



Annual Report 2009



NeuroScience
CANADA

Annual Report 2009

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www.neurosciencecanada.ca

NeuroScience Canada* is a national non-profit organization that develops and supports collaborative, multidisciplinary, multi-institutional research across the neurosciences. Through partnering with the public, private and voluntary sectors, NeuroScience Canada connects the knowledge and resources available in this area to accelerate neuroscience research and funding, and maximize the output of Canada's world-class scientists and researchers. In 2006, NeuroScience Canada received the Conference Board of Canada/Spencer Stuart non-profit National Award in Governance.

*NeuroScience Canada represents both the NeuroScience Canada Partnership and affiliated NeuroScience Canada Foundation.

Brain Canada: A New Vision for Canadian Neuroscience

The need

One in three Canadians, over 11 million people, will face a psychiatric disease, a neurological disorder or an injury at some point in their lives.

Collectively, the diseases of the brain are the major health challenge of the 21st century. They represent 38% of the global burden of disease, which is greater than cancer and cardiovascular disease combined. Brain disorders are the leading cause of disability and can create a lifelong burden of care, impacting not only the life of the individual affected, but also their family and society. These disorders affect all aspects of life—learning, communication, socialization and mobility. They affect young people as well as old. Fetal alcohol syndrome, autism, schizophrenia, attention deficit disorder, dyslexia, epilepsy, mental retardation, depression and neurological birth defects, among others, rob young people of the promise of a lifetime.

The incidence of diseases such as Alzheimer's, Multiple Sclerosis, Parkinson's and stroke will increase with the aging population. For some diseases, we may be facing a global epidemic. In 2006 the prevalence of Alzheimer's worldwide was 26.6 million. By 2050, 1 in 85 people worldwide – more than 100 million people (including over 1 million Canadians) – will be living with the disease. In its *Rising Tide* report, released in March of this year, the Alzheimer Society of Canada estimates that by 2028, the total costs associated with dementia will reach \$153 billion per year due to the sharp increase in the number of people living with Alzheimer's and related dementias.

While some brain diseases respond to treatment, there are no cures at the present time. In addition, while we have made advances at the micro level, we do not as yet have a theory for how the brain works at a macro level—as one system.



The concept

Brain Canada has been formed to respond to this challenge. **The Brain Canada Foundation (referred to throughout as "Brain Canada") will be a national, charitable organization with the goal of funding research aimed at unlocking the mystery of the brain, and developing diagnostics, treatments and ultimately cures for brain disorders.** Brain Canada will raise funds from private sources, partner with charities and foundations with similar goals, and seek matched Government funding for neuroscience research. Brain Canada is a unique coalition between organizations that support, advocate for, and perform cutting-edge research into the brain.

Partners and collaborators

Brain Canada partners are the Canadian Association for Neuroscience, which represents all of Canada's brain researchers, **and Neurological Health Charities Canada**, a collective of voluntary health organizations that represent individuals with progressive brain diseases, and which includes over two million Canadian volunteers. In addition to our partners, Brain Canada is committed to working transparently with other brain initiatives, and identifying opportunities for alignment and collaboration.

Funding goal

Currently, Neurological Health Charities Canada members raise about \$20 million annually for brain research, and Brain Canada hopes to raise an amount equal to that for each of the next five years. **Inherent in our collective fundraising goals is the Federal Government committing to match all donations from private sources directed to support brain research.** Brain Canada and Neurological Health Charities Canada will join forces to request this Government match, also over the next five years.

Research program

The Brain Canada Research Program, developed with the Canadian Association for Neuroscience and supported by Neurological Health Charities Canada, will fund:

1. Transformative **multi-investigator grants** in brain research;
2. A national program to develop **technology platforms** in Neuroimaging, Neurogenomics, Neuroproteomics, and Disease Models;
3. A **training program** to nurture the next generation of researchers.

These areas are considered to be critical to advancing brain research and are currently underfunded by governments.

