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**RAPPORT ANNUEL**  
**2008**

**NeuroScience Canada**

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**NeuroScience**  
CANADA

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# RAPPORT ANNUEL 2008



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NEUROSCIENCE CANADA est une organisation nationale, sans but lucratif, qui développe et appuie la recherche coopérative, multidisciplinaire et multi-institutionnelle dans le domaine des neurosciences. Au moyen de partenariats avec les secteurs public, privé et bénévole, NeuroScience Canada met en commun les connaissances et les ressources existantes dans le domaine afin d'accélérer la recherche en neurosciences et son financement, et de maximiser la contribution des scientifiques et des chercheurs canadiens de calibre mondial. En 2006, NeuroScience Canada recevait le prix national de la gouvernance du Conference Board of Canada/Spencer Stuart dans la catégorie du secteur sans but lucratif.

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## HIGHLIGHTS

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2008

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Elected J. Anthony Boeckh, President, Boeckh Capital Company Ltd., Chair of the Board.

Provided \$1 million to two Brain Repair Program™ teams selected in our second competition, enabling them to fast-track their research and make breakthrough discoveries. The teams are led by Dr. Louis-Eric Trudeau, Université de Montréal, and Dr. V. Wee Yong, University of Calgary.

Provided matched funding to enable one of the Brain Repair Program teams selected in our first competition to extend their grant for a fourth year. The team is led by Dr. Michael Salter, University of Toronto, and is focused on chronic pain.

Awarded third Dr. Hubert van Tol Travel Fellowship to Ms. Lorraine Lau, a PhD student in the Department of Clinical Neuroscience at the University of Calgary.

In partnership with the Barbara Turnbull Foundation and Canadian Institutes of Health Research-Institute of Neurosciences, Mental Health and Addiction, awarded seventh Barbara Turnbull Award for Spinal Cord Research, to Queen's University Professor of Physiology, Dr. Kenneth Rose.

Played key role in forming Neurological Health Charities Canada (NHCC), a coalition of Voluntary Health Organizations representing the range of brain and nervous system disorders. NHCC successfully lobbied the federal government for a \$15-million commitment to fund a Canadian population-based study on neurological disorders.

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You can keep updated on NeuroScience Canada's activities by visiting our website: [www.neurosciencecanada.ca](http://www.neurosciencecanada.ca). The site includes general information about the brain and neuroscience, news about the latest developments in the research we are funding, a section about our advocacy and public awareness activities - including publications and links to sites of interest - a section for media, and a complete listing of Canadian academic opportunities.

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## MESSAGE FROM THE CHAIR AND PRESIDENT

MR J. ANTHONY BOECKH, Chair of the Board and  
MS INEZ JABALPURWALA, President, NeuroScience Canada.

In 2007, NeuroScience Canada celebrated its 10<sup>th</sup> anniversary. We began our next decade with a vision to build on our past success supporting world-class Canadian neuroscience research in partnership with the public, private and voluntary sectors. We also committed to expanding our role and impact as a unifying voice for the grouping of brain disorders and as a catalyst for organizations that see themselves as part of this grouping. In a field with so many stakeholders, the challenge has been two-fold: to develop a research program that provides new opportunities for researchers to work in multidisciplinary, multi-institutional teams, thereby enhancing and complementing the efforts of individual institutions; and to build a “brain coalition” from the grassroots up.



We are now mid-way through funding the last two Brain Repair Program teams of our five-team objective, fulfilled in our National Brain Repair Fund Campaign. The Program model has been widely celebrated for its focus on excellence and innovation—linking the best and most promising researchers in the country and providing them with sufficient funding to form meaningful team projects. All five teams have made major discoveries within the three-year term of their \$1.5-million grants. You can read more about the progress of the last two teams on pages 4 to 7 of this report.

With regard to building a “brain coalition,” we were delighted when, in late 2008, we played a lead role in 15 voluntary health organizations in our area coming together to form Neurological Health Charities Canada (NHCC). These organizations collectively represent millions of Canadians living with a range of neurological disorders, as well as their families and caregivers. NHCC successfully lobbied the federal government for a \$15-million investment over the next four years, to undertake a population-based study on the prevalence and impact of neurological conditions on the Canadian population. This collaboration is an historic moment in the field of neuroscience, and signals the arrival of a powerful new voice for brain disorders, which touch more Canadians with greater impact than cancer and cardiovascular disease combined. The study will be the first step in a series of actions that will lead to a national brain strategy. More detail is provided on page 10.

This is a most exciting time for all who are working to advance neuroscience. There is an unprecedented focus on the brain and brain disorders in Canada and around the world, major discoveries over the last 15 to 20 years that have given us a more complete picture and understanding of the brain and its functions, and new technologies that hold great promise.

As we enter our next decade, we thank everyone who has supported us over the years, and those who continue to inspire us and believe in our future. In particular, we thank our volunteers, donors and partners, and our dedicated staff for their hard work and great passion. We look forward to sharing even greater successes in the years ahead.

