

A dense word cloud of various terms including: understanding, building capacity, gain awareness, innovative research, vision and insights, charting a course, potential, research community, ongoing collaborations, having an impact, culture of innovation, fostered growth, critical to the future, and others. The words are in various shades of blue and white, with some appearing larger than others.

# collaborate **innovate** accelerate



2010/11 annual report



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To promote  
the growth and  
coordination  
of the health  
research  
enterprise  
in Manitoba



**Dr. Brian Postl**

Chair (from June 2010)  
Dean,  
Faculty of Medicine,  
University of Manitoba

**Dr. Dean Sandham**

Chair (to June 2010)  
Dean,  
Faculty of Medicine,  
University of Manitoba

**Dr. Judith Bartlett**

Associate Professor and Adjunct  
Scientist MCHP,  
Faculty of Medicine,  
University of Manitoba

**Dr. Digvir Jayas**

Vice-President (Research),  
University of Manitoba

**Mr. F. Lynn Bishop**

Immediate Past Chair of the Board,  
Health Sciences Centre Foundation

**Dr. Arnold Naimark**

Vice Chairperson,  
Director,  
Centre for the Advancement  
of Medicine

**Mr. John Clarkson**

Deputy Minister,  
Department of Innovation,  
Energy & Mines,  
Province of Manitoba  
(non-voting member)

**Ms Cathy Nieroda**

Vice-President,  
Manitoba Region  
HP Enterprise Services

**Dr. Albert Friesen**

President,  
Medicare Inc.

**Dr. Brent Schacter**

(to August 2010)  
CEO,  
Canadian Association of Provincial  
Cancer Agencies

**Dr. Henry Friesen**

Distinguished Professor Emeritus,  
Faculty of Medicine,  
University of Manitoba

**Dr. Ian Smith**

Director General,  
Institute for Biodiagnostics,  
National Research Council

**Mr. Bob Gannon**

Secretary Treasurer,  
Immediate Past Chair of the Board,  
St. Boniface General Hospital

**Mr. Milton Sussman**

Deputy Minister,  
Manitoba Health  
Province of Manitoba  
(non-voting member)

**Mr. Ray Hoemsen**

Director,  
Applied Research and  
Commercialization,  
Red River College

**Ms Arlene Wilgosh**

President and CEO,  
Winnipeg Regional Health Authority



Manitoba is recognized as a leader in the field of renewable energy, a hub for cultural activities and known for its economic and ethnic diversity.

What may not be as widely known is the culture of innovation, which permeates the people and organizations in Manitoba, particularly in the field of health research. Manitoba has long been recognized as a leader in infectious disease research, which has led to key discoveries in the treatment and prevention of HIV around the world. The province continues to serve as a training ground for leaders in the field today.

The Manitoba Health Research Council (MHRC) plays an important role in the fostering and growing of this culture of innovation, which is having an impact on the lives of Manitobans in rural, remote and urban settings living with diseases like asthma, diabetes and inflammatory bowel disease.

Over the past five years the Council established and began implementing the Envisioning the Future strategy, which led to a new mandate as a coordinating body for health research, additional resources from the Government of Manitoba and an increased focus on partnership development.

The development of this strategy and MHRC's growth were led by Dr. Dean Sandham, Chair for the past five years. I want to acknowledge and thank him for his contributions to the health research community in Manitoba.

I would also like to thank outgoing council member, *Dr. Brent Schacter* for his efforts and commitment to health research in Manitoba and welcome *Ms Cathy Nieroda* as a new member of Council.

This past year we have been charting a course for the next five years, including stakeholder consultations on MHRC's coordinating role, establishing priorities and planning for a funding increase. The discussions generated a list of new initiatives, which will be the basis for our continued dialogue with the government.

One final thank you goes to our partners for their ongoing collaborations and support for the research community in Manitoba. Together we support research that is improving the health care system and the health of Manitobans.

Dr. Brian Postl

## Research Advisory Committee

**Dr. Jim Davie**, Chair  
(from July 2010)

**Dr. Harvey Chochinov**, Chair  
(to July 2010)

**Dr. Lesley Degner**, Vice-Chair  
(to November 2010)

**Dr. Judith Bartlett**  
(Council Representative)

**Dr. Charles Bernstein**

**Dr. Peter Cattini**

**Dr. Judy Chipperfield**  
(to December 2010)

**Dr. Brenda Elias**

**Dr. Gary Glavin**

**Dr. Yewen Gong**  
(from November 2010)

**Dr. Brian Hasinoff**  
(to November 2010)

**Dr. Kent HayGlass**

**Dr. Geoff Hicks**

**Dr. Michael Moffatt**

**Dr. James Peeling**

**Dr. Grant Pierce**

**Dr. Brent Schacter**

(Council representative)

(to August 2010)

**Dr. Roberta Woodgate**

(from November 2010)

**Dr. George Zhanel**



This year we were looking back at our accomplishments of the past five years and moving forward with plans for the next five.

Over the past five years there have been dramatic changes in MHRC, its programs, capacity and staff, including:

- Annual spending on programs increased from \$2.8 million in 2005/06 to \$5.6 million in 2009/10.
- Funding leveraged from our partners increased from \$632 thousand in 2005/06 to \$2.0 million in 2009/10.
- Total funding from MHRC and its partners in 2010 was \$7.6 million.
- The number of researchers and trainees supported annually increased from 90 in 2005/06 to 200 in 2009/10.

This growth is significant, but it is only the beginning. Over the next year, we will continue a dialogue about enhancing the health research community in Manitoba. Our partners, including post-secondary institutions, hospitals, health charities, foundations and government will be engaged in this ongoing discussion.