Highlights 2009



- Elected Rupert Duchesne, President and CEO, Groupe Aeroplan, 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.
- Awarded fourth Dr. Hubert van Tol Travel Fellowship to Axinia Samentha Döring, PhD, a Postdoctoral Fellow in the group of Dr. V. Wee Yong, Department of Clinical Neuroscience, University of Calgary. Awarded fifth fellowship to Damiana Leo, PhD, a Postdoctoral Fellow in Pharmacology in the Department of Pharmacology at the Université de Montréal.
- In partnership with the Barbara Turnbull Foundation and Canadian Institutes of Health Research-Institute of Neurosciences, Mental Health and Addiction, awarded the eighth Barbara Turnbull Award for Spinal Cord Research, to Dr. David Bennett, Faculty of Rehabilitation Medicine, University of Alberta.
- Continued to play a key role with 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; this four-year study has now been launched and research teams will commence work shortly. In parallel to and complementing the study, in January 2010, NHCC presented a National Brain Strategy to Government. This is a strategic framework for priority-setting and decision-making, and consists of seven pillars, including research, prevention, care, and public education.



You can keep updated on NeuroScience Canada's activities by visiting our website: 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.

Message from the Chair and the President

The 1990s was declared The Decade of the Brain. Twenty years later we can look back at the spectacular advances and breakthroughs made by the global research community—90 percent of what we know about the brain and nervous system was discovered during that 20-year period—and look to the future and the promise that lies ahead. To fulfill that promise we need to go beyond just funding more research; we need to have a big vision for the brain which rallies all of the players: researchers, governments, philanthropists, voluntary health organizations—and ultimately, all Canadians. That vision is Brain Canada, and it is the next chapter of NeuroScience Canada—a way of giving one strong brand to the brain that will attract public and government interest and support.

The impetus behind Brain Canada is that we all have a stake in advancing brain research and we will reach our goals more rapidly if we coordinate efforts and collaborate, reducing silos and duplication. This applies to both the researchers and the organizations that are involved in supporting research. Brain research is not only about understanding genes, molecules, cells and chemicals, or the numerous conditions that have commonalities within the central nervous system. It is about understanding the system itself. We need to investigate the parts; but we also need to see the whole and how the parts fit into that whole, and the intersection of the two. We need to understand how the brain works.

The case for a renewed focus on the brain is strong: there is unprecedented attention on the brain as the last frontier of human understanding; greater awareness of the prevalence and impact of brain disorders, and public campaigns to address the stigma around these disorders; new technologies, in areas such as brain imaging, that have given us a more complete picture and understanding of the brain and its functions; and major leaps forward in science, such as the mapping of the human genome, that have opened up new avenues for discovery. Canada has played a role in many of the most important discoveries about the brain and brain disease, and across the country there are leading laboratories in the areas of neurodegenerative disease, stroke, neuro-trauma, neuro-imaging, tissue engineering and biomaterials, regeneration, protection and functional recovery, and genomics/proteomics, to name just a few. Canada's research output has been possible due to major investments by governments, both federal and provincial, and by private donors.

The case for NeuroScience Canada taking a lead in framing the future vision of brain science—Brain Canada—is also strong: NeuroScience Canada has been advancing collaborative brain research since we launched our signature Brain Repair Program in 2003. In July 2010 we will have completed funding the last two Brain Repair Program teams of our five-team objective for the Program. The Program model has been widely celebrated for its focus on excellence and innovation, and on enabling the best and most promising researchers in the country to work in multidisciplinary, multi-institutional teams, thereby enhancing and complementing the efforts of individual institutions. 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 and 5 of this report. Brain Canada will expand on the success of the Brain Repair Program, and through a partnership with the Canadian Association for Neuroscience, we are developing a national research program that will support areas of greatest potential and need that are currently under or not funded.

At the organizational level, NeuroScience Canada has also been a champion of collaboration. We were delighted when, in late 2008, we played a lead role in 11 voluntary health organizations covering the range of brain diseases coming together to form Neurological Health Charities Canada (NHCC); membership has since grown to 19. This coalition represents millions of Canadians living with brain diseases and 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. The study has opened dialogue between Government, including the Public Health Agency of Canada, Health Canada and the Canadian Institutes of Health Research, and the Voluntary Health Organizations. This is part of a series of NHCC-led actions that include a national brain strategy, recently presented to Government. More detail is provided on page 7.