J. ANTHONY BOECKH  
Chair of the Board

INEZ JABALPURWALA  
President

# THE BRAIN REPAIR PROGRAM™

Team Leaders of the first three Brain Repair Program teams.  
[DR. YU TIAN WANG](#), University of British Columbia; [DR. FREDA MILLER](#), University of Toronto;  
[DR. MICHAEL SALTER](#), University of Toronto.

In 2003, NeuroScience Canada launched the Brain Repair Program, aimed at accelerating collaborative, multidisciplinary, multi-institutional brain repair research. The program enables world-class Canadian researchers across the country to form highly focused teams, and to more rapidly discover breakthroughs that will ultimately lead to treatments and cures.

Each team of researchers receives \$1.5 million over three years, plus an additional maximum of \$20,000 per year for networking activities. Such operating funding is vital to our best and most promising scientists, allowing them to fully utilize the investments in infrastructure and salaries that have already been made by governments and private donors.

**FIRST COMPETITION** The Brain Repair Program was launched with a \$1.2-million challenge gift from an anonymous donor (now deceased). This was followed by a grant of \$1.5 million from the Canadian Institutes of Health Research (CIHR), through its Institute of Neurosciences, Mental Health and Addiction, and Institute of Aging; \$750,000 from the RBC Foundation; \$600,000 from the Ontario Neurotrauma Foundation; \$500,000 from CIBC; and many other gifts from the corporate community and from private donors and foundations. These are acknowledged on pages 14 and 15.

The peer review process for the first Brain Repair Program competition was thorough and rigorous and included an international peer review component featuring distinguished neuroscientists from around the world. Three teams were funded in the first competition; their research covers the range of neurological and psychiatric disorders, as well as spinal cord injuries and chronic pain. The teams completed their three-year grants in 2007. Funding from NeuroScience Canada enabled them to make a number of key breakthroughs. Thanks to a commitment made to the team led by Dr. Michael Salter by one of our program partners, the Ontario Neurotrauma Foundation, NeuroScience Canada was able to provide matched funds to enable the team to continue for a fourth year.

Dr. Salter and his team are focused on understanding the development and maintenance of chronic pain after peripheral nerve injury. The team has made a series of discoveries on new types of cells, genes and proteins involved in neuropathic pain. Most recently, they have used the knowledge they have gained to develop a peptide drug that suppresses pain behaviours in experimental models of neuropathic pain. This peptide works by inhibiting pathological over-activation of a key type of neurotransmitter receptor in spinal pain pathways, the NMDA receptor. Their findings, which were reported in the elite scientific journal *Nature Medicine*, lay the

foundation for a new and previously unsuspected approach to treating chronic pain. This was one of only two full articles in that issue and was highlighted in an editorial piece. The team was also featured as the cover story in *SciBX: Science-Business eXchange*, which is the Nature Publishing Group's biotechnology journal.



**SECOND COMPETITION** Thanks to the generosity of the T. Robert Beamish family, which made a \$1.5-million commitment through the WB Family Foundation, and to partnered funding from the Canadian Institute of Health Research (CIHR) – Institute of Aging in the amount of \$500,000, NeuroScience Canada was able to launch the second Brain Repair Program competition in 2006. Through this process, two additional teams were selected for funding in June 2007. More detail about these projects, and the exciting results to date, can be found on the following four pages.

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## BRAIN REPAIR PROGRAM PROJECT LED BY DR. LOUIS-ÉRIC TRUDEAU

Mitochondrial dysfunction and neuronal demise: Insights provided  
by Parkinson's disease genes

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Parkinson's disease is one of the most common neurodegenerative diseases of adults in Canada, affecting one in 300 people. It is characterized by tremors, slowing of movement, and changes in balance, posture, mood, behaviour, and thinking. One of the important nerve cell populations in the brain that are damaged in Parkinson's are those that produce the chemical dopamine, which transmits signals to produce smooth movement of muscles. There is presently no cure for Parkinson's, nor is it known how it arises. To better understand how Parkinson's develops and affects the brain, scientists have been studying families where siblings and relatives have the disease. They have identified five genes that are altered in these families and that are associated with a greater likelihood of developing Parkinson's. These genes are called synuclein, Parkin, DJ-1, Pink1, and LRRK2. All of these genes are part of the mitochondria, the "power centers" that supply the energy for cells in our body. Dr. Trudeau's Brain Repair Program team focuses on determining the roles of these genes in the function of mitochondria, and whether the changes in these genes that are observed in Parkinson's disease patients impairs the ability of the brain cells affected in Parkinson's to correctly regulate movement, posture, behavior, and thinking. If the team can discover why changes in the genes lead to Parkinson's disease, they hope to develop drugs and therapies that can alleviate the symptoms and begin to cure the disease.

**PROGRESS** The most important findings by the team are those showing that alterations in the Parkin and DJ-1 familial Parkinson's genes change the shape and structure of mitochondria. Since the shape and internal structure is important for energy generation by mitochondria, the team will next determine how mutations and changes in Parkin and DJ-1 that occur in families alter how mitochondria function. They also found that mutations in Parkin affect the ability of nerve cells to secrete dopamine. A second important result, published in the prestigious journal *Proceedings of the National Academy of Sciences*, showed that the Pink1 gene is required for the survival of nerve cells in the brain. Finally, the team is identifying proteins in the body's cells that regulate how Parkin, DJ-1, and Pink1 function, as a first step towards identifying novel drugs for the treatment of Parkinson's.