One important initiative we are leading, together with the University of Manitoba and the Winnipeg Regional Health Authority, is the development of a research support unit. The intent, of which, is to increase the quality and quantity of patient-oriented research in Manitoba.

This year MHRC partnered with a few critical organizations, which support the Council's coordination role. We became a sponsor of the Life Sciences Association of Manitoba (LSAM) and will sponsor events to encourage greater interaction between industry and academia. MHRC is supporting Knowledge Synthesis Canada to build capacity for knowledge synthesis in Manitoba, particularly in the area of primary care. Additionally, MHRC has become a member of the Consortia Advancing Standards in Research Administration Information (CASRAI) to participate in developing data standards for information exchanged between research teams, institutions, and funders throughout the lifecycle of research activity

Lastly, I want to thank my predecessors – *Jim Davie* and *Blake McClarty*; both held terms as Executive Directors this year and their vision and insights helped to build a strong foundation for MHRC and led to the development of partnerships with the Terry Fox Research Institute and Mitacs.

Christina Weise



*Staff (left to right): Ms Liz Ford* Administrative Officer, **Dr. Jim Davie** Scientific Director, **Ms Christina Weise** Executive Director, **Ms Shannon Rogalski** Manager, Funding Programs, **Ms Kristen Hooper** Communications Officer

Our new office in Winnipeg's National Research Council facility surrounds us with biomedical innovation and inspires us to persist in our mission to support and build a distinct, diverse and dynamic health research industry in Manitoba.

### Grants and Awards 2010-2011 – Funding Programs

MHRC was established by an Act of the Legislature June 30, 1982 to promote and assist basic, clinical and applied research in the health sciences in Manitoba and advise the Minister on health research matters referred to Council. Our funding programs remain the core mechanism by which the Council achieves its mandate.

Through MHRC's long history, our focus has been on building capacity for health research in Manitoba by targeting funding towards new researchers, new recruits to Manitoba and research trainees. In each of our programs we encourage and support a broad range of human health research including basic biomedical, clinical research, health services and health systems research, and research into the cultural, social and environmental determinants of health.

In 2010/11 Council approved approximately \$5.60 million in research grants, awards and sponsorships. Partnering with various foundations added approximately \$1.98 million to the grants and awards made to the Manitoba Health Research Community. Our funding partners included: Manitoba Institute of Child Health, CancerCare Manitoba, St. Boniface Hospital Foundation, University of Manitoba Graduate Fellowships, Crohn's and Colitis Foundation of Canada, The Lung Association (Manitoba), the Health Sciences Centre Foundation and the Canadian Institutes of Health Research.

The following section describes the number of new awards in the General Competition funded by MHRC and offers a total list of new award recipients for this fiscal year.

#### New Applications, Fundable and Funded Awards in the General Competition

Grant Category	Received		Recommended		Approved	
	No.	\$	No.	\$	No.	\$
Manitoba Research Chairs	6	600,000	6	600,000	2	200,000
Establishment Grants	21	855,974	15	652,691	12	548,237
Operating Grants	28	1,670,431	18	1,004,402	10	522,143
Clinical Fellowship Award	1	36,500	0	0	0	0
Fellowship Awards	43	1,558,750	33	1,262,250	12	367,125
Studentship Awards	142	2,534,700	107	1,909,950	38	628,850



The Manitoba Research Chair Awards support internationally recognized mid-career researchers who work as independent investigators in health research. The five year awards are intended to increase the competitiveness of the individual investigator within a program of research.

## Developing New Treatments for Parasitic Diseases



**Dr. Jude Uzonna**

Departments of Immunology and Medical Microbiology, Faculty of Medicine, University of Manitoba

*“The MHRC’s Research Chair award will facilitate my ability to be competitive and to become an emerging world leader in my field. The award also supports 10 trainees, including a postdoctoral fellow, and will enable our lab to continue to attract, train and retain highly qualified scientists in the areas of cellular and molecular immunology.”*

Tragically, deaths from parasitic diseases such as Leishmaniasis continue to rise around the world, while scientific interest in researching these illnesses remains low. Thanks to Dr. Jude Uzonna, however, science is gaining an understanding of Leishmaniasis, a disease that affects millions of people in 88 countries, including Canadian soldiers returning from Afghanistan.

“While there is no vaccine for the disease and current medications are toxic and have serious side effects, recovery from infection does result in long-lasting immunity against reinfection,” Dr. Uzonna, who hails from Nigeria, says “We believe that understanding the factors that regulate this resistance is critical for future vaccine designs and strategies.”

Dr. Uzonna is trying to understand how regulatory T cells and memory T cells contribute to susceptibility or resistance of Leishmaniasis. Dr. Uzonna’s research team is also studying how regulatory T cells dampen immune response during infection, which can then lead to sepsis syndrome. Their work in comprehending the development of sepsis could lead to new treatments and better care for patients in intensive care units.

“We can foresee a situation where a patient with septicaemia or undergoing septic shock receives a transfusion of regulatory T cells, similar to platelet transfusion for patients with clotting disorders,” Dr. Uzonna says.

## Understanding Young People’s Perspectives on Health and Illness.



**Dr. Roberta Woodgate**

Faculty of Nursing, University of Manitoba

*“Support from MHRC is 100 percent important. Funding gives us the time and the opportunity to do our research. It’s so difficult to access funding nationally; the agency has been so good to me, as well as some of my students who’ve applied for studentships to begin their research careers.”*

To promote good health in Canada’s children and youth, it’s vital to develop meaningful and compelling services and programs that reach out to fulfill the evolving needs of young people, including those living with disabilities and chronic and acute illnesses. However, to create these programs, it’s important for policymakers and caregivers to have a deep understanding of how children and youth conceptualize and experience illness and health.