We believe that 2010 is an inflection point for neuroscience, and we are excited about our vision for Brain Canada—a vision for the next “Decade of the Brain” and beyond. We thank everyone who has supported us over the years, and those who continue to inspire us and believe in our future. We thank our volunteers, donors and partners, and our dedicated staff for their hard work and great passion. And we thank our friends and collaborators at NHCC and the Canadian Association of Neuroscience, as we look forward to the launch of Brain Canada and to sharing with them the transformation that lies ahead.



Rupert Duchesne

Rupert Duchesne
Chair of the Board



Inez Jabalpurwala

Inez Jabalpurwala
President

The Brain Repair Program™

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.

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.

Second competition

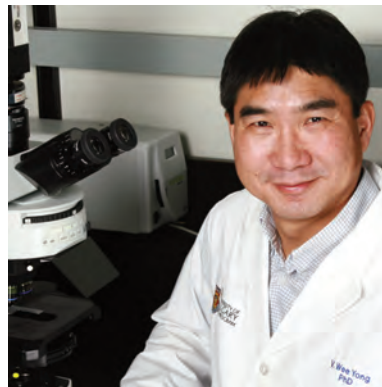
Thanks to the generosity of the T. Robert Beamish family, which made a \$1.5-million commitment through the WB Family Foundation, and to partnered funding from the CIHR - Institute of Aging in the amount of \$500,000, NeuroScience Canada was able to launch the second Brain Repair Program competition in 2006. Through this process, two additional teams were selected for funding in June 2007. The teams are led by Dr. Louis-Éric Trudeau (Université de Montréal) and Dr. V. Wee Yong (University of Calgary). More detail about their projects follows.

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

Converging research efforts have recently identified five genes that are associated with familial Parkinson's Disease (PD), a condition associated with severe motor dysfunction and loss of dopamine-producing cells in the brain. These genes include alpha-synuclein, Parkin, DJ-1, Pink1, LRRK2. It is striking that all of them have been linked directly or indirectly with the function of mitochondria, small ubiquitous intracellular organelles found in all cells. A research group,



Dr. Louis-Éric Trudeau



Dr. V. Wee Yong

led by **Dr. Louis-Éric Trudeau** from the Université de Montréal and including researchers from McGill University (Dr. Ted Fon, Dr Yong Rao) and from the University of Ottawa (Dr. David Park, Dr. Heidi McBride and Dr. Michael Schlossmacher) is undertaking collaborative projects to systematically examine PD genes and their control of mitochondrial function and neuronal physiology and survival.

During the first two years of this project, the group has focused its attention on evaluating the impact of LRRK2, DJ-1, Pink1 and Parkin genes mutations on the function of mitochondria and on the function of neurons and in particular dopamine-secreting cells of the brain. Experiments were performed in mouse neurons as well as in the fly, *Drosophila*, a unique and powerful model system.

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.

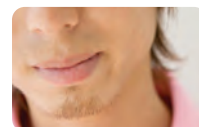
Harnessing beneficial aspects of neuroinflammation for regenerating the central nervous system

This research project, led by **Dr. V. Wee Yong** from the University of Calgary, focuses on the immune system, which is comprised of two major components, the innate and adaptive systems. Innate immunity is the first immune component to sense and respond to an injury. Indeed, a well-regulated innate immune response is a normal physiological process that is essential for functions such as wound healing and defense against foreign substances. Within the central nervous system (CNS), microglia are the resident cell population belonging to the innate immune system. Under conditions of CNS injury, another innate immune cell type, the macrophage, accesses the brain and spinal cord. The initial emphasis was on the role that such activated innate immune cells play in promoting the disease process in conditions such as stroke, Multiple Sclerosis (MS) and spinal cord injury. Only more recently is there attention on the contribution of the innate immune system in improving the well being of the CNS. Indeed, this research team postulates that a well-regulated immune reactivity in the CNS can enable repair of the nervous system.

