canadian engineers to participate in the global young engineering leadership program beforehand
- Hosted a meeting of the CAETS Energy Working Group in Sydney, BC in May 2016

THE CANADIAN ACADEMY OF HEALTH SCIENCES (CAHS)

Canadian Academy of Health Sciences
Académie canadienne des sciences de la santé



The CAHS recognizes excellence in the health sciences by appointing Fellows based on their outstanding achievements in the academic health sciences in Canada and on their willingness to serve the Canadian public. The Academy provides timely, informed, and unbiased assessments of issues affecting the health of Canadians and recommends strategic, actionable solutions. Founded in 2004, CAHS now has 607 Fellows and appoints new Fellows on an annual basis. The organization is managed by a voluntary Board of Directors and a Board Executive.

- **NEW** assessment report released entitled ***Academic Recognition of Team Science***
- **36** new Fellows inducted at the 2016 Annual General Meeting and Forum with **52** new Fellows expected to be inducted in the fall of 2017
- **NEW** CAHS website launched in June 2017
- Collected feedback from Fellows on the Review of Federal Support for Fundamental Science and published a response
- Co-sponsored an Invitational Symposium in Toronto entitled ***Canadian Medicare 2017: Historical Reflections, Future Directions*** in celebration of the 80th Anniversary of Associated Medical Services and the 50th anniversary of Canadian Medicare



Newly released report *Academic Recognition of Team Science* hot off the press



Members of the Vancouver Regional Network discussing *Investing in Canada's Future: Strengthening the Foundations of Canadian Research*



Elizabeth Saewyc, Jean Shoveller, and Judy Illes of the Vancouver Regional Network discussing *Investing in Canada's Future: Strengthening the Foundations of Canadian Research*

- Worked with Veterans Affairs Canada on a Chronic Care Initiative that builds upon our Chronic Disease Management Assessment
- Participated in the national meeting of the Canadian Centre for Substance Abuse to derive a national research agenda on the health impacts of non-medical cannabis
- Contributed a chapter on Creating a Healthier Canada in the ***Reflections of Canada: Illuminating Our Opportunities and Challenges at 150+ Years*** produced by the UBC Peter Wall Institute for Advanced Studies
- Led the development of the International Statement on Dementia of the Interacademy Panel for Health

THE YEAR **IN REVIEW**

2016

April 22, 2016

CCA announces launch of new assessment on adapting transportation needs to an aging population



June 29, 2016

CCA announces third edition of *The State of Science and Technology and Industrial Research and Development in Canada*

September 9, 2016

CCA announces new assessment on integrated natural resource management



September 20, 2016

New workshop project on regenerative medicine begins



July 4, 2016

Three new graduate interns welcomed to CCA



April 28, 2016

Release of workshop report *Commercial Marine Shipping Accidents: Understanding the Risks in Canada*



September 6, 2016

CCA welcomes two new members to its Board of Governors: Pierre Lortie, C.M., FCAE and Tom Brzustowski, O.C., FRSC, FCAE

October 27, 2016

CCA launches new project on subnational science policy

December 16, 2016

CCA releases *Preliminary Data Update on Canadian Research Performance and International Reputation*



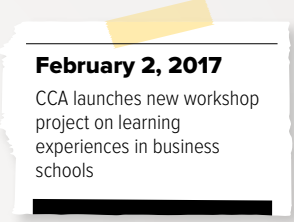
April 19, 2017

Release of workshop report *Science Policy: Considerations for Subnational Governments*



February 2, 2017

CCA launches new workshop project on learning experiences in business schools



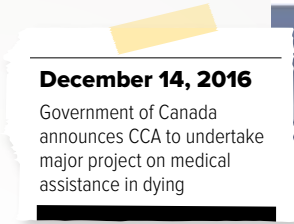
February 17, 2017

CCA hosts session at AAAS Annual Meeting in Boston



December 14, 2016

Government of Canada announces CCA to undertake major project on medical assistance in dying



2017



November 7, 2016

CCA, RSC, CAE, and CAHS co-host a day-long symposium on evidence-based decision-making at the Canadian Science Policy Conference in Ottawa



January 26, 2017

New assessment on policing in Indigenous communities begins

January 9, 2017

New group of graduate interns arrive at CCA

March 9, 2017

Release of workshop report *Building on Canada's Strengths in Regenerative Medicine*

CONVENING EXPERTS

The CCA convenes the best experts in their respective fields to evaluate the existing evidence and provide objective assessment of the science underlying key policy issues. Our work would not be possible without these experts, who volunteer their time, energy, and knowledge to serve as expert panellists and reviewers. Over the years we have been privileged to work with over 1,000 experts. Those who volunteered as a CCA expert this past year are listed below.

COMMERCIAL MARINE SHIPPING ACCIDENTS: UNDERSTANDING THE RISKS IN CANADA

Workshop Steering Committee and Workshop Participants:

James R. Parsons (Chair of Steering Committee and Workshop), Academic Director, Marine Institute of Memorial University (St. John's, NL); **Mary R. Brooks (Steering Committee)**, Professor Emerita, Dalhousie University (Halifax, NS); **Michael C. Ircha (Steering Committee)**, Senior Advisor, Association of Canadian Port Authorities, Adjunct Research Professor, Carleton University (Ottawa, ON), and Professor Emeritus and Associate Vice-President (Academic) Emeritus, University of New Brunswick (Fredericton, NB); **Francis Wiese (Steering Committee)**, National Marine Science Lead, Stantec Consulting (Anchorage, AK); **Sean Broadbent**, Postdoctoral Fellow and Research Director, Environmental Management Planning Group, Simon Fraser University (Vancouver, BC); **Rosaline Canessa**, Associate Dean, Faculty of Social Sciences and Associate Professor, Department of Geography, University of Victoria (Victoria, BC); **Jackie Dawson**, Canada Research Chair in Environment, Society and Policy and Associate Professor, Department of Geography, University of Ottawa (Ottawa, ON); **Hadi Dowlatabadi**, Canada Research Chair in Applied Mathematics and Global Change, Institute for Resources Environment and Sustainability, University of British Columbia (Vancouver, BC); **Gordon Houston**, Proprietor, Gordon Houston & Associates (Vancouver, BC); **Raymond W. Johnston**, Special Advisor, Chamber of Marine Commerce (Ottawa, ON) and President, Green Marine Management Corporation (Québec, QC); **Timothy Keane**, Senior Manager, Arctic Operations and Projects, Fednav Limited (Montréal, QC); **Serge A. Le Guellec**, President and General Manager, Transport Desgagnés Inc. (Québec, QC); **Jérôme Marty**, Science Advisor, Fisheries and Oceans Canada (Ottawa, ON); **Barbara Neis, FRSC**, University Research Professor, Department of Sociology, Memorial University of Newfoundland and Senior Research Associate, SafetyNet Centre for Occupational Health and Safety Research (St. John's, NL); **Paul O'Reilly**, Senior Vice President, Marsh Canada Limited (Toronto, ON); **Ronald Pelot**, Professor, Department of Industrial Engineering and Assistant Dean, Engineering Co-operative Education, Dalhousie University, and Associate Scientific Director, MEOPAR NCE (Halifax, NS); **Robert Powell**, Lead Specialist, Priority Conservation, WWF Canada (Vancouver, BC); **Victor M. Santos-Pedro**, Former Director, Marine Safety, Transport Canada (Ottawa, ON); **Claudio Verconich**, Vice President – Marine, Global Special Projects and Underwriting, Liberty International Underwriters, Liberty Mutual Group (Toronto, ON)

Reviewers:

M. Tundi Agardy, Executive Director, Sound Seas (Bethesda, MD); **David Cardin**, Former Advisor, Canadian Transportation Act Review Panel and Former President, Maersk Canada (Rockwood, ON); **Stephanie E. Chang**, Professor, School of Community and Regional Planning (SCARP) and Institute for Resources, Environment, and Sustainability (IRES), University of British Columbia (Vancouver, BC); **Claude Comtois**, Professor, Department of Geography, Université de Montréal (Montréal, QC); **Peter G. Noble, FCAE**, Principal Advisor, Noble Associates, Inc. and Past-President, Society of Naval Architects and Marine Engineers (SNAME) (Spring, TX)



PRELIMINARY DATA UPDATE ON CANADIAN RESEARCH PERFORMANCE AND INTERNATIONAL REPUTATION

The Expert Panel on the State of Science and Technology & Industrial Research and Development in Canada:

Max Blouw (Chair), President and Vice-Chancellor, Wilfrid Laurier University (Waterloo, ON); **Luis Barreto**, President, Dr. Luis Barreto & Associates and Special Advisor, NEOMED-LABS (Concord, ON); **Catherine Beaudry**, Professor, Economics of Innovation and Canada Research Chair in Creation, Development and Commercialization of Innovation, Department of Mathematical and Industrial Engineering, Polytechnique Montréal (Montréal, QC); **Donald Brooks, FCAHS**, Professor, Pathology and Laboratory Medicine and Chemistry, University of British Columbia (Vancouver, BC); **Madeleine Jean**, General Manager, Prompt (Montréal, QC); **Philip Jessop, FRSC**, Professor, Inorganic Chemistry, Canada Research Chair in Green Chemistry, Department of Chemistry, Queen's University, and Technical Director, GreenCentre Canada (Kingston, ON); **Claude Lajeunesse, FCAE**, Corporate Director and Chairperson of the Board of Directors, Atomic Energy of Canada Ltd. (Magog, QC); **Steve Liang**, Associate Professor, Geomatics Engineering, University of Calgary, Director, GeoSensorWeb Laboratory, and CEO, SensorUp Inc. (Calgary, AB); **Robert Luke**, Vice-President, Research and Innovation, OCAD University (Toronto, ON); **Douglas Peers**, Professor, Dean of Arts, Department of History, University of Waterloo (Waterloo, ON); **John M. Thompson, O.C., FCAE**, Retired Executive Vice-Chairman, IBM Corporation (Toronto, ON); **Anne Whitelaw**, Vice Provost, Planning and Positioning and Associate Professor, Department of Art History, Concordia University (Montréal, QC); **David A. Wolfe**, Professor, Political Science and Co-Director, Innovation Policy Lab, Munk School of Global Affairs, University of Toronto (Toronto, ON)