“Effective interventions and initiatives meant to improve children’s and youth’s health and health care delivery must be grounded within and responsive to their life-situations,” explains Dr. Roberta Woodgate, who hails from Manitoba. “Innovative research that seeks to give young people a voice is required.”

With her research program, Dr. Woodgate is examining young people’s perspectives about health and illness. She says the key objective of her analysis is to gain insight and awareness about how young people view cancer and other chronic diseases, disabilities and health promotion. As well, she hopes to advance the research community’s understanding of ethics in health research.

“The results of our program will have significant potential to inform existing and future research, policies, programs and health services, and also improving the delivery of health care to young people,” Dr. Woodgate remarks.



Establishment Grants support recently recruited faculty members, who show exceptional promise. These funds allow the establishment of their research programs, which will enable successful application for national and international research funding. The awards, for up to \$100,000 to be used within a three year period, provide support for a variety of purposes, e.g. buy-out of teaching time, salary for research personnel (other than the applicant's salary) and purchase of equipment and supplies.

## Understanding the Mental Health Needs of Older Adults



**Dr. Corey Mackenzie**  
Department of Psychology,  
Faculty of Arts,  
University of Manitoba

*"Manitoba is a great fit for my research because the U of M has a dynamic Centre of Aging. I have a large group of colleagues who have similar interests. I've found that clinicians, researchers and policy makers here are extremely open to collaboration, something that I didn't experience in other places where I've done research."*

With Canada facing an unprecedented aging of its population, the challenge of dealing with the mental health of older citizens is also set to become more acute. For Dr. Corey Mackenzie, this demographic broadside underscores the importance of understanding the mental health needs of older adults and their caregivers.

"It's expected that by 2031, one in four Canadians will be 65 years of age and older," Dr. Mackenzie, who grew up in Alberta, notes. "We need to be able to enhance health care for older adults, and research in my Aging and Mental Health laboratory at the University of Manitoba will help improve people's mental health as they age."

Dr. Mackenzie's research program focuses on why older adults with mental health problems are unlikely to seek professional psychological help and how the stress of caring for older adults with dementia can adversely affect the health of caregivers. According to Dr. Mackenzie, his research has the potential to improve mental health outcomes for growing numbers of older Canadians.

"I'm studying the barriers to older adults' use of mental health services in order to inform policy aimed at enhancing their access to effective treatments," he says. "I'm also working on developing interventions to help caregivers cope more effectively with difficult circumstances."

### **Ardelli, Bernadette**

Department of Biology, Faculty of Science, Brandon University  
**Project Title** Towards the development of therapeutic strategies against lymphatic filariasis.

### **Brandt, Jan-Mels**

Department of Surgery, Faculty of Medicine, University of Manitoba  
**Project Title** The role of synovial characteristics on wear in total knee replacements.

### **Duhamel, Todd**

Faculty of Kinesiology & Recreation Management, University of Manitoba

**Project Title** Exercise biology and cardiovascular health laboratory.

### **Eck, Peter**

Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba

**Project Title** Studies in nutrigenomics of disease causing functional variations in nutrient membrane transporters.

### **Gregg, Melanie**

Department of Kinesiology and Applied Health, Faculty of Arts, University of Winnipeg

**Project Title** Sport psychology and athletes with intellectual disability: Lessons for life on and off the field.

### **Jackson, Alan**

Department of Internal Medicine, Faculty of Medicine, University of Manitoba

**Project Title** Pathogenetic mechanisms in rabies virus infection.

### **Karimi, Sohelia**

Department of Physiology, Faculty of Medicine, University of Manitoba

**Project Title** Therapeutic activation of neural stem cells for repair and regeneration of the injured spinal cord.

### **Luo, Yunhua**

Department of Mechanical & Manufacturing Engineering, Faculty of Engineering, University of Manitoba

**Project Title** Advanced computer modeling of closed head injuries: mechanism, diagnosis and protection.

### **Mackenzie, Corey**

Department of Psychology, Faculty of Arts, University of Manitoba

**Project Title** Facing the challenges of an aging population: enhancing older adults' mental health.

### **McManus, Kirk**

Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Project Title** Novel therapeutic targets: Genome stability and cancer.

### **Moqbel, Redwan**

Department of Immunology, Faculty of Medicine, University of Manitoba

**Project Title** Immunobiology and the Eosinophil in asthma and allergy.

### **Stetefeld, Joerg**

Department of Chemistry, Faculty of Science, University of Manitoba

**Project Title** Structural studies of intercellular signaling.

MHRC's Operating Grants are open to recently recruited faculty members and are designed to defray the normal costs of research. Grants are awarded for either one or two years; enabling researchers to successfully obtain national and international funding.

## Discovering the Interface Between Chronic Disease and Critical Illness



### **Dr. Ruth Ann Marrie**

Department of Internal Medicine,  
Faculty of Medicine,  
University of Manitoba

*"Support from MHRC is vital. Because research funding is limited, the operating grant sustains the development of new research programs and new investigations. It allows us to begin our program of research and hopefully to compete successfully for additional funding at the national level."*

A lot is known individually about the incidence, mortality and economic impact of chronic and critical illnesses, however, little is known about how the two conditions overlap. With her research, Dr. Ruth Ann Marrie is hoping to narrow the gap in knowledge relating to the occurrence of critical illness in persons with chronic conditions, such as inflammatory bowel disease, rheumatoid arthritis and multiple sclerosis.