**Dr. Louis-Éric Trudeau**, Team Leader  
Neuroscientist, Université de Montréal

“The NeuroScience Canada Brain Repair Program is allowing us to examine how mutations associated with Parkinson’s disease perturb release in the brain of the neurotransmitter dopamine. Our collaboration with other team members is allowing us to move further down the mechanistic path and relate the physiological changes we observe to perturbations of mitochondrial function. We would not be able to reach this goal without this program.”



**Dr. Ted Fon**  
Neurologist, McGill University

“The Brain Repair Program grant has provided an unprecedented opportunity for my research group to explore how the Parkin gene may affect mitochondrial shape, movement and function. We have been privileged to be able to collaborate closely with other members of the group, which has expanded our capabilities in several unforeseen directions. Our collaboration with Dr. Trudeau has allowed the exploration of the effects of Parkin on synaptic transmission. A student in my lab, Gian-Luca McLelland was able to go to Ottawa to work with Dr. McBride to examine the effects of Parkin on mitochondrial-derived vesicle formation.”



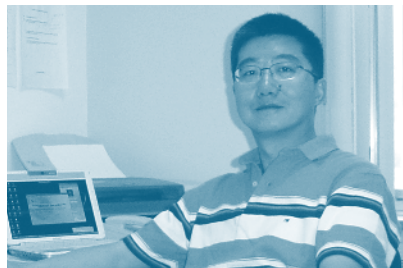
**Dr. Heidi McBride**  
Biochemist, Ottawa Heart  
Research Institute

“The Brain Repair Program grant has provided my lab with an opportunity to bridge our basic research related to mitochondrial function, dynamics and quality control with the specific role of the Parkinson’s disease genes in neurodegeneration. Given the strengths of the group with multiple genetic and experimental model systems for Parkinson’s disease, we are able to make considerable conceptual and experimental advances into how mutations in these genes leads to the death of dopaminergic neurons.”



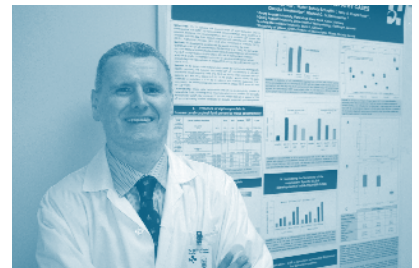
**Dr. David Park**  
Neuroscientist, University of Ottawa

“Funding from the Brain Repair Program has allowed us to explore fundamentally crucial processes involved in Parkinson’s disease.”



**Dr. Yong Rao**  
Neuroscientist, McGill University

“The NeuroScience Canada Brain Repair Program grant is currently allowing us to perform large-scale genetic screens to identify important genes in the pathway leading to Parkinson’s disease.”



**Dr. Michael Schlossmacher**  
Neurologist, Ottawa Hospital  
Research Institute

“The grant allows us to pursue work on a critical gene linked to Parkinson’s disease (PD), aptly called Parkin. We are attempting to identify mechanistic clues as to how Parkin is turned on (“expressed”); to increase the Parkin level in the brain represents a therapeutic target. We also wish to find biochemical clues as to how Parkin – once expressed – confers protection of mitochondrial health. We confirmed its binding to stressed mitochondria and are currently focusing on the identification of the binding partner that interacts with Parkin on the outer membrane of mitochondria.”

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## BRAIN REPAIR PROGRAM PROJECT LED BY DR. V. WEE YONG

Harnessing beneficial aspects of neuroinflammation for regenerating  
the central nervous system

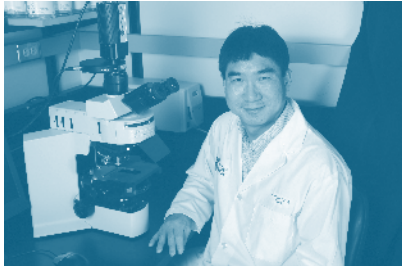
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Inflammation is the response the body has to harmful stimuli such as bacteria, irritants, or damaged cells. In neurodegenerative diseases, inflammation is normally thought to be harmful, since the cells mobilized by the body for the inflammatory response can produce substances that are harmful to nerve cells and prevent healing. However, inflammation is also key to the healing of injured tissues, and Dr. Yong's team proposes to confer protection against the dangers of inflammation, and also to identify, isolate and harness the beneficial aspects of inflammation for repair of the injured and diseased brain, focusing upon spinal cord injury, Alzheimer's disease, and multiple sclerosis (MS). MS is a common neurological condition in Canada characterized by a gradual deterioration of brain and nervous system function, caused by the body's immune system attacking cells of the brain.