Reviewers:

Linda Butler, School Visitor, Australian National University (Canberra, Australia); **Susan A. McDaniel, FRSC**, Director, Prentice Institute, Canada Research Chair (Tier 1) in Global Population and Life Course, Prentice Research Chair in Global Population and Economy, and Professor of Sociology, University of Lethbridge (Lethbridge, AB); **Eliot A. Phillipson, O.C., FCAHS**, Sir John and Lady Eaton Professor of Medicine Emeritus, University of Toronto (Toronto, ON) and Former President and CEO, Canada Foundation for Innovation (Ottawa, ON)

BUILDING ON CANADA'S STRENGTHS IN REGENERATIVE MEDICINE

Workshop Steering Committee and Workshop Participants:

Janet Rossant, C.C., FRSC (Chair of Steering Committee and Workshop), President and Scientific Director, Gairdner Foundation (Toronto, ON); **Tania Bubela (Steering Committee)**, Professor, School of Public Health, University of Alberta (Edmonton, AB); **Allen C. Eaves, O.B.C. (Steering Committee)**, President and Chief Executive Officer, STEMCELL Technologies Inc. (Vancouver, BC); **Michael Rudnicki, O.C., FRSC (Steering Committee)**, Senior Scientist and Director, Regenerative Medicine Program and Sprott Centre for Stem Cell Research, Ottawa Hospital Research Institute and Scientific Director and CEO, Stem Cell Network (Ottawa, ON); **Anne-Marie Alarco**, Former Chief Scientific Officer, CellCAN (Montréal, QC); **Jane Aubin**, Chief Scientific Officer and Vice-President, Research, Knowledge Translation and Ethics, Canadian Institutes of Health Research (CIHR) (Ottawa, ON); **Paul A. Cassar**, Associate Scientist, Project Search and Evaluation, Centre for Drug Research and Development (CDRD) (Vancouver, BC); **Tina Ceroni**, Member, Board of Directors, Patient Advocate, Clinical Trials Ontario (Toronto, ON); **Sandra Donaldson**, Vice President, Strategy and Partnerships, Ontario Institute for Regenerative Medicine (OIRM) (Toronto, ON); **Connie Eaves, FRSC**, Distinguished Scientist, British Columbia Cancer Agency and Professor, Medical Genetics and Associate Member of Medicine and of Pathology and Laboratory Medicine, University of British Columbia (Vancouver, BC); **Julie Fradette**, Professor, CHU de Québec Research Centre - Université Laval and Director, ThéCell FRQS Network (Québec, QC); **Clive Glover**, Product Lead, Cell Therapy, GE Healthcare (Cardiff, United Kingdom); **Debra Mathews**, Assistant Director for Science Programs, Johns Hopkins Berman Institute of Bioethics and Associate Professor, Department of Pediatrics, Johns Hopkins University School of Medicine (Baltimore, MD); **Michael May**, President and Chief Executive Officer, Centre for Commercialization of Regenerative Medicine (CCRM) (Toronto, ON); **Christopher McCabe**, PACEOMICS Project Leader, Research Director, and Capital Endowed Chair, Department of Emergency Medicine, University of Alberta (Edmonton, AB); **Ivar Mendez, FCAHS**, Fred H. Wigmore Professor and Unified Head of Department of Surgery, University of Saskatchewan and Saskatoon Health Region (Saskatoon, SK); **Milica Radisic, FCAE**, Professor, Institute of Biomaterials and Biomedical Engineering, Department of Chemical Engineering and Applied Chemistry, University of Toronto and Affiliated Scientist, Toronto General Research Institute (Toronto, ON); **Victor Rafuse**, Professor and Director, Brain Repair Centre, Department of Medical Neuroscience, Dalhousie University (Halifax, NS); **Michael Sefton, FRSC, FCAE**, University Professor, Michael E. Charles Professor of Chemical Engineering, and Director, Institute of Biomaterials and Biomedical



Engineering, University of Toronto (Toronto, ON); **Duncan Stewart, FRSC, FCAHS**, Chief Executive Officer and Scientific Director, Ottawa Hospital Research Institute (Ottawa, ON); **Sowmya Viswanathan**, Assistant Professor, Institute of Biomaterials and Biomedical Engineering, University of Toronto, Affiliate Scientist, Arthritis Program, Krembil Research Institute, University Health Network; Cell Therapy Program, University Health Network; and Manufacturing Lead, CellCAN (Toronto, ON); **Peter Zandstra, FRSC**, University Professor, Institute of Biomaterials and Biomedical Engineering, University of Toronto (Toronto, ON)

Reviewers:

Harold L. Atkins, Physician, Ottawa Hospital (Ottawa, ON); **Lucie Germain, FCAHS**, Full Professor and Vice Dean of Research and Graduate Studies, Université Laval; Researcher, CHU de Québec – Université Laval Research Centre (Québec, QC); **Armand Keating**, Director, Cell Therapy Program, University Health Network (Toronto, ON); **Bartha Knoppers, FRSC, FCAHS**, Director, Centre of Genomics and Policy, McGill University (Montréal, QC); **Geoff MacKay**, President and CEO, AVROBIO Inc. (Cambridge, MA); **Denis Claude Roy**, CEO, CellCAN Regenerative Medicine and Cell Therapy Network and Research Director, Centre intégré universitaire de santé et de services sociaux de l'Est-de-l'Île-de-Montréal (CIUSSS) (Montréal, QC); **Kimberly A. Woodhouse, FCAE**, Dean, Faculty of Engineering and Applied Science, Queen's University (Kingston, ON); **Pamela Valentine**, Interim Chief Executive Officer and Executive Vice President, Strategic Planning and Initiatives, Alberta Innovates (Edmonton, AB)

SCIENCE POLICY: CONSIDERATIONS FOR SUBNATIONAL GOVERNMENTS

Workshop Steering Committee and Workshop Participants:

Joy Johnson, FCAHS, (Chair of Steering Committee and Workshop), Vice President Research, Simon Fraser University (Burnaby, BC); **Paul Dufour (Steering Committee)**, Adjunct Professor, Institute for Science, Society and Policy, University of Ottawa (Gatineau, QC); **Janet Halliwell (Steering Committee)**, President, J.E. Halliwell Associates Inc. (Salt Spring Island, BC); **Kaye Husbands Fealing (Steering Committee)**, Chair and Professor, School of Public Policy, Georgia Institute of Technology (Atlanta, GA); **Marc LePage (Steering Committee)**, President and CEO, Genome Canada (Ottawa, ON); **Allison Barr**, Director, Office of the Chief Scientist, Ontario Ministry of Research, Innovation and Science (Toronto, ON); **Eric Cook**, Executive Director and CEO, Research Productivity Council (Fredericton, NB); **Irwin Feller**, Professor Emeritus, Pennsylvania State University (State College, PA); **Peter Fenwick**, Member, A100 (Calgary, AB); **Richard Hawkins**, Professor, University of Calgary (Calgary, AB); **Jeff Kinder**, Director, Federal Science and Technology Secretariat (Ottawa, ON); **Robert Lamb**, Chief Executive Officer, Canadian Light Source Inc. (Saskatoon, SK); **John Morin**, Director of Policy, Planning and External Relations, Western Economic Diversification Canada (Edmonton, AB); **Nils Petersen**, Professor Emeritus, University of Alberta (Edmonton, AB); **Grace Skogstad**, Professor, University of Toronto (Toronto, ON); **Dan Wicklum**, Chief Executive, Canada's Oil Sands Innovation Alliance (COSIA) (Calgary, AB)

Reviewers:

David Castle, Vice-President Research, University of Victoria (Victoria, BC); **Timothy I. Meyer**, Chief Operating Officer, Fermi National Accelerator Laboratory (Batavia, IL); **Rémi Quirion, O.C., C.Q., FRSC**, Chief Scientist of Quebec (Montréal, QC); **P. Kim Sturgess, C.C., FCAE**, CEO, WaterSMART Ltd. (Calgary, AB)

THE VALUE OF COMMERCIAL MARINE SHIPPING TO CANADA

The Expert Panel on the Social and Economic Value of Commercial Marine Shipping to Canada:

Mary R. Brooks (Chair), Professor Emerita, Rowe School of Business, Dalhousie University (Halifax, NS); **Kristian Behrens**, Canada Research Chair in Regional Impacts of Globalization and Full Professor of Economics, Université du Québec à Montréal (Montréal, QC); **David Cardin**, Advisor, Canada Transportation Act Review Panel (Rockwood, ON); **Jackie Dawson**, Canada Research Chair in Environment, Society and Policy and Associate Professor, Department of Geography, Environment and Geomatics, University of Ottawa (Ottawa, ON); **Trevor Heaver**, Professor Emeritus, Sauder School of Business, University of British Columbia (Vancouver, BC); **Douglas House, C.M.**, Honorary Research Professor, Department of Sociology, Memorial University of Newfoundland (St. John's, NL); **John Lawson**, President and Principal, Lawson Economics Research, Inc. (Ottawa, ON); **Charles Menzies**, Professor, Department of Anthropology, University of British Columbia (Vancouver, BC); **Peter G. Noble, FCAE**, Principal Advisor, Noble Associates, Inc. and Past-President, Society of Naval Architects and Marine Engineers (SNAME) (Spring, TX); **Siri Pettersen Strandenes**, Professor, Norwegian School of Economics (NHH) (Bergen, Norway)

Reviewers:

Okan Duru, Assistant Professor, Texas A&M University at Galveston (Galveston, TX); **Koi Yu Adolf Ng**, Professor, Asper School of Business and Director, Transport Institute, University of Manitoba (Winnipeg, MB); **Serge Le Guellec**, President and General Manager, Transport Desgagnés Inc. (Québec, QC); **Peter Harrison**, Professor Emeritus, School of Policy Studies, Queen's University (Orleans, ON); **Henry Huntington**, Owner, Huntington Consulting (Eagle River, AK); **Jane Lister**, Associate Director, Centre for Transportation Studies and Faculty, Sauder School of Business, University of British Columbia (Vancouver, BC); **Peter Michaels Morrow**, Associate Professor, Department of Economics, University of Toronto (Toronto, ON); **James Nolan**, Professor, University of Saskatchewan (Saskatoon, SK)

ADAPTING TO THE TRANSPORTATION NEEDS OF AN AGING POPULATION

The Expert Panel on the Transportation Needs of an Aging Population:

Neena L. Chappell, C.M., FRSC, FCAHS, (Chair), Professor Emeritus, Institute on Aging & Lifelong Health and Department of Sociology, University of Victoria (Victoria, BC); **Maureen Ashe**, Associate Professor, Department of Family Practice, University of British Columbia (Vancouver, BC); **Howard Bergman, FCAHS**, Chair, Department of Family Medicine and Professor, Departments of Family Medicine, Medicine and Oncology, McGill University (Montréal, QC); **David Timothy Duval**, Associate Professor, Faculty of Business and Economics, University of Winnipeg and Associate, University of Manitoba Transport Institute (Winnipeg, MB); **Geoff Fernie, FCAHS**, Institute Director for Research, Toronto Rehabilitation Institute University Health Network (Toronto, ON); **Brian Flemming, C.M., Q.C.**, Senior Fellow, Van Horne Institute (Calgary, AB); **Katharine M. Hunter-Zaworski**, Associate Professor, School of Civil and Construction Engineering, Oregon State University (Corvallis, OR); **Lorne Mackenzie**, Director, Regulatory Affairs, WestJet Airlines (Calgary, AB); **Lynn McDonald**, Professor, Faculty of Social Work, University of Toronto (Toronto, ON); **David Metz**, Honorary Professor, Centre for Transport Studies, University College London (London, United Kingdom); **Alex Mihailidis**, Associate Professor,

Department of Occupational Science and Occupational Therapy and Institute of Biomaterials and Biomedical Engineering, University of Toronto (Toronto, ON); **Parminder Raina**, Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University, Canada Research Chair (Tier 1) in GeroScience and Raymond & Margaret Labarge Chair in Optimal Aging and Knowledge Application for Optimal Aging (Hamilton, ON); **Marian L. Robson**, Senior Associate, Global Public Affairs (Vancouver, BC); **S. C. (Chan) Wirasinghe, FCAE**, Professor, Department of Civil Engineering, University of Calgary (Calgary, AB)

INTEGRATED APPROACHES TO NATURAL RESOURCE MANAGEMENT IN CANADA

The Expert Panel on Integrated Natural Resource Management:

Cassie J. Doyle (Chair), CEO, Canadian International Resources and Development Institute (CIRDI) (Vancouver, BC); **Fikret Berkes, FRSC**, Distinguished Professor Emeritus, Natural Resources Institute, University of Manitoba (Winnipeg, MB); **Stan Boutin, FRSC**, Science Co-Director, Alberta Biodiversity Monitoring Institute and Professor and Alberta Biodiversity Conservation Chair, Biological Sciences, University of Alberta (Edmonton, AB); **Matthew Carlson**, Ecologist, ALCES (Ottawa, ON); **Thomas Dietz**, Professor, Sociology and Environmental Science and Policy, Assistant Vice President for Environmental Research, Michigan State University (East Lansing, MI); **George Greene**, Founding Chair, Stratos Consulting (Ottawa, ON); **Bram Noble**, Professor, Department of Geography and Planning and School of Environment and Sustainability, University of Saskatchewan (Saskatoon, SK); **Nancy Olewiler**, Professor, School of Public Policy, Simon Fraser University (Vancouver, BC); **Rachel Olson**, Team Co-Lead, Traditional Knowledge and Use Studies; Director, The Firelight Group (Vancouver, BC); **Martin Olszynski**, Assistant Professor, Faculty of Law, University of Calgary (Calgary, AB); **Kirstie E.M. Simpson**, Senior Adviser Sustainable and Integrated Resource Management, Energy, Mines and Resources, Yukon Government (Whitehorse, YT); **Ione L. Taylor**, Executive Director, Earth and Energy Resources Leadership, Department of Geological Sciences and Geological Engineering, Queen's University (Kingston, ON); **Alain Tremblay**, Senior Environmental Advisor, Hydro-Québec (Montréal, QC)

POLICING IN INDIGENOUS COMMUNITIES

The Expert Panel on Policing in Indigenous Communities:

Kimberly R. Murray (Chair), Assistant Deputy Attorney General, Indigenous Justice Division, Ministry of the Attorney General (Toronto, ON); **Jimmy Sandy Akavak, O.Nu.**, Director of Marketing, Nunavut Eastern Arctic Shipping and Former Sergeant, Royal Canadian Mounted Police (Iqaluit, NU); **Harley Crowshoe**, Senior Advisor, Indigenous Health Program (South Zone), Alberta Health Services (Lundbreck, AB); **Mylène Jaccoud**, Professor, School of Criminology, Université de Montréal (Montréal, QC); **Laurence Kirmayer, FRSC, FCAHS**, James McGill Professor and Director, Division of Social and Transcultural Psychiatry, Department of Psychiatry, McGill University and Director, Culture and Mental Health Research Unit, Lady Davis Institute, Jewish General Hospital (Montréal, QC); **Eileen Luna-Firebaugh**, Professor Emeritus, American Indian Law and Policy, University of Arizona (Tucson, AZ); **Naiomi Metallic**, Assistant Professor and Chancellor's Chair in Aboriginal Law and Policy, Schulich School of Law, Dalhousie University (Halifax, NS);

Kent Roach, C.M., FRSC, Professor and Prichard-Wilson Chair in Law and Public Policy, Faculty of Law, University of Toronto (Toronto, ON); **Philip Stenning**, Adjunct Professor, Griffith Criminology Institute, Griffith University (Queensland, Australia) and Honorary Professor, University of KwaZulu-Natal (Durban, South Africa); **John William Syrette**, Chief of Police, Anishinabek Police Service (Garden River, ON); **Norman E. Taylor**, President, Global Network for Community Safety Canada Inc. (Oshawa, ON)



MEDICAL ASSISTANCE IN DYING

The Expert Panel on Medical Assistance in Dying:

Marie Deschamps, C.C., Ad. E. (Chair), Former Justice of the Supreme Court of Canada and Adjunct Professor, McGill University (Montréal, QC), and Université de Sherbrooke (Sherbrooke, QC)

Mature Minors:

Dawn Davies (Working Group Chair), Associate Professor, Department of Pediatrics; John Dossetor, Health Ethics Centre, University of Alberta (Edmonton, AB); **Gail Beck, O.O.**, Clinical Director, Youth Psychiatry Program, The Royal (Ottawa, ON); **Carrie Bourassa**, Scientific Director, Institute of Aboriginal Peoples' Health, Canadian Institutes of Health Research (CIHR) (Sudbury, ON); **Franco A. Carnevale**, Professor, McGill University (Montréal, QC); **Joanna Chung**, Medical Psychology, Division of Hematology/Oncology/Bone Marrow Transplant, BC Children's Hospital (Vancouver, BC); **Joan Gilmour**, Professor, Osgoode Hall Law School, York University (Toronto, ON); **Stephen Goudge, Q.C., O.O.**, Counsel, Paliare Roland (Toronto, ON); **Mary Ellen Macdonald**, Associate Professor, McGill University (Montréal, QC); **Jean-Pierre Ménard, Ad. E.**, Lawyer, Ménard, Martin, Avocats (Montréal, QC); **Cheryl Milne**, Executive Director, David Asper Centre for Constitutional Rights, Faculty of Law, University of Toronto (Toronto, ON); **Ubaka Ogbogu**, Assistant Professor, University of Alberta (Edmonton, AB); **Bryan Salte**, Associate Registrar and Legal Counsel, College of Physicians and Surgeons of Saskatchewan (Saskatoon, SK); **Kimberley Widger**, Assistant Professor, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto (Toronto, ON); **Randi Zlotnik Shaul**, Director, Department of Bioethics, Hospital for Sick Children (Toronto, ON)

Advance Requests:

Jennifer Gibson (Working Group Chair), Sun Life Financial Chair in Bioethics, Director of the University of Toronto Joint Centre for Bioethics, Associate Professor of Health Policy, Management and Evaluation and Clinical Public Health, Dalla Lana School of Public Health, and Director of the World Health Organization Collaborating Centre for Bioethics, University of Toronto (Toronto, ON); **Benjamin L. Berger**, Professor and Associate Dean (Students), Osgoode Hall Law School, York University (Toronto, ON); **Martha Donnelly**, Geriatric Psychiatrist, Associate Professor Emeritus, Department of Psychiatry, University of British Columbia (Vancouver, BC);