"We don't know how often people with these chronic inflammatory diseases are admitted to intensive care units, what type of critical illness occurs, or even the outcomes," remarks Dr. Marrie, a native of Nova Scotia. "We'll be studying these issues through the use of administrative health claims data and a substantial intensive care unit database."

Through her study, Dr. Marrie and her team are taking the first step in developing a program of research that will explore the relationships of critical and chronic illnesses, including the possibility that disease-modifying medications may increase the risk of critical illness. She says the new program will have a direct impact on the health of individuals afflicted with chronic diseases.

"Our ultimate goal is to reduce or improve health outcomes in the chronically ill by minimizing the occurrence of critical illness and improving outcomes," Dr. Marrie states.

### **Avery, Lisa**

Department of Community Health Sciences, Faculty of Medicine,  
University of Manitoba

**Project Title** Factors that influence H1N1 vaccination uptake among pregnant women in Manitoba.

### **Chelikani, Prashen**

Department of Oral Biology, Faculty of Dentistry,  
University of Manitoba

**Project Title** Elucidating the mechanisms of thromboxane-prostanoid (TP) receptor activation.

### **Fransoo, Randall**

Department of Community Health Sciences, Faculty of Medicine,  
University of Manitoba

**Project Title** Temporal trends and sex differences in AMI incidence, mortality, and treatments in Manitoba, 1985-2010.

### **He, Jue**

Department of Psychiatry, Faculty of Medicine,  
University of Manitoba

**Project Title** Beneficial effects of venlafaxine and brain pathology in Alzheimer's disease.

### **Marrie, Ruth Ann**

Department of Internal Medicine, Faculty of Medicine,  
University of Manitoba

**Project Title** The interface between chronic inflammatory disease and critical illness.

### **McKenna, Sean**

Department of Chemistry, Faculty of Science, University of Manitoba

**Project Title** Structural and mechanistic studies of the evasion of the innate immune response by HIV-1.

### **Mishra, Suresh**

Department of Internal Medicine, Faculty of Medicine,  
University of Manitoba

**Project Title** Role of O-GlcNAc modification (GlcNAcylation) of Insulin Receptor Substrate 1 (IRS1) in insulin signaling and insulin resistance.

### **Rastegar, Mojgan**

Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Project Title** Epigenetic control of Hoxb1 expression in neural stem cells

### **Singh, Harminder**

Department of Internal Medicine, Faculty of Medicine,  
University of Manitoba,

**Project Title** Risk of non-melanoma skin cancer among individuals with inflammatory bowel disease: A population-based study.

### **Srinathan, Sadeesh**

Department of Surgery, Faculty of Medicine, University of Manitoba

**Project Title** My VISION – Self-related health as a predictor of mortality.



A limited number of fellowships are available to outstanding candidates with a doctoral degree whose prior postdoctoral research training normally does not exceed three years. Postdoctoral Fellows are a critical component of the research enterprise enhancing the work of established investigators and these awards support the development of the next generation of researchers.

## Studying the Role of Free Radicals in the Development of ALS



### Dr. Chen Li

Department of Human Anatomy and Cell Science, Faculty of Medicine, University of Manitoba

*"It's a great honour to receive this award. It allows me to continue to develop my research program in neurodegenerative disease. Without the funding, projects would never get off the ground and I would not be able to test my research questions."*

Amyotrophic lateral sclerosis (ALS) has long been regarded as a motor neuron disease, however, recent research has shown that there is a relationship between ALS and altered cognition. It's estimated that from one-third to one-half of all ALS patients are afflicted with cognitive impairment and studies have shown an overlap between ALS associated with cognitive impairment and frontotemporal dementias.

This correlation interests Dr. Chen Li, whose postdoctoral fellowship is shared between MHRC and the Manitoba Institute of Child Health. Dr. Li is investigating the link by focusing on superoxide dismutase 1 (SOD1), a free radical molecule. According to Dr. Li, who was educated in China, studies have demonstrated that SOD1 mutations cause motor neuron degeneration but it's not clear how toxicity is gained. The intention is to test the hypothesis that SOD1 oxidation is an early trigger of SOD1 aggregation, which induces motor neuron death in ALS.

"I want to find out if SOD1 oxidation is the earliest event that triggers SOD1 aggregation. If the hypothesis is proven, the outcome would offer evidence that ALS is virtually an SOD1 disease and implicate oxidized SOD1's role in ALS. This would effectively open up a new avenue for the study of ALS."

### Coordinated Fellowships

The Manitoba Health Research Council has engaged the hospital-based foundations (CancerCare Manitoba Foundation, Manitoba Institute of Child Health, and St. Boniface Hospital Foundation) in the coordination of a joint Postdoctoral Fellowship Competition.

### 2010 Coordinated Fellowship Partners



**Ande, Sudharsana** (Supervisor – Dr. Suresh Mishra)  
Department of Internal Medicine, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Fellowship Award

**Project Title** Role of prohibitin in insulin signaling and insulin resistance.

**Bacik, John** (Supervisor – Dr. Brian Mark)  
Department of Microbiology, Faculty of Science,  
University of Manitoba

**Name of Award** MHRC Fellowship Award

**Project Title** Enhancing the efficacy of beta-lactams by targeting the AmpC beta-lactamase induction pathway.

**Dillon, Rachelle** (Supervisor – Professor Michael Mowat)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Name of Award** MHRC-CancerCare Manitoba Fellowship Award

**Project Title** Evaluate the role of the Dlc-1 and Dlc-2 tumor suppressor genes in mammary tumorigenesis and drug resistance.

**Gadji, Macoura** (Supervisor – Dr. Sabine Mai)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC-CancerCare Manitoba Fellowship Award

**Project Title** Impact of nuclear telomere architecture in the transition of myelodysplastic syndrome to acute myeloid leukemia.