This research project is composed of: Dr. Luanne Metz, University of Calgary; Dr. Christopher Power, University of Alberta; Dr. Peter Stys, University of Calgary; Dr. Fiona Costello, University of Calgary; and Dr. Serge Rivest, Université Laval. They seek to define the conditions under which physiologic neuroinflammation enables recovery, and to harness the beneficial aspects of innate neuroinflammation

to allow the regeneration of the CNS from insults. This approach is transformational, as it promises to deliver new means to enabling CNS regeneration. These experiments are relevant to promoting recovery from several neurological disorders, including stroke, MS, spinal cord injury, and Alzheimer's disease.

In the second year, the team made substantial progress in a number of areas. 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 MS. 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 β protein that is then deposited in the brain to produce neuropathological changes similar to those encountered in Alzheimer's disease. The treatment of these mice with macrophage colony stimulating factor (M-CSF), which results in the recruitment of microglia in the brain to clear the toxic A β 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 determine whether this exam can be used in clinical trials to evaluate new treatments for MS.



Partnered research programs

Barbara Turnbull Award for Spinal Cord Research

This award, in support of Canadian research on spinal cord injury, is funded by the Institute of Neurosciences, Mental Health and Addiction (INMHA) of the Canadian Institutes of Health Research (CIHR) 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 2009, the recipient of the Barbara Turnbull Award for Spinal Cord Research was Dr. David Bennett, Faculty of Rehabilitation Medicine, University of Alberta. Dr. Bennett was selected for his work on the "neuronal mechanisms of muscle spasms after spinal cord injury". Dr. Bennett is investigating why people with spinal cord injuries develop debilitating muscle spasms, or involuntary contractions of muscles. Spasms are controlled by both positive and negative signals from the brain. In spinal cord injury, Dr. Bennett has proposed that the positive signals normally induced by chemicals made in the brain, called monoamines, are permanently on, resulting in involuntary contractions. He is testing this by asking whether novel drugs that selectively block the monoamine signals will prevent spasms. If successful, these drugs will help us understand how spasms can be controlled, and represent a new treatment for this important symptom of chronic spinal cord injury that impedes motor function.

Since 2002, eight 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.



Inez Jabalpurwala and Barbara Turnbull

Cognitive Impairment in Aging

NeuroScience Canada is a member of the Cognitive Impairment in Aging (CIA) Partnership. The CIA Partnership is a consortium of private, non-governmental, voluntary and government organizations established to work together to further research in Alzheimer's Disease and other dementias (AD&D) and the application of that research to improve the quality of life of those suffering with AD&D. There are currently 19 members of this consortium, and since its inception, the CIA Partnership has invested over \$26 million in targeted areas. More detail can be found on their website: <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 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.

In 2009, the recipient of the award was Axinia Samentha Döring, PhD, a Postdoctoral Fellow in the group of Dr. V. Wee Yong, Department of Clinical Neuroscience, University of Calgary. Dr. Döring attended the 9th *European Meeting on Glial Cells in Health and Disease*, September 8-12, 2009, in Paris, France. The program focused on the specific roles of glia in health and disease, and also addressed the general areas of developmental neurobiology, stem cell biology and regeneration. The meeting enabled Dr. Döring to gain knowledge on ongoing cutting-edge glial research, build important research networks, and discuss recent data with leaders in their field.

The 2010 recipient was Damiana Leo, PhD, a Postdoctoral Fellow in Pharmacology in the Department of Pharmacology at the Université de Montréal. Dr. Leo is working in the lab of Brain Repair Program team leader Dr. Louis-Éric Trudeau. She attended the *Second-by-Second Electrochemical Measurements in Biological Systems* course at the Centre for microelectrode technology, University of Kentucky, May 15-17, 2010, in Lexington Kentucky. The course was organized to teach how to measure different molecules by using powerful and innovative techniques in the mouse and rat central nervous systems.

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. To date, the Fund has received more than \$35,000 in donations. The family and supporters of this fellowship would like to ensure that a total of ten annual awards are given, each valued at up to \$5,000.