Alika Lafontaine, Northern Medical Lead (Aboriginal Health), Alberta Health Services, Assistant Clinical Professor, University of Alberta, and Collaborative Team Lead, Indigenous Health Alliance (Grand Prairie, AB); **Trudo Lemmens**, Professor and Scholl Chair of Health Law and Policy, Faculty of Law, University of Toronto (Toronto, ON); **Susan MacDonald**, Associate Professor, Medicine and Family Medicine, Memorial University of Newfoundland (St. John's, NL); **Sheila A.M. McLean**, Emeritus Professor, Glasgow University (Glasgow, Scotland); **Dorothy Pringle, O.C., FCAHS**, Professor Emeritus, University of Toronto (Toronto, ON); **Patricia (Paddy) Rodney**, Associate Professor, School of Nursing, Faculty Associate, W. Maurice Young Centre for Applied Ethics, University of British Columbia, and Research Associate, Providence Health Care Ethics Services (Vancouver, BC); **Harvey Schipper**, Medicine, University of Toronto (Toronto, ON); **Samir Sinha**, Director of Geriatrics, Sinai Health System and University Health Network (Toronto, ON); **Tim Stainton**, Professor, University of British Columbia (Vancouver, BC); **Ross Upshur**, Professor, University of Toronto (Toronto, ON); **Agnes van der Heide**, Researcher, Erasmus MC, University Medical Center Rotterdam (Rotterdam, Netherlands)

Mental Illness:

Kwame McKenzie (Working Group Chair), Director Health Equity, Centre for Addiction and Mental Health (CAMH); Professor of Psychiatry, University of Toronto; CEO, Wellesley Institute (Toronto, ON); **Melissa K. Andrew**, Associate Professor of Medicine (Geriatrics), Dalhousie University and Nova Scotia Health Authority (Halifax, NS); **Yves Beauchamp, C.O., FCAE**, Vice-Principal Administration and Finance, McGill University (Montréal, QC); **Jennifer A. Chandler**, Bertram Loeb Research Chair, Full Professor, Centre for Health Law, Policy and Ethics, Faculty of Law, University of Ottawa (Ottawa, ON); **Pierre Deschamps, C.M.**, Member of Research Group on Health and Law, McGill University (Montréal, QC); **Jocelyn Downie, FRSC, FCAHS**, University Research Professor, Faculties of Law and Medicine, Dalhousie University (Halifax, NS); **Martin Drapeau, O.Q.**, Professor, McGill University (Montréal, QC); **Colleen M. Flood, FRSC**, Director, Centre for Health Law Policy and Ethics, Professor and Research Chair in Health Law, University of Ottawa (Ottawa, ON); **Arthur W. Frank, FRSC**, Professor Emeritus, University of Calgary (retired) (Calgary, AB); **K. Sonu Gaid**, Associate Professor, University of Toronto (Toronto, ON); **Mona Gupta**, Associate Professor and Psychiatrist, Centre hospitalier de l'Université de Montréal (CHUM), Université de Montréal (Montréal, QC); **Scott Y.H. Kim**, Senior Investigator, National Institutes of Health (Bethesda, MD); **Brian L. Mishara**, Director, Centre for Research and Intervention on Suicide and Euthanasia (CRISE), Université du Québec à Montréal (Montréal, QC); **Tanya Park**, Assistant Professor, Faculty of Nursing, University of Alberta (Edmonton, AB); **Suzanne Stewart**, Director, Waakebiness-Bryce Institute for Indigenous Health (Toronto, ON)

LEARNING EXPERIENCES OFFERED BY BUSINESS SCHOOLS IN CANADA

The Workshop Steering Committee for Learning Experiences Offered by Business Schools in Canada:

John R. McDougall, FCAE (Chair), President, DALCOR Innoventures Ltd. (Edmonton, AB); **Deborah Ancona**, Seley Distinguished Professor of Management, Professor of Organization Studies and Director, MIT Leadership Center at MIT Sloan School of Management (Cambridge, MA); **Colleen Collins**, Vice-President, Canada West Foundation (Calgary, AB); **Robert G. Cooper**, Professor Emeritus, McMaster University and ISBM Distinguished Research Fellow, Pennsylvania State University (State College, PA); **C. Brooke Dobni**, Professor of Management, Edwards School of Business, University of Saskatchewan (Saskatoon, SK); **Laurent Simon**, Full Professor, Entrepreneurship and Innovation Department, HEC Montréal (Montréal, QC)

ASSESSING EVIDENCE

Since our last Annual Report, the CCA released five reports: three were released in fiscal year 2016/2017, and two more were released in fiscal year 2017/2018. Six further reports are underway. Each of these are described below.



Title:
Commercial Marine Shipping
Accidents: Understanding the
Risks in Canada (Workshop Report)

Release Date:
April 2016

Sponsor:
Clear Seas Centre for Responsible
Marine Shipping

RISKS OF COMMERCIAL MARINE SHIPPING

Charge:

What are the main areas of social, environmental, and economic risk associated with key stages of marine shipping of goods [e.g., oil, coal, liquefied natural gas, hazardous and noxious substances] in Canadian waters? Are these risks commonly agreed upon? To what extent are they measurable?

Why This Matters:

The shipping industry is important to the livelihood of Canadians, but it has also faced increased public scrutiny in recent years. The risks associated with opening the Arctic to greater ship traffic, increasing marine shipments of oil from Canada's oil sands, and the growth in vessel size (especially of container ships) have all contributed to this discussion.

Findings:

Overall, the evidence shows that Canada's waters have been getting safer over the past decade, with fewer commercial marine shipping accidents. The Panel found:

- Commercial marine shipping has benefited from improved traffic control technology, better ship design, and a strengthened regulatory regime.
- Accidents do still occur, yet typically do not result in large impacts.

Both the likelihood of an accident and the severity of its impact vary greatly across Canada's regions. This is due to differences in types of cargo, waterway characteristics, risk prevention policies such as moratoriums or pilotage zones, and a host of other factors.

April 29, 2016

REPORT UNDERLINES OVERALL SUCCESS OF CANADA'S MARINE SAFETY

Maritime Magazine

A new report released by the Council of Canadian Academies (CCA) focuses on the likelihood of commercial marine shipping accidents in Canada as well as the potential social, economic, and environmental impacts of such accidents...



MEOPAR @MEOPAR_NCE

New report on commercial marine shipping accidents in Canada:
meopar.ca/news/entry/new...

Marine Institute @marineinstitute

The report breaks down the risks of Cdn. maritime shipping regions

Oceana Canada @OceanaCAN

Report on #marineshipping finds #Canadian waters are safer but research gaps still exist scienceadvice.ca/en/assessments...



Title:
Preliminary Data Update on
Canadian Research Performance
and International Reputation

Release Date:
December 2016

Sponsor:
Innovation, Science and Economic
Development Canada (ISED)

PRELIMINARY S&T DATA UPDATE

Charge:

What is the current state of science and technology and industrial research and development in Canada?

Why This Matters:

This preliminary report contains an update of key bibliometric and opinion survey data comparable to that published in the CCA's 2012 assessment of the state of science and technology in Canada. Highlights include updated data on research output and collaboration, research impact, international reputation and stature, and data on research fields. This data update is part of a larger exercise to assess the state of research and development in Canada. The purpose of the preliminary data release was to support ongoing efforts to inform federal science policy, such as those of the Fundamental Science Review Panel. This preliminary report does not identify Canada's research strengths, as was done in the full 2012 report. The data presented will be subject to further review and analysis by the Expert Panel over the course of the next year. These data, as well as additional evidence on research performance, research and development expenditures, patents, highly qualified personnel, and business innovation, will inform the conclusions of the Panel's final report, expected to be published in early 2018.

December 16, 2016

CCA R&D PANEL RELEASES PRELIMINARY DATA

Canadian Academy of Engineering

The Council of Canadian Academies' Expert Panel on the State of Science and Technology and Industrial Research and Development in Canada has released the Preliminary Data Update on Canadian Research Performance and International Reputation. It contains a preliminary update of key bibliometric and opinion survey data comparable to that published in the 2012 CCA assessment on the state of science and technology in Canada...



@Scienceadvice

Out today: preliminary data update on Cdn Research Performance & Intern'l Reputation, part of our S&T and IR&D smnt scienceadvice.ca/en/assessments/in-progress/stateofstandird.aspx...



Title:
Building on Canada's Strengths
in Regenerative Medicine

Release Date:
March 2017

Sponsor:
Innovation, Science and Economic
Development Canada (ISED)

REGENERATIVE MEDICINE IN CANADA

Charge:

What are Canada's strengths in regenerative medicine (and why are they strengths)? Consider the following categories: basic research, development of cell-based regenerative therapies, drug, device, and technology development, translation of therapies to the clinic, human resources and capital, collaboration/networks, regulatory/ethics environment, funding environment/resource allocation.

Given these strengths, what are the opportunities that exist and barriers that must be overcome for Canada to ensure that it can excel at regenerative medicine in the international arena?

Why This Matters:

Regenerative medicine has the potential to transform healthcare by treating previously incurable chronic diseases and genetic disorders. Since the discovery of stem cells in the early 1960s by Canadian scientists Drs. James Till and Ernest McCulloch, significant advancements in regenerative medicine have followed, many made by Canadian researchers and practitioners. With these advancements in regenerative medicine, and with other countries investing heavily in stem cell science, it is vital for Canada to take stock of the field and better understand the current state of regenerative medicine science in this country.

Findings:

Overall, the workshop report confirms that the field of regenerative medicine remains strong in Canada. Canadian research is both of high quality and highly cited, and a collaborative culture — enhanced by national networks — helps Canada maintain its position as a leader in the field. However, this leadership position relies on ongoing efforts, including continued stable and strategic investment in researchers, collaborative networks, and infrastructure.

The workshop report identifies several opportunities to strengthen the regenerative medicine community in Canada. The most promising opportunities involve:

- Formalizing coordination among regenerative medicine initiatives and key players to speak with one voice on common priorities.
- Establishing long-term and stable support for current networks, including those focused on commercialization, to help address the so-called “valley of death” that exists when translating research discoveries to clinical and industry settings.
- Enhancing coordination and alignment between the federal regulatory system and provincial healthcare systems.
- Supporting existing manufacturing infrastructure and growing the regenerative medicine industry in Canada to provide jobs for highly skilled personnel while also benefiting the Canadian economy.

