

Research Canada Update

News for Parliamentarians on Canadian Health Research

Spring 2012



Health Research Caucus Kiosk Session to Highlight Latest Findings in Brain Research

Join us on May 14th for one-on-one discussions with leading scientists



On Monday, May 14th, 2012, Research Canada and the non-partisan Parliamentary Health Research Caucus (HRC) will host an event for parliamentarians on Brain Research in Canada. HRC events are convened under the Chairmanship of Senator Kelvin K. Ogilvie and the Vice-Chairmanship of Ms. Megan Leslie, Member of Parliament (Halifax) and Dr. Kirsty Duncan, Member of Parliament (Etobicoke North).

The kiosk-style event will feature exhibits based on three broad themes in the field with more than fifteen eminent health researchers making presentations at each kiosk.

The three thematic areas are:

- **The Aging Brain and Dementia;**
- **Traumatic Brain Injury; and**
- **Child Brain Development.**



We are pleased to provide below a brief overview of the research priorities of the scientists who will speak and present kiosk exhibits at this special event.

Guest Speakers

Research taking place in **Dr. Samuel Weiss'** lab at the University of Calgary seeks to better understand and treat diseases such as Parkinson's, Huntington's disease and multiple sclerosis. Dr. Weiss is well known for his ground-breaking discovery in 1992 of stem cells in the adult brain, which contravened scientific understanding at the time. Dr. Weiss will provide an overview of basic science in the field.

A board member of Michael J. Fox Foundation, **Dr. Andres Lozano** is a clinician scientist known for his pioneering work in Deep Brain Stimulation, which is used in treatment for disorders including Parkinson's disease depression, Huntington's disease and Alzheimer's disease. Dr. Lozano will also present at the kiosk on The Aging Brain and Dementia. Dr. Lozano will speak about how research is being translated into the clinic.

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Upcoming health-related awareness campaigns - May 2012

- Celiac Awareness Month - www.celiac.ca
- Cystic Fibrosis Month - www.cysticfibrosis.ca
- Huntington's Disease Awareness Month - www.huntingtonsociety.ca
- Multiple Sclerosis Awareness Month - www.mssociety.ca
- National Physiotherapy Month - www.thesehands.ca
- Speech and Hearing Awareness Month - www.caslpa.ca



HEALTH RESEARCH CAUCUS

Coming Events

Kiosk Session on Brain Research
May 14, 2012, 4 p.m. -- 7 p.m.

Kiosk Session on Innovation Clusters across Canada
Oct. 1, 2012, 4 p.m. -- 7 p.m.

This event will profile the dynamic academic and private sector partnerships within the Research Canada Alliance that are the basis of robust and enterprising innovation clusters across the country.

Luncheon on Healthy Workplaces

To be held in conjunction with Research Canada's AGM
Nov. 21, 2012, 12 p.m. -- 2 p.m.

Details for events scheduled for this fall will be released in the coming weeks.

Health Research Caucus Kiosk Session to Highlight Latest Findings in Brain Research

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Dr. Sandra Black's research at the Sunnybrook Health Sciences Centre and the University of Toronto centres around vascular cognitive impairment and stroke recovery. She is an expert on the management of dementia (including Alzheimer's disease) and the use of neuroimaging techniques to study brain-behaviour relationships in stroke and dementia.

Dr. Howard Chertkow is a cognitive neurologist with McGill University whose research is centred on Alzheimer's Disease and dementia. Dr. Chertkow's field of research is termed "cognitive neuroscience"—an area of research that attempts to understand the brain basis of behaviour using studies of normal subjects, brain imaging, and testing of individuals with brain damage.

Based at the Vancouver Coastal Health Research Institute, **Dr. A. Jon Stoessl** investigates the cause and effects of Parkinson's disease on the brain via new imaging technology. Dr. Stoessl's innovative work with Positron Emission Tomography (PET) has revealed major developments, including a formerly unknown mechanism in the brain that tries to compensate for the damage done by Parkinson's.