**Li, Chen** (Supervisor – Dr. Jiming Kong)  
Department of Human Anatomy and Cell Science,  
Faculty of Medicine, University of Manitoba

**Name of Award** MHRC-MICH Fellowship Award

**Project Title** Oxidation of SOD1 as a mechanism of motor neuron death in Amyotrophic Lateral Sclerosis (ALS).

**Opapeju, Florence** (Supervisor – Dr. Rotimi Aluko)  
Department of Human Nutritional Sciences, Faculty of Human  
Ecology, University of Manitoba

**Name of Award** MHRC Fellowship Award

**Project Title** In vivo effectiveness of food protein-derived peptide inhibitors of the renin angiotensin system: renin versus angiotensin converting enzyme inhibition.

**Orihara, Kanami** (Supervisor – Dr. Redwan Moqbel)  
Department of Immunology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MICH Fellowship Award

**Project Title** A novel role for amphiregulin (AREG) and NMDA receptors in airway smooth muscle hyperresponsiveness and remodeling in asthma.

**Wilzeck, Christiane** (Supervisor – Dr. Debbie Kelly)  
Department of Psychology, Faculty of Arts,  
University of Manitoba

**Name of Award** MHRC Fellowship Award

**Project Title** Rule learning and mental flexibility : A new animal model to study the impact of aging on higher cognitive functions in the left and right hemisphere of the brain.

**Zhao, Zhaohui** (Supervisor – Dr. Mohammed Moghadasian)  
Department of Human Nutritional Sciences, Faculty of Human  
Ecology, University of Manitoba

**Name of Award** MHRC-SBRC Fellowship Award

**Project Title** In vivo investigation of the anti-atherogenic mechanisms of corn bran-derived feruloylated oligosaccharide: A potential novel, safe, and inexpensive anti-atherosclerosis nutraceutical.

**Zamzow, Christina** (Supervisor – Dr. Philip Gardiner)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Fellowship Award

**Project Title** Can exercise-induced expression of neurotrophic factors improve diabetic neuropathy in the sucrose animal model?



A limited number of studentships are offered to excellent graduate students who are undertaking full-time Master's or Doctoral programs in the Province of Manitoba. These awards also aim to develop the next generation of researchers and improve the productivity of a research lab.

## Understanding the Correlation Between Stress and Health

*"I'm very grateful for my funding from MHRC. Without it, I wouldn't be able to pursue graduate studies on a full-time basis. The studentship allows me to focus on my research and to work toward improving the lives of others."*

**Andrea Bombak**  
Department of Community Health Sciences,  
Faculty of Medicine,  
University of Manitoba

To better understand the correlation between stress and health conditions linked to chronic stress, Andrea Bombak is conducting research in First Nations communities, where populations suffer disproportionately from such maladies as obesity, diabetes and cardiovascular disease. As Ms Bombak notes, research shows that First Nations people demonstrate sources of stress at the individual, family and community levels that may be specific to their communities and not applicable to other groups in Canada.

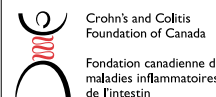
"The stressors have also been linked to certain indicators of poor health that have been measured in these populations," she says. "I'm interested in how individuals perceive their health and how this is related to the public health messaging they receive, especially with regards to obesity. In essence, I'd like to know if they agree with objective health assessments, how these assessments are affected by health messaging and what kinds of messaging motivate change in their lives."

Ms Bombak is hopeful that her research will aid in developing effective health care programs that recognize the specific causes and consequences of chronic stress in these communities. "I'm hoping that my research will allow for more empowering public health messaging for obese people, rather than taking a negative, counter-productive approach."

### Coordinated Studentships

The Manitoba Health Research Council has engaged partners (CancerCare Manitoba Foundation; Crohn's and Colitis Foundation of Canada; Health Sciences Centre Foundation; Manitoba Institute of Child Health; St. Boniface Hospital Foundation; The Lung Association (Manitoba) and University of Manitoba, Faculty of Graduate Studies) in the coordination of a joint Graduate Studentship Competition.

### 2010 Coordinated Studentship Partners



**Adhikari Bagchi, Rushita** (Supervisor – Dr. Michael Czubryt)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC-SBRC Graduate Studentship Award  
**Project Title** The effect of scleraxis gene deletion on cardiac fibrosis.

**Asuni, Ganiyu** (Supervisor – Dr. Boyd Mccurdy)  
Department of Physics, Faculty of Science,  
University of Manitoba

**Name of Award** MHRC-CancerCare Manitoba Graduate Studentship Award

**Project Title** Investigation of novel in vivo dose verification technique for external beam radiation treatment.

**Bautista Guzman, Wendy** (Supervisor – Dr. David McCrea)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** The role of gap junctions in mammalian pre-synaptic inhibition.

**Bombak, Andrea** (Supervisor – Dr. Sharon Bruce)  
Department of Community Health Sciences,  
Faculty of Medicine, University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** The relationship between measures of psychosocial stress and dysglycemia among a First Nations population.

**Card, Catherine** (Supervisor – Dr. Keith Fowke)  
Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** Regulatory T cells and immune quiescence: a model for resistance to HIV infection.

**Chopek, Jeremy** (Supervisor – Dr. Phillip Gardiner)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** The examination of the mechanisms by which 5-HT alters the locomotor patterns in activity-dependent states.

**Dart, Christopher** (Supervisor – Dr. Christopher Anderson)  
Department of Pharmacology & Therapeutics, Faculty of  
Medicine, University of Manitoba

**Name of Award** MHRC-SBRC Graduate Studentship Award

**Project Title** Characterizing structural and functional properties of NMDA receptors in the mouse brain endothelial cell line bEnd.3.