March 9, 2017

NEW REPORT ECHOES CALL TO BUILD ON CANADA'S STEM CELL STRENGTH

Canadian Stem Cell Foundation

Stem cells have the potential to transform Canadian health care by improving patient outcomes and making the system more efficient, according to a new report by the Council of Canadian Academies (CCA)...

March 22, 2017

CANADA'S REGENERATIVE MEDICINE SECTOR POISED TO SOAR WITH BETTER FUNDING AND COLLABORATION: REPORT

Research Money

Canadian expertise and achievements in regenerative medicine (RM) could be at a turning point if strategic steps are taken to increase stable funding and achieve greater coordination among the many federal and provincial players...



André Picard @picardonhealth

Canada's Strengths in Regenerative Medicine. New report from @Scienceadvice
scienceadvice.ca/en/assessments... via @dk_munro #stemcells



Title:
Science Policy: Considerations
for Subnational Governments

Release Date:
April 2017

Sponsor:
Government of Alberta

April 19, 2017

**CCA RELEASES
NEW REPORT ON
SUBNATIONAL
SCIENCE POLICY**

**Institute for Science,
Society and Policy**

The Council of Canadian Academies (CCA) has released its latest workshop report, Science Policy: Considerations for Subnational Governments...

May 2017

**BIG GAINS POSSIBLE
WITH EXPLICIT
PROVINCIAL SCIENCE
POLICIES: CCA REPORT**

Research Money

Provinces that develop and deploy explicit science policies benefit from greater coordination, alignment and clarity of their science-based activities,...

SUBNATIONAL SCIENCE POLICY

Charge:

What are the necessary considerations when creating science policy at the subnational level?

Why This Matters:

In Canada, science is as much a provincial endeavour as it is a national one. Science has the potential to inform policy development and enhance public welfare in areas such as security, health, the environment, education, and social policy. Investments in science can create new economic opportunities and help develop the knowledge and social capital of specific regions. Realizing these benefits, however, requires effective science policies across all levels of government.

Findings:

Overall, the workshop report affirms the importance of explicit science policies at the subnational level. While all governments have implicit science policies, the report emphasizes that explicit science policies help to articulate the value and objectives of support for science, enhance government coordination and alignment, and increase transparency. Making science policy explicit at the subnational level can also aid in leveraging federal support for science. Key findings include:

- The rationale for creating an explicit science policy at the subnational level is compelling.
- Science and innovation policies are distinct, but inextricably linked, for all levels of government.
- Subnational governments play many of the same roles as national governments in supporting science.
- A comprehensive framework for a science policy can be built around five core elements: people, infrastructure, research, science culture, and knowledge mobilization.
- Cross-sectoral and cross-governmental coordination and cooperation are central to an effective subnational science policy.
- A subnational science policy can bring clarity to provincial research priorities.
- Committing long term to a subnational science policy is important for maintaining and developing the science system.



CASRAI @casrai

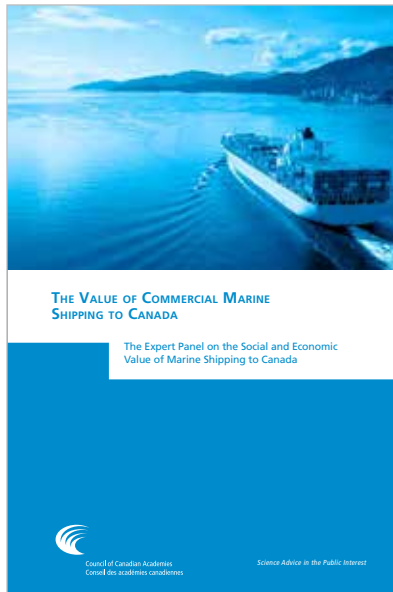
Report – Science Policy: Consideration for Subnational Governments
forum.casrai.org/t/report-scienc... #casraiCA17

Genome Canada @GenomeCanada

A compelling case for explicit science policy within subnational governments.
Read the CCA report bit.ly/GC_CCA @Scienceadvice

Ma'n H. Zawati @MHZawati

Council of Canadian Academies @Scienceadvice #Science #Policy:
Considerations for Subnational Governments scienceadvice.ca/en/assessments



Title:
The Value of Commercial Marine Shipping to Canada

Release Date:
May 2017

Sponsor:
Clear Seas Centre for Responsible Marine Shipping

May 27, 2017

THE SOCIAL AND ECONOMIC VALUE OF COMMERCIAL MARINE SHIPPING TO CANADA

Port Economics

The social and economic value of commercial marine shipping to Canada was the theme of a report that was published this week by the Council of Canadian Academies...

June 11, 2017

REPORT DOCUMENTS VALUE OF CANADIAN SHIPPING

The Maritime Executive

A new study commissioned by Clear Seas Centre for Responsible Marine Shipping and conducted by the Council of Canadian Academies...

VALUE OF COMMERCIAL MARINE SHIPPING

Charge:

What is the social and economic value of commercial marine shipping to Canada and its regions? How will global trends related to shipping affect future shipping activity in Canada?

Why This Matters:

As a maritime nation, Canada's economy, culture, environment, and security have long been interlinked with commercial marine shipping. Critical to Canada's historical development, marine shipping continues to be vital to international trade and the development of communities. It is often the only means by which food and essential goods reach Canada's island, remote, and northern communities. While it is evident that marine shipping is of critical importance to Canada, its value had never been comprehensively assessed until now.

Findings:

Overall, the Panel estimated the national economic value of commercial marine shipping at approximately \$30 billion, significantly higher than traditional economic impact measurements. The Panel concluded that:

- By moving goods and people, marine shipping has played a formative role in Canada's history. Today, despite other competing modes of commercial transportation, marine shipping remains an important part of Canada's economy and culture.
- The negative environmental impacts of marine shipping in Canada are mostly declining. Commercial marine shipping produces only 1% of Canada's GHG emissions.
- The regional and local impacts of marine trade and shipping employment are unevenly distributed across Canada. Some negative cultural, environmental, and security impacts tend to be concentrated locally.
- Commercial marine shipping is evolving in response to global and domestic social trends. The overall effect of these trends will likely increase future shipping activity in Canada.



SAFETY4SEA @safety4sea

Marine #shipping remains an important part of #Canada's economy & culture! @Scienceadvice @ClearSeasOrg

PortEconomics @PortEconomics

The #social and #economic #value of #commercial #marine #shipping to #Canada M.R.Brooks @PortEconomics goo.gl/W3s7ps

ESG UQAM Recherche @ESGRecherche

Nouveau #rapportsCAC avec la collaboration du professeur @esg_uqam Kristian Behrens & @Scienceadvice

PROJECTS UNDERWAY

ADAPTING TO THE TRANSPORTATION NEEDS OF AN AGING POPULATION

Canada's aging baby boomer generation is changing the demographic profile of this country, matching a worldwide trend. By 2036, it is anticipated that there will be 9.8 million Canadians age 65 years and older. These shifting demographics will have an impact on the national transportation system, presenting a range of challenges and opportunities for decision-makers.

This shift provides a strong motivation to explore innovative strategies that can help encourage and facilitate the use of the transportation system by seniors, while also making it more accessible for all Canadians.

Charge:

How can technology and innovation help the Canadian transportation system adapt to the needs of an aging population?

Sponsor:
Transport Canada

Expected Release:
Early 2018

THE STATE OF SCIENCE AND TECHNOLOGY AND INDUSTRIAL RESEARCH AND DEVELOPMENT IN CANADA

This assessment will be the third edition in the State of S&T and Industrial R&D assessment series. An understanding of the S&T and IR&D environment is crucial to supporting Canada's innovation, science, and economic development. The CCA's reports on the state of S&T and IR&D provide valuable data and analysis documenting Canada's S&T and IR&D strengths and weaknesses. New data will help identify trends that have emerged in the Canadian S&T and IR&D environment in the past four to five years.

Charge:

What is the current state of science and technology and industrial research and development in Canada?

Sponsor:
Innovation, Science and Economic Development Canada (ISED)

Expected Release of Final Report:
Early 2018*

*A preliminary data update was released in December 2016.

INTEGRATED APPROACHES TO NATURAL RESOURCE MANAGEMENT IN CANADA

Canada is endowed with a diversity of resources. In some regions, energy, forestry, and mining activities, for example, may all occur simultaneously and in close proximity. While each of these activities may on its own have well-understood environmental, social, and economic impacts, when considered together, the overall impact can be complex and significant. Historically, resource management decisions were made on a project-by-project basis, but there is a growing interest in deploying more integrated approaches that consider the full set of activities occurring in an area, in order to better support decision-making and the sustainable use of all resources.

In recent years, integrated natural resource management has been gaining momentum in Canada. However, progress and barriers are difficult to assess and evaluate. This new CCA assessment will bring together a disparate knowledge base to shed new light on how both science and traditional knowledge can be best applied to enhance the management of natural resources in Canada. It will focus on land-based resource management, including agricultural production. Freshwater systems (surface and groundwater) affected by land-based activities are also within the scope of the assessment.

Charge:

What is the state of knowledge and practice of integrated approaches to natural resource management in Canada?

Sponsor:

Natural Resources Canada

Expected Release:

Late 2018

POLICING IN INDIGENOUS COMMUNITIES

Police services in Indigenous communities may face a series of challenges including remoteness, limited access to social services, and scarce resources. At the same time, there are opportunities to strengthen community ties, improve safety outcomes, and enhance the cultural responsiveness of policing in these communities. This assessment will expand on the CCA's 2014 study, *Policing Canada in the 21st Century: New Policing for New Challenges*, to explore the distinctive context of policing in Indigenous communities, and to examine promising and leading practices that could be applied to meet these challenges.

