

# Research Canada Update

News for Parliamentarians on Canadian Health Research

November 2011



## Members of Parliament Show Support for Health Research in Canada



Above, left to right: Dr. Kirsty Duncan, MP, Hon. Kelvin K. Ogilvie, and Ms. Megan Leslie, MP

### Reception & Kiosk Session on pain Research brings leading scientists to the Hill

Parliamentarians receive many letters from constituents on the subject of pain. In its many different forms, pain is something that affects Canadians of all ages and backgrounds. Elected officials, with their responsibilities in so many areas, may not have knowledge of the latest research findings and treatments regarding pain management. For this very reason, Research Canada organized an information

session on Pain Research, which was held on October 17, 2011.

This special occasion, co-hosted by the Canadian Pain Society, brought together 12 of Canada's eminent scientists who specialize in children's pain, chronic pain, musculoskeletal pain, neuropathic pain, and pain and mental health. Representatives of the Canadian Pain Coalition also participated in the event. More than 100 guests attended and had the unique opportunity to converse directly with researchers and patients at the six kiosks in the room to learn more about this vital area of health research and patient care. Guest speakers included leading scientists Dr. Mary Lynch and Dr. Patrick McGrath of Dalhousie University, and Dr. Barry Sessle of the University of Toronto.



Above, left to right: Hon. Kelvin Ogilvie, Ms. Marta Ceko, and Dr. Catherine Bushnell

### Health Research Caucus Luncheon serves up insights on health innovation

Parliamentarians and leaders from across Canada's health research community heard perspectives from several speakers on health innovation at the Nov. 2 Health Research Caucus Luncheon, which was held in conjunction with Research Canada's Annual General Meeting at the Fairmont Chateau Laurier in Ottawa.

Keynote speaker Ms. Melanie Ogden, Associate Director of Quality and Innovation, at the UK's National Health Service, presented the UK's strategy for adopting innovation in what she describes as "the journey from invention to the systematic adoption of best practice." Additional guest speakers Dr. Alain Beaudet, President of the Canadian Institutes for Health Research, and Mr. Paul Davidson, President and CEO of the Association of Universities and Colleges of Canada, offered parliamentarians an overview of their respective organization's current initiatives and recent achievements related to health research.

### Hon. Kelvin K. Ogilvie inducted into the Canadian Science and Engineering Hall of Fame



Hon. Kelvin K. Ogilvie

The Hon. Kelvin K. Ogilvie was officially inducted into the Canadian Science and Engineering Hall of Fame in a ceremony held Nov. 18<sup>th</sup> in Ottawa.

Among Senator Ogilvie's accomplishments in health and medical research are the development of the "Gene Machine," an automated process for the manufacture of DNA; the invention of Ganciclovir, a drug used worldwide; and a now-industry-standard methodology for developing the Transfer RNA molecule (tRNA).

Also inducted alongside of Senator Ogilvie were renowned Canadian scientists Dr. Sidney van den Bergh and Dr. Gerald Hatch.

The Canadian Science and Engineering Hall of Fame is a central part of the Innovation Canada exhibition at the Canada Science and Technology Museum. It recognizes individuals whose outstanding scientific or technological achievements have had long term benefits for Canadians.

To read more, please visit: <http://www.sciencetech.technomuses.ca/>

## Photo highlights from recent Health Research Caucus events

Following are some photo highlights from the Oct. 17<sup>th</sup> Reception & Kiosk Session on Pain Research and the Luncheon held Nov. 2<sup>nd</sup> in conjunction with Research Canada's Annual General Meeting.



## Key dates for upcoming health-related awareness campaigns

November is *Juvenile Diabetes Awareness Month* - [www.jdrf.ca](http://www.jdrf.ca)

November is *Crohn's Disease and Colitis Awareness Month* - [www.cccf.ca](http://www.cccf.ca)

November is *Prostate Cancer Awareness Month* - [www.movember.com](http://www.movember.com)

November is *Osteoporosis Awareness Month* - [www.osteoporosis.ca](http://www.osteoporosis.ca)

December 1st is *World AIDS Day* - [www.worldaidsday.org](http://www.worldaidsday.org)

January is *Alzheimer's Awareness Month* - [www.alzheimer.ca](http://www.alzheimer.ca)

January is *Ontario March of Dimes Month* - [www.marchofdimes.ca](http://www.marchofdimes.ca)

February 29 is *International Day for Rare Disorders* - [www.raredisorders.ca](http://www.raredisorders.ca)

February is *Heart & Stroke Month* - [www.heartandstroke.ca](http://www.heartandstroke.ca)

March is *National Colorectal Cancer Awareness Month* - [www.colorectal-cancer.ca](http://www.colorectal-cancer.ca)

March is *National Epilepsy Month* - [www.epilepsy.ca](http://www.epilepsy.ca)



Please visit our web site at [www.rc-rc.ca](http://www.rc-rc.ca) to view our recent publications, such as our recent **pre-budget consultation submission**, our **opinion polls**, and our newly released **Annual Report**.