Public awareness and outreach

Neurological Health Charities Canada

NeuroScience Canada 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 January 2008, 11 charities agreed to come together under the name “Neurological Health Charities Canada” (NHCC). Membership has since grown to 19. NHCC is a coalition of neurological charities (research and service organizations) working together to improve the lives of people living with brain conditions. NHCC represents a relationship and dialogue among a community of stakeholders across Canada 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.

Following a series of meetings with Government officials in June of 2009, on October 9th, 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. NHCC is collaborating with the Public Health Agency of Canada, and with Health Canada and the Canadian Institutes of Health Research, to coordinate this study. The study will focus on five areas: Incidence & prevalence; Impact on individuals & families; Risk factors for onset & progression; Co-morbidities; Best practice health & support services. Projects, solicited through an open call, are now undergoing review and the project teams from across Canada will be announced shortly. The teams will meet in November 2010, 2011 and 2012 to review annual progress and share findings. Finally, in February 2013, a consensus development conference will be held.

In parallel to the population-based study, NHCC is developing a comprehensive national brain strategy—one that recognizes the unique value of the human brain, considers the complexity and collective impact of brain disorders, and guides increased investments in research, universal access to services and supports, access to the most effective medications and treatments, and key economic issues including income security and genetic discrimination. In January 2010, NHCC submitted a first draft of a National Brain Strategy to the Federal Government. This is a strategic framework for priority-setting and decision-making, and consists of seven pillars:

- Research
- Prevention
- Integrated systems of care & support
- Caregiver Support
- Income Security
- Genetic Discrimination
- Public Awareness & Education

NeuroScience Canada and the Canadian Association for Neuroscience developed the research pillar of this strategy, and we continue to work closely with the Canadian neuroscience research community in order to ensure that the program both directs funds to areas of greatest promise and need, and addresses gaps in current funding. For more detail about NHCC, please visit the website at:

www.mybrainmatters.ca



Supporters of our outreach efforts

All of the efforts described above 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, and that grant was the primary external source of support for our coalition-building and awareness-raising activities. 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 of our outreach efforts.



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.

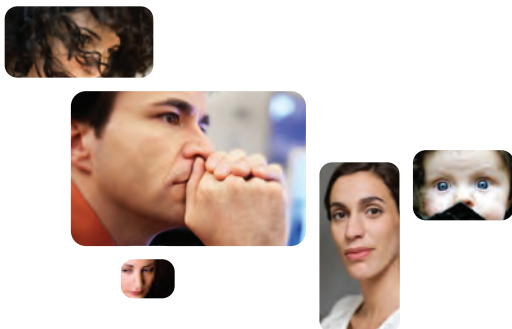
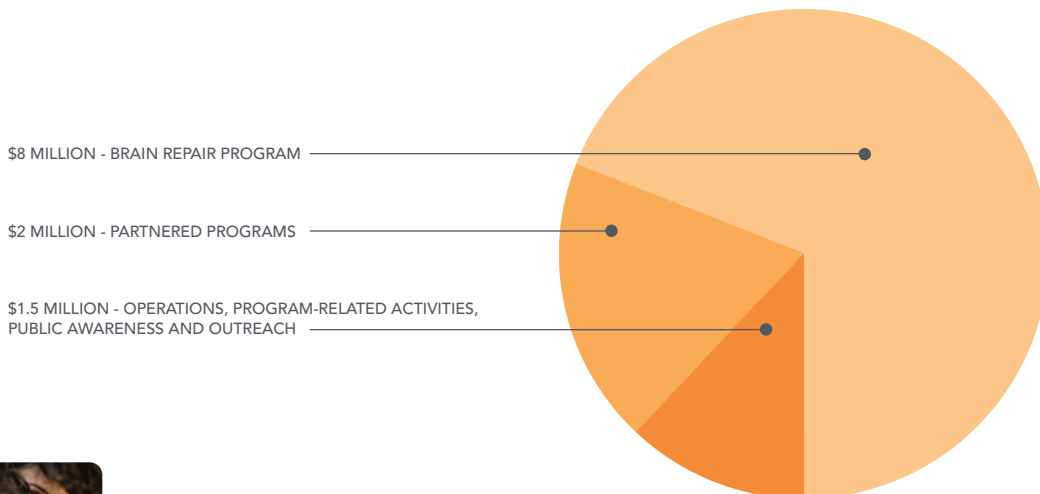
The funds raised through our campaign are allocated as follows:

- \$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 advocacy and public awareness activities that support the advancement of Canadian research).