Traumatic Brain Injury

Dr. Grant Iverson is a Clinician Scientist with the University of British Columbia. He has a longstanding research interest in outcome from sport-related concussion and mild traumatic brain injury. He is involved in ongoing clinical research with injured athletes, civilians, active duty military personnel, and veterans.

Dr. Maryse Lassonde is a neuropsychologist with the University of Montreal and CHU Sainte-Justine whose research into the plasticity of the brain is highly regarded among the international research community. She is one of the world's leading experts on corpus callosum agenesis, a malformation of the part of the brain through which the two hemispheres communicate.

Dr. Brian Levine, a scientist at Baycrest Centre, studies the interconnection of brain function and memory—the many processes needed to coordinate activities and set goals, make plans to attain those goals and organize the steps to carry out those plans. He focuses on recovery and re-organization of brain function following traumatic brain injury.

Baycrest Centre's **Dr. Randy McIntosh** is a pioneer in the study of how different parts of the brain work together to bring about the wide range of human mental operations. He has combined modern functional neuroimaging methods with mathematical modeling to characterize the changes in brain networking dynamics related to awareness and learning, and shown how these dynamics evolve in normal aging and different clinical conditions. He also has extensive experience with most neuroimaging technologies.

Since the early 1970s, **Dr. Charles Tator**'s has conducted leading research on spinal cord injury prevention and treatment, and on training our next generation of surgical scientists. An eminent scientist and neurosurgeon, his laboratory was the first in Canada to study acute spinal cord injury from a basic science perspective. At the University Health Network and University of Toronto, his research is focused on the use of stem cells for regeneration of the spinal cord after trauma, ischemic or demyelinating disease.

Child Brain Development

Dr. Evdokia Anagnostou is a child neurologist and a clinician-scientist at Bloorview Research Institute in Toronto. Her research program focuses on examining the neurobiology of the autism spectrum and facilitating the development of novel therapeutics for children and adults with Autism Spectrum Disorders.

Dr. Bryan Kolb is a scientist and professor with the University of Lethbridge. His recent work in child brain development focuses on the structure of the prefrontal cortex. He is studying how neurons of the cerebral cortex change in response to various pre- and postnatal developmental factors including hormones, experience, stress, drugs, neurotrophins, and injury, and how these changes are related to adult behaviour.

One of Canada's eminent scientist in the area of mental health, **Dr. Michael Meaney**'s is based at the Douglas Mental Health University Institute of McGill University. Dr. Meaney's primary research interest is that of the stable effects of early experience on gene expression and development. His research is multidisciplinary and includes studies of behaviour and physiology, to molecular biology and genetics.

At the CHU Sainte-Justine in Montreal, scientist **Dr. Jacques Michaud** studies the genetic basis of neurodevelopmental disorders. In particular, his laboratory has been using large-scale genetic approaches to identify novel genes involved in intellectual disability, epilepsy and autism. Dr. Michaud is working to gain insight into the function of these genes and to develop pharmacological treatments of developmental disorders.

Dr. Sylvain Moreno's role as a clinician scientist at Baycrest's Centre for Brain Fitness is to conduct brain plasticity cutting-edge research and translational programs, bringing new technologies to clinical practice. Dr. Moreno's research program focuses on brain plasticity and its implications for neurotraining and neurorehabilitation. He is especially interested in how training and rehabilitation can affect higher order processes such as language, memory and intelligence.

Dr. Aaron Newman, an accomplished scientist and professor at Dalhousie University, is developing novel applications of neuroimaging techniques (EEG, MEG, and MRI) to study neuroplasticity—how the brain is shaped by experience. This includes how second languages are processed, how speech-language therapy can lead to recovery from stroke, and how hearing loss can lead to re-wiring of the auditory brain for vision and how this in turn can affect cochlear implant outcomes.

Dr. Russell Schachar is a child and adolescent psychiatrist and professor with the University of Toronto, and a scientist in the research institute at the Hospital for Sick Children in Toronto. Dr. Schachar's career has been dedicated to identifying the causes of and treatments for common, persisting and impairing childhood disorders such as attention deficit hyperactivity disorder (ADHD), obsessive compulsive disorder (OCD) and for the effects of acquired brain injury in children.