**PROGRESS** Dr. Yong and his team have identified new agents that protect the brain from injury, particularly that of ultraviolet radiation and Vitamin D (Sloka et al., submitted). They have found a very close correlation between the amount of ultraviolet radiation incident upon areas of the earth, and the reduced risk for multiple sclerosis. Of particular interest is their discovery that Vitamin D prevents harmful cells of the immune system called T lymphocytes from destroying nerve cells. They also found that beneficial cells of the immune system regulatory called T cell (Treg) can protect the brains of mice from injury caused by inflammatory insults if the mice had been exposed during early life to a bacterial pathogen (Ellestad et al., *J Immunol*, in press). Moreover, in the context of spinal cord injury in mice, they have determined that yet another inflammatory cell type called neutrophils, plays helpful roles in coordinating beneficial growth factor responses within the injured tissue (Stirling et al., 2009). In a second line of research, they have pursued several approaches to foster the repair of myelin, the insulation of nerve cells that is damaged in MS which causes the symptoms of the disease. They have identified drugs that

cause activation of microglia, the "scavenger" cells in the brain necessary to remove the debris that accumulates upon injury before repair can occur. Future experiments will determine if these drugs will repair the injured mouse spinal cord, and if so, commence a human clinical trial with these drugs already approved for use in people. Another series of experiments to harness the benefits of inflammation has involved a mouse model of Alzheimer's disease. These mice overexpress the A $\beta$  protein that is then deposited in the brain to produce neuropathological wAlzheimer's disease. The treatment of these mice with macrophage colony stimulating factor (MCSF), which results in the recruitment of microglia in the brain to clear the toxic A $\beta$  deposits, ameliorates neuropathology and behavioral changes (Boissonneault et al., 2009). Finally, their clinical research continues to proceed well. They have found a new way to evaluate the extent of disease in MS, using an eye exam to measure changes in the nerve cells in the eye. They are enrolling patients in a study to evaluate whether this exam can be used in clinical trials to evaluate new treatments for MS.





**Dr. V. Wee Yong**, Team Leader  
Neuroscientist, University of Calgary

“Our NeuroScience Canada team members bring a multitude of laboratory and clinical expertise to tackle the important issues of how to protect the nervous system from insults, and how to repair the already damaged neural structures. We have approached these challenges in several unique directions that require multi- and inter-disciplinary collaborations, and we are thankful to NeuroScience Canada for facilitating these collaborative projects.”



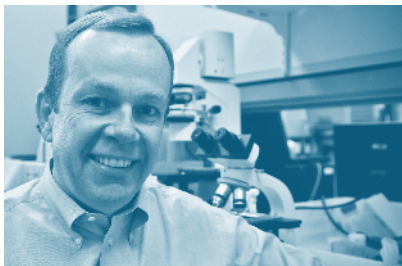
**Dr. Fiona Costello**  
Neurologist, University of Calgary

“The NeuroScience Canada research funding has allowed us to define the natural history of axonal loss in the anterior visual pathway of patients affected by optic neuritis and to identify factors that influence recovery in this system model of MS. Ultimately, we aim to apply the principles gleaned from our experimental models of disease to develop new therapeutic strategies for MS. To this end, the support received from NeuroScience Canada is helping advance “Bench to Bedside” research efforts among our team, which will improve the lives of Canadians suffering from MS.”



**Dr. Luanne Metz**  
Neurologist, University of Calgary

“MS is a serious disease that can affect every aspect of a person’s life. Now that we can reduce the impact of relapses in most people with MS we need to face the challenge of finding therapies that can stop progression and promote repair. Moreover, basic science discoveries have to be translated to the clinic and this requires a multi-disciplinary team effort. I am excited to be a member of the NeuroScience Canada grant because the laboratory to clinical interaction facilitates exciting therapies with good laboratory results to be eventually tested in the clinic to treat MS.”



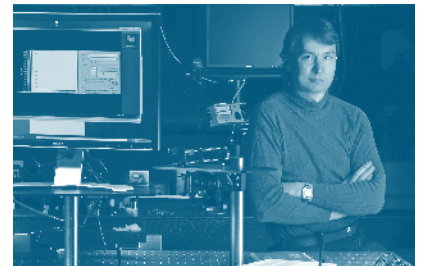
**Dr. Christopher Power**  
Neurologist and neuroscientist,  
University of Alberta

“I am privileged to be a member of a cutting edge, multi-disciplinary team that brings a multitude of expertise not only in the basic sciences, but also in clinical research. Together, we have generated new knowledge and we hope our discoveries can bring clear directions to preventing neurological insults on the one hand, and repairing the nervous system on the other.”



**Dr. Serge Rivest**  
Neuroscientist, Laval University

“This NeuroScience Canada grant has enabled me to collaborate with the best Canadian scientists working in the fields of myelin, auto-immune diseases, neuroprotection and neuroimmunology. I have also been able to compare different animal models of demyelination and how the immune system and cells can be activated toward neuroprotection and repair. Our work together is generating very important data regarding the environment needed for the immune cells to protect and repair the CNS in multiple sclerosis and other chronic brain diseases, such as Alzheimer’s disease.”



**Dr. Peter Stys**  
Neurologist and neuroscientist,  
University of Calgary

“The collaboration within this NeuroScience Canada project has allowed us to explore novel mechanisms of T-cell-mediated axonal injury with unprecedented depth. We are developing novel spectroscopic techniques that are revealing completely unexpected and potentially fundamentally important aspects of how T cells engage and destroy vital neuronal structures.”