Charge:

Building on the research study *Policing Canada in the 21st Century: New Policing for New Challenges*, what could be drawn from the current evidence and knowledge about the present and future role of police services in Indigenous communities in Canada? What are some promising and leading practices in policing that could be applied in Indigenous communities?

Sponsor:

Public Safety Canada

Expected Release:

Late 2018

MEDICAL ASSISTANCE IN DYING

In December 2016, the Minister of Health, the Minister of Justice, and the Attorney General of Canada asked the CCA to examine three types of requests for medical assistance in dying that

were identified as particularly complex and worthy of further study in the introduction to the Government of Canada's legislation in early 2016: requests by mature minors, advance requests, and requests where mental illness is the sole underlying medical condition. In undertaking these reviews, the CCA will compile and assess information and evidence to inform the ongoing policy discussion surrounding medical assistance in dying in these three circumstances.

Charge:

What is the available evidence on, and how does it inform our understanding of, medical assistance in dying (MAID) in the case of mature minors, advance requests, and where mental illness is the sole underlying medical condition, given the clinical, legal, cultural, ethical, and historical context in Canada?

Sponsor:

Health Canada and Justice Canada

Expected Release:

Late 2018

December 2016

GOVERNMENT LAUNCHES PROMISED REVIEW OF ISSUES LEFT OUT OF ASSISTED DYING LAW

CBC News

The federal government has initiated the promised review of its restrictive new law on medically assisted dying to determine if it should be expanded to include Canadians suffering strictly from mental illnesses, mature minors and those with competence eroding conditions who want to make advance requests...

April 2017

CCA LAUNCHES NEW ASSESSMENT ON POLICING IN INDIGENOUS COMMUNITIES

Canadian Association of Police Governance – Newsletter

The Council of Canadian Academies (CCA) has announced the launch of a new assessment project to examine the present and future role of police services located on reserves...

LEARNING EXPERIENCES OFFERED BY BUSINESS SCHOOLS IN CANADA

The ability of managers and executives to lead and organize the innovation process within a business is critical to the success of that business. However, business innovation in Canada has historically been much slower than that of other advanced countries. The main goal of this project is to develop an evidence base on how to best teach innovation management skills. The focal point will be the teaching practices offered by business schools, both in Canada and internationally, and how these correspond to the demand for innovation management skills in the private sector.

Charge:

The following questions will help to guide a facilitated workshop:

- What are the management skills required to ensure innovative corporate culture?

- What are some of the leading practices in teaching those skills?
- How have the learning experiences offered by Canadian business schools evolved over the last decade, for students and business managers, younger and older, to incorporate the management of innovation?
- How do the programs and experiences provided in Canadian business schools compare with other innovative countries and what are some promising initiatives that could be adopted in Canadian business schools?
- What is the role of other faculties in enhancing an innovation culture and how do business schools integrate these efforts into their programs?

Sponsor:
Innovation, Science and
Economic Development Canada

Expected Release:
Late 2018

March 31, 2017

SHOULD MENTALLY ILL CANADIANS HAVE ACCESS TO ASSISTED DYING?

Maclean's – Daniel Munro

In 2016, after the Supreme Court ruled that a prohibition on medically assisted dying is unconstitutional, the federal government passed legislation that permits assisted dying for patients under certain conditions. Individuals may receive medical assistance in dying if they have a grievous and irremediable medical condition that involves unbearable suffering, and when their natural death is reasonably foreseeable. While the law allows people with mental illness to qualify for assisted death if they also have a physical condition that meets the criteria, individuals whose sole medical condition is mental illness are not eligible... A key question, then, is whether a society with medically assisted dying will see an increase in suicide due to normalization, or a decrease as more people receive life-saving treatment when they engage with medical professionals. The Council of Canadian Academies' expert panel on assisted dying for people with mental illness should address this critical question in its report to the Minister of Health due in December 2018...

May 2017

REGULATING DEVELOPMENT: ENERGY, ENVIRONMENTAL CHANGES AND THE LAW

UCalgary News – Mike Fisher

As energy companies explore more unconventional locations and try to tie into more markets, the law is failing to keep up and should be made more transparent, say UCalgary legal experts. Citizens are demanding a stronger voice in the legal system in Alberta (and Canada-wide) as issues arise that range from parks and species protection to energy-related drilling and pipelines, says Shaun Fluker, an associate professor in UCalgary's Faculty of Law... Martin Olszynski, assistant professor of law at the University of Calgary, who specializes in environmental, natural resources, and water law and policy, also believes the law is not keeping pace with developments in the areas of energy and the environment. "The biggest challenge is the lack of transparency in environmental decision-making," says Olszynski, who has been recently appointed to serve on the Council of Canadian Academies Expert Panel on Integrated Natural Resource Management...

INFORMING DECISIONS

The CCA has been informing decisions and inspiring national discussions since 2006, having published over 40 reports. While tangible impacts may not surface immediately, it is clear our reports are making a significant impression on governments, industry, academia, and even mainstream media.

The initial concept for the Regenerative Medicine Alliance of Canada (RMAC) was conceived by members of the regenerative medicine community during the two-day CCA workshop for the *Building on Canada's Strengths in Regenerative Medicine* report, held in October 2016. RMAC was officially launched in March 2017.



Dr. Janet Rossant, Chair of the Regenerative Medicine assessment, presented report findings at Cell & Gene Therapy Revolution, CellCAN's 1st PanCanadian Strategic Forum held in Montréal on March 9, 2017. Dr. Rossant was also on hand to give media interviews and discuss the importance of regenerative medicine to Canada.

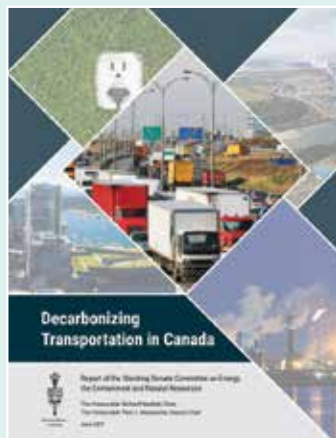
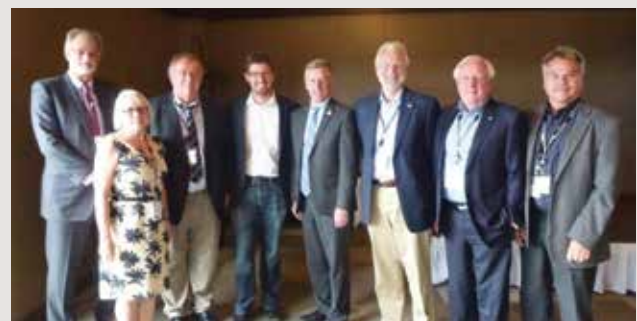
The CCA released its *Preliminary Data Update on Canadian Research Performance and International Reputation* in December 2016. This report, along with other CCA assessments, was cited in *Investing in Canada's Future: Strengthening the Foundations of Canadian Research* (known widely as the Naylor report), released in April 2017.





In February 2017, the CCA hosted an interactive panel session at the American Association for Advancement of Science (AAAS) Annual Meeting in Boston, entitled *Evidence-Based Science Advice in the Age of Information: A Canadian Perspective*. The session featured Maryse Lassonde, President, Royal Society of Canada; Rémi Quirion, Chief Scientist of Quebec; and Timothy Caulfield, Canada Research Chair in Health Law and Policy, University of Alberta. The session was moderated by the CCA’s President, Eric M. Meslin.

In May 2017, among many other presentations, Mary R. Brooks, Chair of the *Value of Commercial Marine Shipping to Canada* assessment, presented the report findings at the Canadian Transportation Research Forum’s Annual Conference in Winnipeg.



In December 2016, CCA President Eric M. Meslin and SAC Member and CAE President-Elect Eddy Isaacs appeared before the Senate Committee on Energy, the Environment and Natural Resources to discuss the findings of the CCA’s reports on energy use and oil sands technologies, as well as the CAE Trottier Energy Futures Project. One of the reports of the Senate Committee was released in June 2017.

As part of the November 2017 CSPC conference in Ottawa, the CCA will be hosting a panel session entitled *Leveraging Federal Science: How Provinces Can Make a Difference in Strengthening Canadian Knowledge Production*. This session will build on the findings of the CCA’s April 2017 report, *Science Policy: Considerations for Subnational Governments*.



ANNEX I:

CORPORATE PROFILE

The Council of Canadian Academies is a not-for-profit organization registered under the *Canada Not-for-Profit Corporations Act*. It began operation in 2005. The CCA has three Member Academies: the Royal Society of Canada, the Canadian Academy of Engineering, and the Canadian Academy of Health Sciences.

ASSESSMENTS

Proposed assessment topics requested by the Government of Canada are selected through a cross-government competitive process and submitted to the CCA for consideration. The criteria used to evaluate proposed assessments are listed below. These criteria are also suggested for assessments conducted for the private sector, non-profits, other non-governmental organizations, and provincial and municipal governments.

Government Criteria:

- The proposal is relevant to the agenda of the sponsoring department/agency and to Canada's policy agenda.
- The assessment topic is timely, and the timeframe for assessment is consistent with the needs of the sponsoring department/agency and of Canada.
- The value provided by the CCA is unique.
- The assessment topic is a science-based question that has been coordinated with relevant departments/agencies and external stakeholders.

CCA Criteria:

- The topic is of importance to Canada and its citizens.
- The appropriate expertise can be assembled and the required timeline can be met.
- The existing state of knowledge merits the assessment.
- Science underpins the question and its response.

Other Criteria:

- The report is likely to be widely consulted within and outside government (i.e., other levels of government or organizations have a demonstrated interest in the outcome of the assessment).
- The topic is uniquely relevant to Canada.
- The topic is an international issue for which a Canadian assessment is important at this time.

The CCA's Board of Governors, assisted by a Scientific Advisory Committee, oversees the integrity of the assessment process. The Board formally approves assessment questions, expert panel membership, report review processes, and the public release of reports.