NeuroScience Canada is now 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 continued in 2009 as we developed the concept for Brain Canada, and enrolled as our main partner the Canadian Association for Neuroscience (CAN), which represents all of Canada's brain researchers. CAN led the process of developing the research program for Brain Canada—a program which has been designed to support the most promising areas of research, while addressing gaps in current funding. We also formed an alliance with Neurological Health Charities Canada, to jointly approach Government

for matched funding of all research dollars from private sources directed to NHCC member organizations with a research program.

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.



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, foundations, corporations and government agencies who have made major contributions to our National Brain Repair Fund Campaign and to our public awareness activities.

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

R. Howard Webster Foundation

\$100,000 - \$249,999

Boeckh Family

The Krembil Foundation

The Tong and Geraldine Louie Family Foundation

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

\$25,000 - \$49,999

Rupert Duchesne

The Henry and Berenice Kaufmann Foundation

Marianne Seger

Corporations

\$750,000 + (CUMULATIVE GIVING)



\$500,000



\$300,000



\$250,000



\$100,000 - \$249,999

BMO Financial Group

Great-West Life, London Life and Canada Life

Magna International Inc.

Power Corporation of Canada

\$50,000 - \$99,999

BP Foundation Inc.

Brookfield Foundation

Mackenzie Financial Corporation

TD Bank Financial Group

NeuroScience Canada thanks all other donors to our National Brain Repair Fund Campaign.

Board of Directors

In October 2009, Rupert Duchesne, President and CEO of Groupe Aeroplan, was elected Chair of the Board. We thank Mr. Duchesne for having made this important commitment to our future success. In May 2010, Dr. Max Cynader was elected a Director. Dr. Cynader is the Director of the Brain Research Centre at the Vancouver Coastal Health Research Institute (VCHRI) and The University of British Columbia (UBC). In addition, Dr. Cynader holds the Canada Research Chair in Brain Development at UBC.

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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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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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2009 Partnership and Foundation financial report

NeuroScience Canada Combined Financial Statements

| At December 31 | 2009 \$ | 2008 \$ | For the year ended December 31 | 2009 \$ | 2008 \$ |
|----------------------------|----------------|------------------|-----------------------------------|------------------|------------------|
| ASSETS | | | REVENUES | | |
| Current Assets | | | Restricted contributions | | |
| Cash cash equivalents | 27 138 | 67 643 | General contributions | 312 188 | 600 195 |
| Term deposits | 400 000 | 1 000 000 | | - | 25 961 |
| Sundry receivables | 7 334 | 36 821 | | 312 188 | 626 156 |
| Deposits | 63 101 | 51 919 | | | |
| | 497 573 | 1 156 383 | Add: | | |
| | | | Deferred amount | 587 664 | 619 208 |
| Capital assets | 1 067 | 1 525 | | 899 852 | 1 245 364 |
| Investments | 200 321 | 219 101 | Interest and other income | 7 941 | 35 739 |
| | 698 961 | 1 377 009 | | 907 793 | 1 281 103 |
| LIABILITIES | | | EXPENDITURES | | |
| Current Liabilities | | | Grants and awards | | |
| Accounts payable | | | Operating expenses | 850 990 | 1 012 330 |
| and accrued liabilities | 25 196 | 23 685 | Amortization | 254 460 | 357 324 |
| Grants and awards payable | 125 000 | - | | 458 | 653 |
| Current portion | | | | 1 105 908 | 1 370 307 |
| of program commitments | 278 384 | 866 048 | Excess of expenditures | | |
| | 428 580 | 889 733 | over revenues for the year | (198 115) | (89 204) |
| NET ASSETS | | | | | |
| Unrestricted net assets | 270 381 | 487 276 | | | |
| | 698 961 | 1 377 009 | | | |

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