**Dick, Kevin** (Supervisor – Dr. Jingxin Cao)  
Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC-UMGF Graduate Studentship Award

**Project Title** Elucidation of the mechanism and interaction partners of poxvirus E3L protein involved in innate immune suppression in response to viral double-stranded RNA.

**Dunthorne, Karin** (Supervisor – Dr. Carla Taylor)  
Department of Human Nutrition, Faculty of Human Ecology,  
University of Manitoba

**Name of Award** MICH Graduate Studentship Award

**Project Title** The effects of dietary fatty acid composition on diet induced obesity and insulin resistance in skeletal muscle tissue of obese prone rats.

**Gakhar, Neety** (Supervisor – Dr. James House)  
Department of Human Nutritional Sciences, Faculty of Human  
Ecology, University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** The Food Choice Map (FCM) as a dietary assessment tool for lipid intake in Peripheral Artery Disease (PAD) patients.

**Gushulak, Lara** (Supervisor – Dr. Barbara Triggs-Raine)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Name of Award** MHRC-UMGF-MICH Graduate Studentship Award

**Project Title** Does  $\beta$ -hexosaminidase play a significant role in hyaluronan degradation?

**Khan, Dilshad Hussain** (Supervisor – Dr. James Davie)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Name of Award** UMGF Graduate Studentship Award

**Project Title** Studying the distribution and function of histone deacetylases (HDACs) along the immediate early genes.

**Kim, Eun Ran** (Supervisor – Dr. Tooru Mizuno)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** Regulation of energy balance by xenin.

**Kozera, Tanya** (Supervisor – Dr. Dean Kriellaars)  
Department of Medical Rehabilitation, Faculty of Medicine,  
University of Manitoba

**Name of Award** MICH Graduate Studentship Award

**Project Title** Physical literacy and participation in children.

**Kroeker, Andrea** (Supervisor – Dr. Andrew Halayko)  
Department of Physiology, Faculty of Graduate Studies,  
University of Manitoba

**Name of Award** MHRC-MICH Graduate Studentship Award

**Project Title** A quantitative analysis of Influenza A infection in human primary epithelial cells.

**Li, Jing** (Supervisor – Dr. Francis Lin)  
Department of Physics and Astronomy, Faculty of Science,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** Development of microfluidic devices for studying immune cell chemotaxis and electrotaxis.

**Mccullough, Richelle** (Supervisor – Dr. Grant Pierce)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC-SBRC Graduate Studentship Award

**Project Title** The effects of dietary trans fatty acids on the expression and secretion of adipokines.

**Mughal, Wajihah** (Supervisor – Dr. Lorrie Kirshenbaum)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC-SBRC Graduate Studentship Award

**Project Title** Regulation of autophagy in ventricular myocytes by inflammatory cytokines.

**Myskiw, Chad** (Supervisor – Dr. Jingxin Cao)  
Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba

**Name of Award** MHRC Graduate Studentship Award

**Project Title** Characterization of RNA species generated during Vaccinia Virus replication as pathogen-associated molecular patterns.

**Nandagopal, Saravanan** (Supervisor – Dr. Francis Lin)  
Department of Physics and Astronomy, Faculty of Science,  
University of Manitoba  
**Name of Award** MHRC Graduate Studentship Award  
**Project Title** Microfluidics assisted investigation of immune cell migration in complex cellular microenvironments.

**Nevszorova, Uliana** (Supervisor – Dr. Maria Medved)  
Department of Psychology, Faculty of Arts,  
University of Manitoba  
**Name of Award** MHRC Graduate Studentship Award  
**Project Title** Psychological outcomes of moderate to severe burn injury in first-generation Canadian immigrants.

**Okeke, Emeka** (Supervisor – Dr. Jude Uzonna)  
Department of Immunology, Faculty of Medicine,  
University of Manitoba  
**Name of Award** MHRC-MICH Graduate Studentship Award  
**Project Title** Regulation of sepsis and septic shock by regulatory T cells.

**Pahlavan, Payam** (Supervisor – Dr. Benedict Albensi)  
Department of Pharmacology & Therapeutics, Faculty of  
Medicine, University of Manitoba  
**Name of Award** MHRC-UMGF-MICH Graduate Studentship  
Award  
**Project Title** Differential activation of transcription factors including NF- $\kappa$ B and CREB in synaptic plasticity and memory induced by calcium response.

**Pauls, Samantha** (Supervisor – Dr. Aaron Marshall)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba  
**Name of Award** MHRC-MICH Graduate Studentship Award  
**Project Title** The role of Bam32 in mast cell signaling through Fc( $\epsilon$ )R1.

**Rachid, Ousama** (Supervisor – Dr. Keith Simons)  
Faculty of Pharmacy, University of Manitoba  
**Name of Award** MICH Graduate Studentship Award  
**Project Title** Evaluation of the effects of non-medicinal ingredients on the in vitro characteristics and in vivo behavior of a sublingual tablet formulation of epinephrine.

**Shi, Ruoyang** (Supervisor – Dr. Jiming Kong)  
Department of Human Anatomy and Cell Science,  
Faculty of Medicine, University of Manitoba  
**Name of Award** MHRC-MICH Graduate Studentship Award  
**Project Title** A mechanistic study of neuronal cell death following neonatal stroke.

**Teo, Peng** (Supervisor – Dr. Stephen Pistorius)  
Department of Physics and Astronomy/Medical Physics,  
Faculty of Science, University of Manitoba  
**Name of Award** CancerCare Manitoba Graduate Studentship  
Award  
**Project Title** Real-time tumor and critical structure tracking during radiotherapy using computational optical flow analysis of portal images.