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Pictured above (left to right): Ms. Megan Leslie, MP, Ms. Cathryn Morgan of the Canadian Pain Coalition, and Hon. Kelvin K. Ogilvie; Senator Ogilvie and Dr. Colin Carrie, MP; Ms. Peggi de Groot, Dr. Mary Lynch, Hon. Peter MacKay, Dr. Kenneth Craig and Dr. Joel Katz; Ms. Joy Smith, MP, and Mr. Ron Cannan, MP; Senator Ogilvie; Ms. Elizabeth May, MP and Mr. Peter Stoffer, MP; Mr. Hugh Scott and Dr. Kellie Leith, MP; Dr. Jason MacDougall and Hon. Judy Sgro, MP; Hon. Hedy Fry, MP.

# RESEARCH IN ACTION

## Sharing news of Canadian health research advancements

Following are brief profiles of some of the excellent research initiatives being undertaken by members of Research Canada: An Alliance for Health Discovery.



### Breathing hope into new treatments for Cystic Fibrosis



**Cystic Fibrosis Canada** is a broad-based national charitable organization that raises awareness and funds for cystic fibrosis research and high quality patient care. Cystic fibrosis is the most common fatal genetic disease affecting Canadian children and young adults and it has no cure. Last year, Cystic Fibrosis Canada invested nearly \$6 million to fund 53 promising research projects, as well as 50 fellows and students. As a result of its many research initiatives, people with cystic fibrosis are living longer, healthier lives.

Promising research results were announced recently by Dr. Daniela Rotin, Senior Scientist at SickKids and Professor of Biochemistry at the University of Toronto. In the study led by Dr. Rotin, mice were specially bred to lack the protein Nedd4L in the lungs. These mice developed lung disease similar to cystic fibrosis, including inflammation and obstructed airways. This study also confirmed a link between Nedd4L and increased transport of sodium across a membrane channel ENaC. In cystic fibrosis, increased sodium absorption contributes to the thick and sticky mucus that results in severe and chronic lung infections.

According to Dr. Rotin, these results indicate new options for developing treatments for cystic fibrosis. "If we can enhance the function or increase the amount of Nedd4L, or inhibit ENaC in the lungs, we may be able to alleviate symptoms of the disease." Read more: [www.cysticfibrosis.ca](http://www.cysticfibrosis.ca)

### Innovative research underway at the Centre de recherche en infectiologie

The **Centre de recherche en infectiologie (CRI)** at the Université Laval is one of Canada's most accomplished research institutes. The CRI has created more than 350 jobs in the region, and has drawn significant funding toward some of Canada's leading research initiatives. The CRI strives to better understand host-pathogen interactions in order to develop innovative approaches to diagnose, prevent, and treat infectious diseases.

The CRI research program comprises of a range of studies including prevention, diagnostics, new therapeutic approaches, clinical research, and better management and/or therapy. Recently, researchers led by Dr. Michel Bergeron have developed a new contraception control method for women that holds great promise to improve women's health in the developing world.

Read more at: [www.cri.ulaval.ca](http://www.cri.ulaval.ca)



### Cancer research: Studying the human genome to improve the outcome of oncolytic viral therapy



Oncolytic virology uses live viruses to sense the genetic difference between a tumor and normal cell. Once the virus finds a tumor cell, it replicates inside that cell, kills it and then spreads to adjacent tumor cells to seed a therapeutic "chain reaction".

As reported last month in the scientific journal *Cancer Cell*, Dr. David Stojdl, a scientist from the **Children's Hospital of Eastern Ontario Research Institute (CHEO RI)**, affiliated with the University of Ottawa, has identified a way to boost the benefits of oncolytic therapy using other elements of the human genome.

"Until now, scientists in our field have been focused on engineering the genes in the oncolytic virus itself to make them work better, and that has worked well to a point. This is the first study to look at all of the genes in the human genome to determine which ones we should manipulate to help the oncolytic therapy work better," said Dr. Stojdl.

Established in 1984, the CHEO Research Institute coordinates the research activities of the Children's Hospital of Eastern Ontario (CHEO) and is one of the institutes associated with the University of Ottawa Teaching Hospitals. Read more at [www.cheori.org](http://www.cheori.org).

### Montreal Heart Institute working toward treatments for cardiac insufficiency



The **Montreal Heart Institute at Université de Montréal** is the leading hospital specializing in cardiology in Canada. Its scientists lead many extensive studies in cardiology.