## PARTNERED RESEARCH PROGRAMS

Dr. Kenneth Rose receiving his award.

From left to right: [MR. GARY GOLDBERG](#), the Barbara Turnbull Foundation; [MS. INEZ JABALPURWALA](#), President, NeuroScience Canada; [DR. KENNETH ROSE](#), award recipient; [DR. RÉMI QUIRION](#), Scientific Director, CIHR – Institute of Neurosciences, Mental Health and Addiction.

### BARBARA TURNBULL AWARD FOR SPINAL CORD RESEARCH

This award, in support of Canadian research on spinal cord injury, is funded by the Canadian Institutes of Health Research (CIHR) - Institute of Neurosciences, Mental Health and Addiction in partnership with NeuroScience Canada and the Barbara Turnbull Foundation. The award recipient is judged, from among the CIHR-funded investigators each year, to be conducting the most promising and exciting research in this area.

In 2008, the recipient of the Barbara Turnbull Award for Spinal Cord Research was Queen's University Professor of Physiology, Dr. Kenneth Rose. Dr. Rose was selected for his work on the "input-output properties of neck motoneurons". Identifying the factors that control this special class of neurons will serve as the foundation for discovering the causes of motor dysfunction—seen in a wide variety of neurological diseases, stroke, and spinal cord injury. This information is critical for the development of therapies that are designed to ameliorate motor dysfunction. Dr. Rose was presented with his award at a special ceremony at Queen's University in Kingston, Ontario, on October 30<sup>th</sup>.

Since 2002, seven awards have been presented. The recipients are some of Canada's most outstanding neuroscience researchers, who are working towards a cure for spinal cord injuries—and along the way, making advances to improve the lives of people currently living with these injuries.

**ALBERTA INITIATIVE** The Alberta Initiative was developed in partnership with the Alberta Heritage Foundation for Medical Research (AHFMR). Its purpose is to retain excellent young neuroscience researchers at three Alberta universities: University of Calgary, University of Alberta and University of Lethbridge.

Through this program, NeuroScience Canada provided \$597,650 to fund eight fellowships and 22 studentships. These funds were matched by the AHFMR at a ratio of 7:3. An additional \$125,000 was allocated to support a post-doctoral fellow and senior research assistant in the lab of Dr. Samuel Weiss of the University of Calgary. Dr. Weiss is a member of the Brain Repair Program team led by Dr. Freda Miller.

A further \$100,000 was directed to support a research project led by Dr. James R. Dunn and Dr. Paula Goering: *Feasibility Study for a Two-City Demonstration of Supportive Housing for Individuals with Severe Mental Illness*. Drs. Goering and Dunn are undertaking a pilot study in Toronto and Calgary on the effects of supportive housing on people with severe and persistent mental illness (SPMI). Of particular interest is the effect of supportive housing on future housing stability, quality of life, functioning,



symptoms and healthcare utilization for people with SPMI. This project is evaluating the "Housing First" model, which promotes the position that for many people with SPMI, stable housing is a precondition to participating successfully in psychiatric treatment and dealing with addictions.

In April 2008, Drs. Dunn and Goering reported that they had completed the data collection and assembled a working group to assess its validity and reliability. In addition, they have three manuscripts in preparation that will be submitted for publication. The study was also one of the key references used by the Mental Health Commission of Canada (MHCC) to make the case to the Federal Government to allocate \$110 million towards research to help the homeless living with mental illness. Dr. Goering has become research advisor to the MHCC for the

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Further detail about our research programs can be found on our website:

[www.neurosciencecanada.ca](http://www.neurosciencecanada.ca)

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design and development of a five-city demonstration project that will focus on a distinct group of people living with mental illness who are homeless.

**COGNITIVE IMPAIRMENT IN AGING** NeuroScience Canada is a member of the Cognitive Impairment in Aging (CIA) Partnership. The CIA Partnership is a collaboration between government, non-government and industry groups led by the CIHR-Institute of Aging. Its mission is to improve knowledge in the area of cognitive impairment by coordinating increased research efforts that in turn will facilitate the development, application and evaluation of interventions, services and products for older people. As of March 31, 2008, close to \$16 million has been committed by CIA partners toward a range of research programs, supporting individuals and teams doing research in this area. More detail can be found on their website: [www.cihr-irsc.gc.ca/e/26988.html](http://www.cihr-irsc.gc.ca/e/26988.html)

**DR. HUBERT VAN TOL TRAVEL FELLOWSHIP** The neuroscience community lost a brilliant scientist when Dr. Hubert van Tol died suddenly in a bicycle accident on April 20, 2006. Dr. van Tol was an internationally recognized and respected neuroscientist who received numerous awards and greatly advanced the entire field of molecular neurobiology. To honour him, his family set up the Dr. Hubert van Tol Fund at NeuroScience Canada, through which the Dr. Hubert van Tol Travel Fellowship was established. The fund has received more than \$30,000 in donations since it was established. The fellowship enables PhD students and postdoctoral fellows performing research as part of a Brain Repair Program team to attend major international conferences, symposia or training courses outside of Canada. This is consistent with Dr. van Tol's belief in the importance of international experiences.