**Thandapilly, Sijo Joseph** (Supervisor – Dr. Thomas Netticadan)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba  
**Name of Award** MHRC-SBRC Graduate Studentship Award  
**Project Title** Effects of resveratrol on cardiac structure and function in hypertensive rats.

**Ur-Rehman, Fazal** (Supervisor – Dr. Andrew Goertzen)  
Department of Physics, Faculty of Science,  
University of Manitoba  
**Name of Award** MHRC-HSCF Graduate Studentship Award  
**Project Title** Design and development of detector modules for a highly compact and portable preclinical PET scanner.

**Weiss, Carolyn** (Supervisor – Dr. Zhikang Peng)  
Department of Immunology, Faculty of Medicine,  
University of Manitoba  
**Name of Award** MICH – Crohn's & Colitis Graduate Studentship  
Award  
**Project Title** The role of membrane protein caveolin-1 in murine colitis and the immune mechanisms involved.

**Wojcik, Jennifer** (Supervisor – Dr. Harold Aukema)  
Department of Human Nutritional Sciences, Faculty of Human  
Ecology, University of Manitoba  
**Name of Award** MHRC Graduate Studentship Award  
**Project Title** Effect of different protein sources in a high protein diet on glucose handling in obese rats.

**Wu, Nan** (Supervisor – Dr. Karmin O)  
Department of Physiology, Faculty of Medicine,  
University of Manitoba  
**Name of Award** MHRC-SBRC Graduate Studentship Award  
**Project Title** Regulation of hepatic inflammatory response during hyperhomocysteinemia.

**Zagozewski, James** (Supervisor – Dr. David Eisenstat)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba  
**Name of Award** CancerCare Manitoba Graduate Studentship  
**Project Title** DLX transcriptional regulation of the Rb family member, p107, in retinal and forebrain development.

**Zhang, Qi** (Supervisor – Dr. David Eisenstat)  
Department of Human Anatomy & Cell Science,  
Faculty of Medicine, University of Manitoba  
**Name of Award** MHRC-MICH-CancerCare Manitoba Graduate  
Studentship Award  
**Project Title** Role of DLX transcription factors in retinal development.

**Zheng, Yingfeng** (Supervisor – Dr. Xiaojian Yao)  
Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba  
**Name of Award** MHRC-MICH Graduate Studentship Award  
**Project Title** Functional role and molecular mechanism underlying the action of HIV-1 integrase during viral DNA chromatin targeting.

**Zhou, Yueqin** (Supervisor – Dr. Geoffrey Hicks)  
Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba  
**Name of Award** MHRC-CancerCare Manitoba Graduate  
Studentship Award  
**Project Title** The role of RNA binding protein TLS in microRNA processing and B cell development.



The program provides partnership awards (matching funds) to individuals who have been awarded Canadian Institutes of Health Research Regional Partnership Program (CIHR-RPP) grants or awards.

## RPP Operating Grants

### Coombs, Kevin M.

Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba

**Project Title** Systemic host protein changes and requirements for Influenza virus infection.

### Dakshinamurti, Shyamala

Department of Pediatrics, Section of Neonatology,  
Faculty of Medicine, University of Manitoba

**Project Title** Functional regulation of pulmonary arterial thromboxane receptor by post-translational modification in hypoxic persistent pulmonary hypertension of the newborn.

### Dhalla, Naranjan

Institute of Cardiovascular Sciences, Faculty of Medicine,  
University of Manitoba

**Project Title** Subcellular remodeling in congestive heart failure.

### Del Bigio, Marc

Department of Pathology, Faculty of Medicine,  
University of Manitoba

**Project Title** Preclinical studies for treatment of hydrocephalus.

### Halayko, Andrew J.

Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Project Title** The S100A8/A9-RAGE Axis in airway inflammation, hyper-responsiveness, and remodeling.

### Jordan, Larry

Department of Physiology, Faculty of Medicine,  
University of Manitoba

**Project Title** Brainstem and spinal cord mechanisms for control of locomotion.

### Kung, Sam

Department of Immunology, Faculty of Medicine,  
University of Manitoba

**Project Title** CD40 signaling and the role of a scaffold protein, JLP, in DC maturation and functions.

### Merz, David

Department of Biochemistry & Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Project Title** Timing and position: How a migrating cell knows when to turn.

### Nachtigal, Mark

Department of Biochemistry and Medical Genetics,  
Faculty of Medicine, University of Manitoba

**Project Title** Investigating altered PCSK6 activity in ovarian cancer.

### O, Karmin

Department of Animal Science, Faculty of Agricultural and Food Sciences, St. Boniface Hospital Research Centre

**Project Title** Hepatic contribution to monocyte recruitment and atherogenesis.

### Pierce, Grant

Department of Physiology, Faculty of Medicine,  
St. Boniface Hospital Research Centre

**Project Title** The effects of specific dietary fatty acids on cardiovascular health.

### Plummer, Francis

Department of Medical Microbiology, Faculty of Medicine,  
University of Manitoba

**Project Title** Determining the role of serpins in HIV-resistance.

### Raouf, Afshin

Department of Immunology, Manitoba Institute of Cell Biology,  
CancerCare Manitoba.