This past August, Dr. Jean-Claude Tardif, Director of the Montreal Heart Institute, presented the results of a major study as published recently in the *Lancet*, a leading scientific journal.

The study findings demonstrated that reducing heart rate with a medication known as ivabradine also reduced heart volume, which led to a significant reduction in mortality and hospitalizations among patients with left-cardiac insufficiency.

"In spite of current therapies, cardiac insufficiency, in the last few decades, has been a leading public health concern associated with significant mortality and morbidity," said Dr. Tardif. "The reduction in heart volume and the improved left ventricle contraction observed with ivabradine hold a great deal of promise. This is a further step toward a new approach to the treatment of cardiac insufficiency."

The Montreal Heart Institute's Research Centre brings together more than 200 people, including approximately 100 scientists and no less than 75 of the best researchers. The latter specialize in such areas as basic research in cardiology and surgery, radiological and nuclear imaging, psychiatry, psychology, biology, and others. Read more: [www.icm-mhi.org](http://www.icm-mhi.org)

# RESEARCH IN ACTION

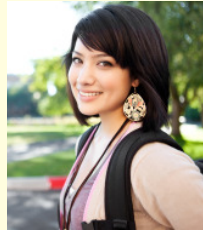
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### New study to explore links between teens with bipolar disorder and heart disease risk

Bipolar disorder is a recurrent and severe mood disorder defined by episodes of mania (abnormally euphoric or irritable mood together with other symptoms) and depression. It is the sixth leading cause of disability worldwide.



However, the leading cause of death for individuals with bipolar disorder is heart disease, which is more common and has an earlier onset than in the general population. This contributes to a reduced life expectancy of approximately 15 years. Little is known about the biological factors involved with this association.

Researchers at the **Sunnybrook Health Science Centre Research Institute** will explore a potential connection by comparing blood vessel functioning of teens with bipolar disorder and healthy teens, to look for potential clues about heart disease risk.

“This is a major step toward our goals of identifying those at risk of heart disease at the earliest stages, and tailoring treatment strategies in order to reduce their risk of heart disease in the future,” said Dr. Benjamin Goldstein, youth psychiatrist and researcher at Sunnybrook Health Sciences Centre.

The study is currently recruiting patients and will run for two years. It is truly unique as the link has never been studied before in youth with bipolar disorder, and the collaboration across the specialties of psychiatry, cardiology, and radiology is a rarity. Read more: [www.sunnybrook.ca/research](http://www.sunnybrook.ca/research)

### “Hearts in Motion” remote monitoring system to provide home-based patient support

Researchers at the **Capital Health District Authority** in Halifax, Nova Scotia, are launching an innovative system to support cardiovascular health in the community.



The Community Cardiovascular Hearts in Motion Remote Access Program aims to establish a “virtual/remote access” version of the successful cardiac rehab

“Hearts in Motion” Program that saw 70 percent of participants (500+) losing an average of 5 to 20 pounds through exercise, low-fat food choices and portion control.

This project will use a remote patient monitoring system to develop, test and evaluate a self-management program that will be time efficient and effective for cardiovascular risk factor management. The system provides access to support in a home-based setting, encourages patient self management and allows quality care from primary health care providers.

Read more: <http://www.cdha.nshealth.ca/>

### Developing a new treatment for Alzheimer’s

A new treatment to stop the progression of Alzheimer’s disease may be on the horizon, thanks to the work of researchers at the **Vancouver Coastal Health Research Institute**.



The research will be lead by Dr. Neil Cashman, Scientific Director of PrioNet Canada (a Network of Centres of Excellence for research on prion disease and related neurodegenerative disorders). Dr. Cashman holds a Canada Research Chair in Neurodegeneration and Protein Misfolding at the University of British Columbia.

The research is aimed at developing immune-based therapies for Alzheimer’s disease, and has been made possible through a partnership agreement with Cangene Corporation.

Cangene became interested in the program following a recent discovery in which Dr. Cashman, along with other PrioNet researchers, was able to specifically target a unique shape of amyloid beta “oligomers”—small aggregates that Dr. Cashman calls the “bad guys” due to their key role in the progression of Alzheimer’s—while sparing normal amyloid beta molecules.

“If we’re only attacking the bad guys without harming the normal molecules, then we have a basis for a safe immunotherapy infusion,” explains Dr. Cashman. This approach has already been tested in the laboratory on cultured nerve cells with successful results.

Dr. Cashman adds “I’m optimistic about the development of this solution made possible by Canadian partners—and I believe it’s a promising first step towards an effective Canadian-made therapy for this devastating form of dementia.”

Read more: [www.vchri.ca](http://www.vchri.ca)

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