The 2008 recipient of this prestigious award was Ms. Lorraine Lau, a PhD student in the Department of Clinical Neuroscience at the University of Calgary and a trainee in the lab of Dr. V. Wee Yong, the leader of one of our Brain Repair Program teams. Ms. Lau attended the Gordon Research Conference on Myelin in Il Cicco, Italy, May 4-8, 2008.

NeuroScience Canada is honoured to be associated with the Dr. Hubert van Tol Travel Fellowship, through which we are recognizing Dr. van Tol's continued legacy. The family and supporters of this fellowship would like to ensure that a total of 10 annual awards are given, each valued at up to \$5,000.

**SPONSORSHIP OF INTERNATIONAL CONFERENCES** The Canadian Association for Neuroscience (CAN) has been a long-standing partner of NeuroScience Canada. Over the past three years, NeuroScience Canada has been able to secure, through CAN, about \$60,000 for our advocacy and public awareness activities. Given this relationship, NeuroScience Canada agreed to a request from CAN to sponsor their 2008 meeting at a level of \$5,000.

The 2<sup>nd</sup> Annual Canadian Association for Neuroscience meeting (the largest gathering of Canadian neuroscience researchers in Canada) was held in Montreal between May 25<sup>th</sup> - 28<sup>th</sup>, 2008. Jointly organized by CAN and the CIHR - Institute of Neurosciences, Mental Health and Addiction, the meeting was a great success with more than 1,000 participants, 600 abstracts and a large number of commercial exhibitors.

# PUBLIC AWARENESS AND OUTREACH

## Neurological Health Charities Canada

Members of NHCC with the Health Minister at the announcement of \$15 million for a population-based study of neurological conditions, June 5<sup>th</sup>, 2009.

From left to right. **BACK ROW:** [PATRICK BROWN](#), MP Barrie; [FEMMA NORTON](#), Canadian Alliance of Brain Tumor Organizations; [TIM IRWIN](#), Huntington Society of Canada; [DERRYN GILL](#), Spina Bifida & Hydrocephalus Association of Ontario; [ROSIE WARTECKER](#), Tourette Syndrome Foundation Canada; [JANET MACMASTER](#), March of Dimes Canada; [DIANE GILLESPIE](#), Dystonia Medical Research Foundation Canada; [YVES SAVOIE](#), MS Society of Canada; [KENT BASSETT-SPIERS](#), Ontario Neurotrauma Foundation; [DEBBIE BEZENKOWSKI](#), Alzheimer Society of Canada.

**FRONT ROW:** [CATHERINE SHERRARD](#), Muscular Dystrophy Canada; The Honourable [LEONA AGLUKKAQ](#), Minister of Health for Canada; [BOBBI GREENBERG](#), ALS Society of Canada; [INEZ JABALPURWALA](#), NeuroScience Canada; [JOYCE GORDON](#), Parkinson Society Canada.

NeuroScience Canada's Board of Directors has committed to a multi-year strategy to work with other stakeholders in our area, to raise awareness with governments and the general public about the prevalence and impact of brain disorders, and the need to increase funding for research and improve patient care.

In early December 2007, NeuroScience Canada convened a national neuroscience summit with key neurological health charities, to explore potential opportunities for collaborative action. Following two very productive meetings, in January 2008, 15 charities agreed to come together under the name "Neurological Health Charities Canada" (NHCC). Membership has since grown to 20.

NHCC is a working group of organizations that represent people with chronic neurological diseases, disorders and injuries in Canada that aim to improve the quality of life of all persons with chronic neurological disorders and their caregivers. NHCC represents a relationship and dialogue among a community of stakeholders able to reach down into the grassroots community with a strong capacity to mobilize individuals quickly on issues. Collectively, the members recognize the importance of the brain as a critical factor of human experience. The brain is the most complex organ and defines our whole life from before birth to death. It is the last frontier of human biology.

NHCC was officially launched on Parliament Hill on June 2<sup>nd</sup> and 3<sup>rd</sup>. The activities of the day included a luncheon reception at the House of Commons for MPs, Senators, key staff and Parliament Hill media, and

private meetings with key stakeholders. The launch at Parliament Hill was a tremendous success.

On October 9<sup>th</sup>, Prime Minister Stephen Harper announced that the Government would fund a major study on neurological diseases over the next four years, with a total of \$15 million. A Canadian population-based study of brain disorders will serve as the first step in developing a comprehensive national brain strategy. This strategy will recognize the unique value of the human brain, consider the complexity and collective impact of brain disorders, and guide increased investments in research, universal access to services and supports, access to the most effective medications and treatments, and key economic issues such as income security and genetic discrimination.

NHCC is collaborating with the Public Health Agency of Canada, and with Health Canada and the Canadian Institutes of Health Research, for the population-based study. As a first step, we undertook a stakeholder consultation on neurological conditions in Canada. Through an on-line survey, from January 26<sup>th</sup> to February 27<sup>th</sup>, we gathered input on what information is needed about the frequency of occurrence and the impact of diseases, disorders and injuries of the brain and nervous system. More than 3,000 respondents answered the survey. We also held a workshop on March 5<sup>th</sup> and 6<sup>th</sup>, to solicit input and seek advice from Canada's leading scientists and key stakeholders on the approach to the four-year population-based research program. A project plan for the four-year study is now being developed.