To protect the independence of the assessment process, the sponsor of an assessment does not participate in conducting the assessment, review drafts of the report, or propose any changes to the report before its release. Assessment reports undergo a formal peer review process to assure quality and objectivity. The Board is responsible for authorizing the public release of final assessment reports, and is advised in this regard by a report review monitor who ensures that expert panels give full and fair consideration to the comments of the external reviewers of every CCA report. Reports are posted on the CCA's website, www.scienceadvice.ca, in both official languages, and can be downloaded free of charge to ensure their availability to the public.

FUNDING

The CCA was established with an investment by the Government of Canada in the form of a 10-year grant worth \$30 million. This founding grant was intended to support core operations of the CCA through to March 31, 2015. In the April 2015 federal budget, this commitment was renewed with an additional contribution of \$15 million over five years.

Conditions on the use of the funds provided by the government are set out in a formal funding agreement between the CCA and the Government of Canada as represented by the Minister of Industry, Science and Economic Development. The CCA also conducts assessments outside of the federal government agreement. These assessments are referred to the CCA by non-profits, non-governmental organizations, the private sector, or provincial and municipal governments.

STRUCTURE AND GOVERNANCE

The CCA is governed by a 12-member Board of Governors. The Board is responsible for setting the strategic direction of the organization, ensuring that the CCA fulfills its mandate, and overseeing the CCA's operations.

Each founding Member Academy nominates two governors. The three members elect two governors from the general public. The remaining four governors are nominated by the Minister of Industry, Science and Economic Development and are formally elected by the Members at the Annual General Meeting.

Governance of the CCA is supported by four committees of the Board of Governors:

- Executive Committee
- Audit, Finance, and Risk Committee

- Nominating and Governance Committee
- Human Resources and Compensation Committee

The work of the CCA is also supported by a Board-appointed Scientific Advisory Committee that provides advice on the substance and procedures of expert assessments, particularly on the following aspects:

- generating potential subjects for future assessments;
- evaluating the suitability of subjects proposed to the CCA for expert assessment;
- setting the terms of reference for the independent expert panels that carry out the assessments;
- seeking out potential members for expert panels; and
- overseeing the process of peer review of draft assessment reports.

Day-to-day operations of the CCA are carried out by a small staff team, under the direction of a full-time President and CEO. Staff provide support to expert panels with research, writing, and overall management of logistics for the assessments and the production of reports. Staff also support the work of the Scientific Advisory Committee, particularly with analyzing proposed assessment topics, identifying panel membership, and managing the report review process.

Members of the Board of Governors, Scientific Advisory Committee, and staff are listed in Annex II.

STATEMENT OF INVESTMENT POLICY

The Statement of Investment Policy was formally approved by the Board of Governors and is available on the CCA website.

FINANCIAL STATEMENTS: FISCAL YEAR ENDED MARCH 31, 2017

The CCA retained the Ottawa-based accounting firm Parker Prins Lebano to audit the financial results for the fiscal year 2016/17. The CCA's financial statement for 2016/17 is provided in Annex III. Parker Prins Lebano, an independent financial auditor, wrote the CCA on May 29, 2017 confirming that, based on its audit findings, all expenses associated with the Agreement were eligible in nature.

HUMAN RESOURCES

The CCA focuses its human resource activity on the values outlined in the strategic plan. Those values are: excellence, independence, integrity, collaboration, and innovation.

ANNEX II:**BOARD OF GOVERNORS, SCIENTIFIC ADVISORY COMMITTEE AND STAFF****BOARD OF GOVERNORS**

(As of March 31, 2017)

Margaret Bloodworth, C.M., Chair

Former Federal Deputy Minister and National Security Advisor (Ottawa, ON)

Tom Brzustowski, O.C., FRSC, FCAE**

Member of the Board of the Institute for Quantum Computing, University of Waterloo; Member of the Board, Waterloo Global Science Initiative (Waterloo, ON)

Henry Friesen, C.C., FRSC, FCAHS*

Distinguished Professor Emeritus and Senior Fellow, Centre for the Advancement of Medicine, Faculty of Medicine, University of Manitoba (Winnipeg, MB)

Carol P. Herbert, FCAHS

Professor Emerita, Family Medicine, Western University; President of the Canadian Academy of Health Sciences (London, ON)

Claude Jean*

Executive Vice President and General Manager, Foundry Operation, Semiconductor Teledyne DALSA (Bromont, QC)

Maryse Lassonde, O.C., O.Q., FRSC, FCAHS

Scientific Director, Quebec Natural Sciences and Technology Granting Agency; President, Royal Society of Canada (Montréal, QC)

Peter MacKinnon, O.C.*

Interim President, Athabasca University (Athabasca, AB); Former President and Vice Chancellor, University of Saskatchewan (Saskatoon, SK)

Pierre Lortie, C.M., FCAE**

Senior Business Advisor, Dentons LLP; Past President of the Canadian Academy of Engineering (Montréal, QC)

Jeremy McNeil, C.M., FRSC

Helen Battle Professor of Chemical Ecology, Department of Biology, Western University (London, ON)

Axel Meisen, C.M., FCAE

Former Chair of Foresight at Alberta Innovates – Technology Futures (AITF) (Edmonton, AB)

Lydia Miljan

Associate Professor of Political Science and Chair of the Arts and Science Program, University of Windsor (Windsor, ON)

Ted Morton*

Executive Fellow, School of Public Policy and Professor of Political Science, University of Calgary (Calgary, AB)

Linda Rabeneck, FCAHS

Vice President, Prevention and Cancer Control at Cancer Care Ontario; President-elect, Canadian Academy of Health Sciences (Toronto, ON)

*term ended July 2016

**appointed September 2016

SCIENTIFIC ADVISORY COMMITTEE

(As of March 31, 2017)

Susan A. McDaniel, FRSC, Chair

Director, Prentice Institute; Canada Research Chair (Tier 1) in Global Population and Life Course; Prentice Research Chair in Global Population and Economy; Professor of Sociology, University of Lethbridge (Lethbridge, AB)

Lorne Babiuk, O.C., FRSC, FCAHS

Vice President (Research), University of Alberta (Edmonton, AB)

Chad Gaffield, FRSC

Professor of History and University Research Chair in Digital Scholarship, University of Ottawa (Ottawa, ON)

Jean Gray, C.M., FCAHS

Professor Emeritus, Medical Education, Medicine, and Pharmacology, Dalhousie University (Halifax, NS)

John Hepburn, FRSC

Vice-President, Research, CIFAR (Vancouver, BC)

Eddy Isaacs, FCAE

President, Eddy Isaacs Inc.; Strategic Advisor, Engineering, University of Alberta (Edmonton, AB)

Gregory S. Kealey, FRSC

Professor Emeritus, Department of History, University of New Brunswick (Fredericton, NB)

Daniel Krewski

Professor of Epidemiology and Community Medicine and Scientific Director of the McLaughlin Centre for Population Health Risk Assessment, University of Ottawa (Ottawa, ON)

Stuart MacLeod, FCAHS

Professor of Pediatrics (Emeritus), University of British Columbia (Vancouver, BC); Adjunct Professor, Community Health and Epidemiology, Dalhousie University (Halifax, NS)

Norbert R. Morgenstern, C.M., FRSC, FCAE*

Professor (Emeritus), Civil Engineering, University of Alberta (Edmonton, AB)

Sarah P. Otto, FRSC*

Professor and Director of the Biodiversity Research Centre, University of British Columbia (Vancouver, BC)

Eliot A. Phillipson, O.C., FCAHS

Sir John and Lady Eaton Professor of Medicine Emeritus, University of Toronto (Toronto, ON); Former President and CEO, Canada Foundation for Innovation (Ottawa, ON)

*term ended December 2016

STAFF OF THE COUNCIL OF CANADIAN ACADEMIES

Eric M. Meslin, PhD, FCAHS

President and CEO

Erin Bassett, PhD

Research Associate

Jennifer Bassett, PhD***

Research Associate

Amanda Bennett, PhD*

Research Associate

Laura Bennett, MA

Research Associate

Dane Berry, MPP

Research Associate

Anna Buczek, BScH

Outreach and
Communications
Specialist

**Tom Bursey, MBA,
FCPA, FCMA, ICD.D**

Vice President, Corporate
Services and CFO

Rebecca Chapman, PhD

Research Associate

Tijs Creutzberg, PhD

Director of Assessments

**Hilary Davies,
M.E.S., B.Ed., B.Sc.***

Research Associate

Madison Downe, M.Sc.*

Project Coordinator

Marc Dufresne, M.Sc.

Senior Bilingual
Publications Specialist

Matthew Falconer, MA**

Communications Assistant

Jonathan Harris, M.Sc., MPP*

Research Associate



Janet Hendry, M.Sc., P.Eng.*

Research Associate

Andrea Hopkins, MA

Project Coordinator

Teresa Iacobelli, PhD*

Research Associate

Joanne Linnay, MSc, MES*

Project Coordinator

Suzanne Loney, MA***

Research Associate

Kelly Loverock, MA

Website and Communications
Specialist

Camilla Mällberg, M.Sc.*

Project Coordinator

Jérôme Marty, PhD*

Project Director

Anita Melnyk, PhD*

Researcher

Emmanuel Mongin, PhD

Project Director

Nancy Neil, BGS

Manager, Office Operations;
Executive Assistant to the President

Samantha Rae Ayoub, MA

Communications
and Publishing Director

Joe Rowsell, MPhil

Project Manager

Christina Stachulak, MSc

Senior Advisor to the President

Andrew Taylor, MA**

Project Director

Jill Watkins, PhD*

Project Director

Weronika Zych, MSSc

Project Coordinator

Ranges of remuneration – For the fiscal year ending March 31, 2017 compensation was within the following salary ranges: Council Management (Officers) – President [\$210,011 – \$314,218] and Vice President and CFO [\$133,205 – \$199,390].