RESEARCH IN ACTION

Sharing news of Canadian health research advancements

Following are brief profiles of some of the excellent research and collaborative programs underway among members of Research Canada: An Alliance for Health Discovery.



Preventing dementia: new research by VCH and UBC shows the trajectory of cognitive decline can be altered in seniors at risk for dementia



Cognitive decline is a pressing global health care issue. Worldwide, one case of dementia is detected every seven seconds. Mild cognitive impairment is a well recognized risk factor for dementia, and represents a critical window of opportunity for intervening and

altering the trajectory of cognitive decline in seniors.

A new study by researchers at the Centre for Hip Health and Mobility at Vancouver Coastal Health and the University of British Columbia shows that implementing a seniors' exercise program, specifically one using resistance training, can alter the trajectory of decline. Perhaps most importantly, the exercise program improved the executive cognitive process of selective attention and conflict resolution functions, as well as associative memory, which are robust predictors for conversion from mild cognitive impairment to dementia.

The research, led by Teresa Liu-Ambrose, principal investigator with the Centre for Hip Health and Mobility and the Brain Research Centre at VCH and UBC, and co-investigators from the Department of Psychology and Division of Geriatric Medicine at UBC, and Department of Psychology, University of Iowa, was published this past month in the Archives of Internal Medicine. Read more at www.vchri.ca/s/NewsAndInfo.asp

Promoting a multi-disciplinary approach to child health research and researchers in training



In its role as a national advocate for child health research, the Council for Canadian Child Health Research (CCCHR) works with a large coalition of organizations concerned with child health issues,

including all seventeen children's hospitals in Canada, the Paediatric and Surgical Chairs of Canada, community paediatricians, families, and an innovative Canada-wide clinician scientist training program. This coalition also includes a research network focused on maximizing clinical research capacity in child health across Canada, which was created by the CCCHR and the larger coalition.

Coordinated collaboration between hospitals and researchers is essential to optimize research resources and generate new knowledge that will lead to improvements in child health in Canada. Initiatives include collaborative research projects between basic and clinical researchers to foster the discovery of new interventional techniques, sharing of new technologies, pooling data to assure statistically relevant results, and validation of new therapies through multi-centre trials.

For more information, visit: www.ccchr.org

May is Cystic Fibrosis Awareness Month

This May, across Canada, local chapters of Cystic Fibrosis Canada will be making a special effort to tell the compelling stories of Canadians with cystic fibrosis (CF) and those in their communities who fight for them daily to improve their quality of life and search for a cure or control.



Progress in cystic fibrosis research is making a positive difference. In the 1960s, when Cystic Fibrosis Canada started serving the CF community, most children with cystic fibrosis did not live long enough to attend kindergarten. Today, 50% of Canadians with CF are expected to live into their 40s and beyond. This is a tremendous accomplishment, but it's not nearly enough.

Cystic Fibrosis Canada is a global leader in research, investing more dollars in life-saving cystic fibrosis research than any other non-governmental agency in Canada. In 2011-2012, it is investing nearly \$6.5 million in programs that are investigating many aspects of the cystic fibrosis puzzle.

The recently launched Cystic Fibrosis Technology Initiative (CFTI), for example, is accelerating promising research ideas into innovative therapies for children and adults with cystic fibrosis. By bridging an important gap between academia and business, Cystic Fibrosis Canada is taking a leadership role to advance drug commercialization. This strategic partnership between Cystic Fibrosis Canada, the University of British Columbia, and the Centre for Drug Research and Development provides research with drug development expertise and state-of-the-art facilities in order to attract investors and bring new treatments to the Canadian population as quickly and safely as possible.

For more information, visit: www.cysticfibrosis.ca

Dear Parliamentarian:

Do you have questions about health research?

Let us help you find the information you need. If you and your staff have received requests from constituents or are looking for background on a particular research subject, please do not hesitate to contact Research Canada's National Office. We will be glad to assist you with these requests. Please send any questions you may have to info@rc-rc.ca, or call 613-234-5129.