For more information about NHCC, please visit our website at: [www.neurohealthcharities.ca](http://www.neurohealthcharities.ca)



## FUNDRAISING

In 2001, NeuroScience Canada launched the \$11.5-million National Brain Repair Fund Campaign, with the purpose of supporting excellent neuroscience research in Canada. By early 2007, we had reached our goal. We thank all of our supporters for their generosity, and they are recognized in our annual report and throughout the year in our various communications materials and activities.

The funds raised through our campaign are allocated as follows:

- \$8 million to fund five Brain Repair Program teams + networking;
- \$2 million to fund partnered research programs in neuroscience;
- \$1.5 million for operations (including developing, implementing and monitoring the research programs, and public awareness and outreach activities that support the advancement of Canadian research).

Our public awareness and outreach activities would not have been possible without the generosity of three organizations, especially the Max Bell Foundation of Calgary. The Foundation awarded a grant to NeuroScience Canada of \$240,152 over two and a half years. In addition, we received a \$10,000 award from the Canadian Institutes of Health Research that was directed to our website redesign and expansion. Finally, we received \$19,000 in 2005 and \$20,000 in 2006 from the Society for Neuroscience, through the Canadian Association for Neuroscience. We are most grateful to all of these organizations for their support.

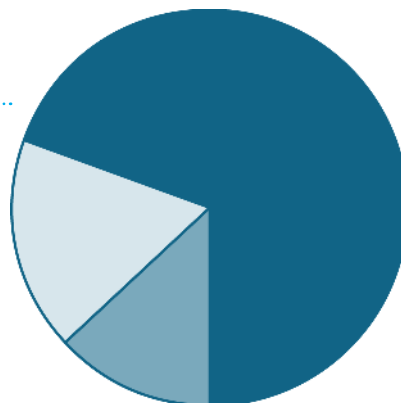
NeuroScience Canada has begun planning for our next major campaign. In 2008, we undertook an environmental scan and feasibility study (with the firm Mather Leigh), and began consulting with our science councils and other members of the neuroscience research community, in order to review and expand our research program. This work is continuing in 2009 as we develop the Case for Support for the campaign.

NeuroScience Canada has always taken pride in keeping non-research related expenses to the minimum required for operation efficiency and good governance. To ensure that we maintain that standard, we separately make every effort to raise funds for activities that support our research programs but are not directed specifically to those programs. NeuroScience Canada Directors have also made generous gifts to operations. In this way, between 75 and 85 percent of every dollar is disbursed directly to Canadian researchers.

**\$8 MILLION - BRAIN REPAIR PROGRAM**

**\$2 MILLION - PARTNERED PROGRAMS**

**\$1.5 MILLION - OPERATIONS, PROGRAM-RELATED ACTIVITIES,  
PUBLIC AWARENESS AND OUTREACH**



## BOARD OF DIRECTORS

In January, J. Anthony Boeckh, a long-standing Director of NeuroScience Canada, was elected Chair of the Board. We thank Mr. Boeckh for having made this important commitment to our future success. In addition, the Board of Directors appointed one new Honorary Board Member: Dr. Dave Williams, Canadian astronaut, who previously worked for NASA as Director of the Space and Life Sciences Directorate at the Johnson Space Center in Houston, Texas. He retired from active astronaut status in March 2008, and is now a Professor in the Department of Surgery at St. Joseph's Hospital in Hamilton, Ontario.

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**Dave R. Williams, MD**

Canadian astronaut

Professor, Department of Surgery

St. Joseph's Hospital

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NeuroScience Canada's Science Advisory Council, under the leadership of Dr. David Kaplan, provides regular and vital counsel on our science and research programs. The Science Advisory Council has been pivotal to reviewing the progress of our funded researchers.

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Hospital for Sick Children;  
Professor  
Department of Molecular Genetics  
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Canada Research Chair in Cancer and  
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## INTERNATIONAL SCIENCE ADVISORY COUNCIL

This council provides an international perspective on our science and research programs. Its participation in our Brain Repair Program review process enables us to benchmark the projects we fund with global standards of excellence.

#### Albert J. Aguayo, O.C., MD, FRSC

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Alzheimer Research Laboratory  
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# THANKS TO OUR SUPPORTERS ACROSS THE COUNTRY

Every year, various funders and partners generously support NeuroScience Canada's world-class neuroscience research program. We gratefully acknowledge the following individuals, corporations, foundations and government agencies.

## WE THANK IN PARTICULAR:

### Our lead Campaign funders

An **anonymous donor** (now deceased), who enabled us to launch the National Brain Repair Fund Campaign and Alberta Initiative with a **\$1.5-million** challenge gift.

The **WB Family Foundation** (T. Robert Beamish Family), which enabled us to launch our second Brain Repair Program competition with a **\$1.5-million** gift.

The **Canadian Institutes of Health Research** and its **Institute of Neurosciences, Mental Health and Addiction**, and **Institute of Aging**, which provided **\$1.5 million** for our first Brain Repair Program competition, and the Institute of Aging, which has partnered with us to provide an additional **\$500,000** toward our second Brain Repair Program competition.