*joined the CCA in fiscal year 2016/17

**left the CCA in fiscal year 2016/17

***maternity and/or parental leave in fiscal year 2016/17

ANNEX III:

FINANCIAL STATEMENTS

MARCH 31, 2017

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INDEPENDENT AUDITORS' REPORT

To the Board of Governors,

COUNCIL OF CANADIAN ACADEMIES

Report on the Financial Statements

We have audited the accompanying financial statements of the COUNCIL OF CANADIAN ACADEMIES, which comprise the Statement of Financial Position as at March 31, 2017, and the Statements of Changes in Net Assets, Operations and 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 accounting standards for 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 auditor's judgment, 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 organization'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 organization'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 COUNCIL OF CANADIAN ACADEMIES as of March 31, 2017, and its financial performance and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.



Parker Prins Lebano Chartered Professional Accountants
Professional Corporation

Authorized to practice public accounting by
the Chartered Professional Accountants of Ontario

Ottawa, Canada
May 29, 2017

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF FINANCIAL POSITION AS AT MARCH 31, 2017

ASSETS	2017		2016	
CURRENT				
Accounts receivable (note 7)	\$	441,877	\$	426,416
Prepaid expenses (note 8)		11,260		17,651
		453,137		444,067
DEFERRED COMPENSATION FUND - CASH (note 11)		1,077,469		971,088
CAPITAL (note 4)		153,275		150,158
	\$	1,683,881	\$	1,565,313
LIABILITIES				
CURRENT				
Bank indebtedness (note 12)	\$	223,553	\$	67,072
Accounts payable		115,905		118,597
Deferred revenue		157,476		235,795
Deferred grant contributions (notes 6 and 10)		66,380		172,761
Current portion of long-term debt (note 5)		28,372		—
		591,686		594,225
LONG-TERM DEBT (NOTE 5)				
		14,726		—
		606,412		594,225
NET ASSETS				
Unrestricted net assets		(153,275)		(150,158)
Net assets invested in capital assets		153,275		150,158
Deferred compensation fund (note 11)		1,077,469		971,088
		1,077,469		971,088
	\$	1,683,881	\$	1,565,313

On behalf of the Board:
Carol P. Herbert
Director

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF CHANGES IN NET ASSETS FOR THE YEAR ENDED MARCH 31, 2017

UNRESTRICTED NET ASSETS	2017		2016	
Balance, beginning of year	\$	(150,158)	\$	(85,311)
Excess of revenue over expenditure		–		–
Add: amortization		82,639		69,985
Less: amount invested in capital assets		(85,756)		(134,832)
Recognition of deferred contributions		106,381		971,088
Allocation to deferred compensation fund		(106,381)		(971,088)
BALANCE, END OF YEAR	\$	(153,275)	\$	(150,158)
NET ASSETS, INVESTED IN CAPITAL ASSETS				
Balance, beginning of year	\$	150,158	\$	85,311
Invested during the year		85,756		134,832
Less: amortization		(82,639)		(69,985)
BALANCE, END OF YEAR	\$	153,275	\$	150,158
DEFERRED COMPENSATION FUND (note 11)				
Balance, beginning of year	\$	971,088	\$	508,362
Allocation from deferred contributions (note 11)		106,381		462,726
BALANCE, END OF YEAR	\$	1,077,469	\$	971,088

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF OPERATIONS FOR THE YEAR ENDED MARCH 31, 2017

REVENUE	2017	2016
Investment income	\$ 10,302	\$ 2,126
Add: grant revenue	3,450,880	2,538,301
Revenue from other sources	687,925	726,085
	4,149,107	3,266,512
EXPENDITURE		
Amortization	82,639	69,985
Assessment consultants	159,979	13,305
Central operations	281,985	254,375
Governance	118,379	57,185
Investment consultants	—	5,424
Panel meetings	520,602	163,433
Publications	154,790	181,518
Rent	266,493	281,495
Salaries and benefits	2,562,350	2,131,871
Other activities	1,890	107,921
	4,149,107	3,266,512
EXCESS OF REVENUE OVER EXPENDITURE FOR THE YEAR	\$ —	\$ —

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED MARCH 31, 2017

	2017	2016
CASH FLOWS FROM (USED FOR) OPERATING ACTIVITIES		
Excess of revenue over expenditure for the year	\$ —	\$ —
Items not requiring an outlay of cash:		
Amortization	82,639	69,985
Allocation to deferred compensation fund	106,381	462,726
	189,020	532,711
Net change to non-cash items related to operations:		
Accounts receivable	(15,461)	(51,356)
Prepaid expenses	6,391	7,611
Accounts payable	(2,692)	(51,675)
Deferred revenue	(78,319)	45,723
Deferred contributions	(106,381)	(1,001,027)
	(7,442)	(518,013)
CASH FLOWS FROM (USED FOR) INVESTING ACTIVITIES		
Purchase of capital assets	(85,756)	(134,832)
CASH FLOWS FROM FINANCING ACTIVITIES		
Advance of long-term debt	43,098	—
NET DECREASE IN CASH	(50,100)	(652,845)
CASH, BEGINNING OF YEAR	904,016	1,556,861
CASH, END OF YEAR	\$ 853,916	\$ 904,016
CASH CONSISTS OF:		
Deferred compensation fund – cash	\$ 1,077,469	\$ 971,088
Bank indebtedness	(223,553)	(67,072)
	\$ 853,916	\$ 904,016

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

NOTES TO FINANCIAL STATEMENTS MARCH 31, 2017

1. ORGANIZATION'S PURPOSE

The Council of Canadian Academies is a not-for-profit organization incorporated in April 2002 under the *Canada Corporations Act* and began operations in 2005.

The Council's main purpose is to provide a source of credible, independent, expert assessments and evidence-based advice on the science that is relevant to matters of public interest, and to provide a voice for Canadians on behalf of the sciences on the national and international scene.

2. SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations, and reflect the following policies:

Capital Assets

Capital assets consisting of furniture and fixtures, computer equipment and software, and leasehold improvements are

stated at cost. Amortization has been provided on the diminishing balance or straight-line basis as follows with half of amortization taken in the year of acquisition:

Furniture and fixtures	30% per annum
Computer and software	45% per annum
Leasehold improvements	10 years

Revenue Recognition

The organization follows the deferral method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

3. FINANCIAL INSTRUMENTS

Financial instruments reflected in the statement of financial position consist of cash, investments, accounts receivable and accounts payable. The Council does not hold or issue financial instruments for trading purposes and does not hold or issue derivative financial instruments.

4. CAPITAL ASSETS

		COST		ACCUMULATED AMORTIZATION		2017 NET BOOK VALUE		2016 NET BOOK VALUE
Furniture and fixtures	\$	391,001	\$	366,376	\$	24,625	\$	29,076
Computer and software		591,336		467,219		124,117		120,081
Leasehold improvements		103,499		98,966		4,533		1,001
	\$	1,085,836	\$	932,561	\$	153,275	\$	150,158

The accompanying notes are an integral part of the financial statements.

5. LONG-TERM DEBT

Loan, bearing interest at 5%, repayable in blended monthly payments of \$2,490.21 over 20 months beginning February 1, 2017.

	2017		2016	
Loan	\$	43,098	\$	–
Less current portion		28,372		–
	\$	14,726	\$	–

6. DEFERRED GRANT CONTRIBUTIONS

Prior year grant revenue that was received in excess of expenses was deferred to offset expenses in future years.

7. ACCOUNTS RECEIVABLE

Accounts receivable consist of trade receivables of \$343,231 and GST receivable of \$98,646 for a total of \$441,877.

8. PREPAID EXPENSES

Prepaid expenses consist of hotel deposits of \$2,860, D&O liability insurance of \$2,978, prepaid postage of \$32, prepaid quarterly lease charge on photocopier of \$2,716, benefits of \$2,062 and a commercial insurance policy of \$612 for a total of \$11,260.

9. COMMITMENTS

The organization entered into a four year lease commencing February 1, 2016, as well as office equipment contracts. The annual payments over the next four years are as follows:

F/Y 2018	\$216,964
F/Y 2019	\$211,264
F/Y 2020	\$153,035
F/Y 2021	\$3,919

10. ECONOMIC DEPENDENCE

In March 2006, the Council received a founding grant in the amount of \$30,000,000. The grant was intended to support core operations of the Council for 10 years. The remaining funds within the Council can be used at the Council's discretion. The Council received a further \$15 million over 5 years starting in 2015–16 with mandates on its use as prescribed by the funding agreement.

11. DEFERRED COMPENSATION FUND

During the 2014–15 fiscal year end, the original funding agreement entered its final year. Council management worked closely with the Board of Governors to ensure that there were no unfunded liabilities for the Council and the Governors. With the assistance and diligent efforts of the President and Board chair, an internally restricted fund was established to set aside funds for these potential liabilities. Council management intends to risk manage this situation in the future, by working closely with the Audit, Finance and Risk Committees. The amount included in the deferred compensation fund relating to this resolution is \$877,633 (2016 – \$971,088).

The remainder of this fund relates to anticipated future severance costs relating to the current year staffing complement. This portion of the amount is also funded via legacy funds from the original agreement.

Cash segregated internally for the funding of the deferred compensation fund has been classified as long-term in nature due to the anticipated timing of the use of the funds.

12. BANK INDEBTEDNESS

The sum of the balances in the various bank accounts for the year totals \$853,916; this consists of cash allocated to the deferred compensation fund of \$1,077,469 with the net residual amount disclosed as bank indebtedness.

13. COMPARATIVE FIGURES

Certain of the comparatives figures have been reclassified in order to conform with the current financial statement presentation.



Council of Canadian Academies
Conseil des académies canadiennes

Council of Canadian Academies
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Ottawa, ON K2P 2K3
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