The **Ontario Neurotrauma Foundation**, our provincial partner, which provided a total of **\$600,000** for our Brain Repair Program.

### Individuals and private Foundations

#### \$500,000 + (CUMULATIVE GIVING)

Max Bell Foundation

#### \$250,000 - \$499,999

The John Dobson Foundation

The J.W. McConnell Family Foundation

R. Howard Webster Foundation

#### \$100,000 - \$249,999

Boeckh Family

David and Dorothy Lam Foundation

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Allan R. and Shirley Taylor

The Barbara Turnbull Foundation

Michael H. Wilson

#### \$50,000 - \$99,999

Boardwalk Charitable Trust Fund

Brian D. and Joannah Lawson

The Krembil Foundation

### Corporations

#### \$750,000 + (CUMULATIVE GIVING)



#### \$500,000



#### \$300,000



#### \$250,000



#### \$100,000 - \$249,999

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#### \$50,000 - \$99,999

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## NeuroScience Canada thanks all other individuals, foundations and corporations that have generously contributed to our National Brain Repair Fund Campaign, Alberta Initiative, and to our public awareness activities.

### The following list represents those donors whose cumulative giving is at or above \$500.

Achber, Vernon	Harvie, Donald**	St. Joseph's Healthcare Foundation
The Adair Family Foundation	Haskayne, Richard F.	Stein, Richard B.
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The R.P. Bratty Charitable Foundation	London Drugs Foundation	Younger, Patricia
The Marjorie and Gerald Bronfman Foundation	Louie, Brandt C.	** deceased
Bull, Warren C. **	Love, G. Donald**	<b>We also extend a special thank you to our donors who made gifts to honour the memory of the following individuals:</b>
The Calgary Foundation/David and Leslie Bissett Fund	MacKenzie, Colin	Daniel Bogorad
Canadian Council of Christians and Jews	Mackenzie, Hector	Milton Jay Brown
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Corbertex Corporation	Munroe-Blum, Heather	Greg Tucker
Côté, Marcel	Newall, J.E. (Ted)	Hubert van Tol (Dr. Hubert van Tol Fund)
Crown Life Insurance Company	O/A Budo Theatre	John Joseph Waldron
Culotti, Joseph	Pannitti, Louise	<b>We wish to thank the following funders and partners for providing in-kind and other invaluable support:</b>
Cumming, Tom and Mary	Peters, Robert G.	AMEN Creation
Dion, Durrell & Associates Inc.	Phillips, Anthony G.	Blake, Cassels & Graydon LLP
Mitzi & Mel Dobrin Family Foundation	RBC Investments	Canada Economic Development for Quebec Regions
Dorrington, Keith J.**	The Real Canadian Superstore	Canadian Association for Neuroscience Society for Neuroscience
Falcon Lumber Ltd.	Robb, Christopher J.	McGill University Health Centre
Fraser, Anne	Rothney, Bruce M.	We make every effort to ensure the accuracy of this list. If we have made any errors, please accept our apologies.
Gagnier, Jean-Marcel	Rygiel, Edward K.	
Govain, Royal A	Saskatchewan Wheat Pool	
Grichting, Patty and Reinhard	SaskTel TelCare	
Guest, Gowan	Savard, Guy	
Harris, Cathy	The Seagram Company Ltd.	
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# 2008 PARTNERSHIP AND FOUNDATION FINANCIAL REPORT

## NEUROSCIENCE CANADA Combined Financial Statements

At December 31	2008	2007	For the year ended December 31	2008	2007
	\$	\$		\$	\$
<b>Assets</b>			<b>Revenues</b>		
<u>Current Assets</u>			Restricted contributions		
Cash and cash equivalents	67 643	1 104 287	General contributions	600 195	1 667 222
Term deposits	1 000 000	678 000		25 961	—
Sundry receivables	36 821	44 846		626 156	1 667 222
Deposits	51 919	45 846	<u>Add:</u>		
	1 156 383	1 872 979	Deferred amount	619 208	461 380
Capital assets	1 525	2 178		1 245 364	2 128 602
Investments	219 101	563 400	Interests and other income	35 739	54 731
	<b>1 377 009</b>	<b>2 438 557</b>		<b>1 281 103</b>	<b>2 183 333</b>
<b>Liabilities</b>			<b>Expenditures</b>		
<u>Current liabilities</u>			Grants and awards		
Accounts payable			Operating expenses	1 012 330	1 738 752
and accrued liabilities	23 685	32 522	Amortization	357 324	611 911
Current portion				653	908
of program commitments	866 048	1 485 256		1 370 307	2 351 571
	889 733	1 517 778	Excess of revenues		
			over expenditures		
			(expenditures over revenues)		
			for the year	<b>(89 204)</b>	<b>168 238</b>
<b>Net assets</b>					
Unrestricted net assets	487 276	920 779			
	<b>1 377 009</b>	<b>2 438 557</b>			

The financial statements of NCP – NeuroScience Canada Partnership and NCF – NeuroScience Canada Foundation are audited by KPMG LLP and are available upon request.