**Project Title** NOTCH3 Receptor: a key regulator of human mammary epithelial progenitor cell functions.

### Stetfeld, Joerg

Department of Chemistry, Faculty of Science,  
University of Manitoba

**Project Title** Structure-function studies of netrin-1.

### Wilkins, John

Department of Internal Medicine, Faculty of Medicine,  
University of Manitoba

**Project Title** Systems biology based approach to the study of T-lymphocyte migration.

## RPP New Investigator Award

### McManus, Kirk

Manitoba Institute of Cell Biology, Faculty of Medicine,  
CancerCare Manitoba

**Project Title** Determinants of Genome stability and drug target discovery.



### Bridge Funding Awards

Bridge funding awards are once only, one-year awards designed to allow experienced, productive investigators, who have lost funding from a major national agency, to maintain their research operation while they attempt to regain national funding.

**Ata, Athar**

Department of Chemistry, Faculty of Science,  
University of Winnipeg

**Project Title** Phytochemical studies on medicinally important plants.

### Research Connections: Event Sponsorship

This program provides matching funds to support health research conferences, workshops, research days and like events. Its purpose is to promote the advancement and exchange of health research knowledge in Manitoba by encouraging linkages between researchers, and among researchers and others.

The Council sponsored eight events, which intended to build research collaborations within their specific areas of interest:

- 2nd Canadian National Medical Student Research Symposium
- Canadian Student Health Research Forum – MHRC Postdoctoral Fellow Research Connection Award
- Canadian National Medical Student Research Symposium
- 6th Annual Child Health Research Day, Manitoba Institute for Child Health
- International Academy of Cardiovascular Sciences – Future of Heart Health
- 3rd Canadian National Medical Student Research Symposium – June 7-9, 2011
- International HIV Prevention Exchange
- 2011 Prairie Infectious Immunology Network Meeting – Russell, Manitoba – June 15-17, 2011

### Summer Stipends

In 2010 and 2011 MHRC contributed \$15,000 to the University of Manitoba's B.Sc. Medicine Program to support the summer research projects of three students. The work done by these students allows them to develop as physicians and broadens their scientific understanding and foundations in research.

### Opportunities Grant – Respiratory Research

Jointly funded with the Amalgamated Medical Research Fund at the Faculty of Medicine, University of Manitoba.

**Halayko, Andrew**

Department of Physiology & Internal Medicine, Faculty of Medicine, University of Manitoba

**Project Title** Effects of Statins on H1N1 Influenza A infection and respiratory Disease Severity.

**Moqbel, Redwan**

Department of Immunology, Faculty of Medicine, University of Manitoba

**Project Title** Tryptophan catabolism, kynurenines and glutamate in T-cell deviation in asthma.

### MMSF/MHRC Clinical Research Professorships in Population Medicine

**Schroth, Robert**

Department of Pediatrics and Child Health, Faculty of Medicine, University of Manitoba

**Project Title** Health Sciences Centre Prenatal Vitamin D Supplementation Project: Evaluating the feasibility and effectiveness of high dose vitamin D supplementation during pregnancy on newborn 25(OH) D levels and infant health.

### Manitoba Research Chair

**Dr. Reinhart Reithmeier** (Chair), Department of Biochemistry, University of Toronto

**Dr. Michael P. Walsh** (Scientific Officer), Smooth Muscle Research Group and the CIHR Group in Regulation of Vascular Contractility, Department of Biochemistry and Molecular Biology, University of Calgary

**Dr. Ranjana Bird**, Cancer and Nutrition Researcher, VP Research, University of Windsor

**Dr. Margaret Fitch**, Head, Oncology Nursing and co-director, Integrated Psychosocial, Supportive and Palliative Care Program, Odette Cancer Centre, Sunnybrook Health Science Centre

**Dr. Bhagirath Singh**, Director, Centre for Human Immunology, Department of Microbiology & Immunology, University of Western Ontario

### Operating Grants

**Dr. Elisavet Kardami** (Chair), Department of Human Anatomy and Cell Science, Faculty of Medicine, University of Manitoba

**Dr. Spencer Gibson** (Scientific Officer), Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Dr. Gilbert Arthur**, Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Dr. Tedros Bezabeh**, Institute for Biodiagnostics, National Research Council

**Dr. Ratna Bose**, Department of Pharmacology, Faculty of Medicine, University of Manitoba

**Dr. Alberto Civetta**, Department of Biology, Faculty of Science, University of Winnipeg

**Dr. Cindy Ellison**, Department of Pathology, Faculty of Medicine, University of Manitoba

**Dr. Allan Garland**, Department of Internal Medicine, Faculty of Medicine, University of Manitoba

**Dr. Jiming Kong**, Department of Human Anatomy and Cell Science, Faculty of Medicine, University of Manitoba

**Dr. Lawrence Ryner**, Institute for Biodiagnostics, National Research Council

**Dr. Mark Torchia**, Department of Human Anatomy and Cell Science, Faculty of Medicine, University of Manitoba

### Social/Population Health

**Dr. Verena Menez** (Chair) Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

**Dr. Jon McGavock** (Scientific Officer) Department of Pediatrics and Child Health, Faculty of Medicine, University of Manitoba

**Dr. James Bolton**, Department of Psychiatry, Faculty of Medicine, University of Manitoba

**Dr. Dauna Crooks**, Faculty of Nursing, University of Manitoba

**Dr. Evelyn Forget**, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

**Dr. Christopher Fries**, Department of Sociology, Faculty of Arts, University of Manitoba

**Dr. Lorna Jakobson**, Department of Psychology, Faculty of Arts, University of Manitoba

**Dr. Dean Kriellaars**, Department of Medical Rehabilitation, Faculty of Medicine, University of Manitoba

**Dr. Andrew McKay**, Department of Surgery, Faculty of Medicine, University of Manitoba

**Dr. Maria Medved**, Department of Psychology, Faculty of Arts, University of Manitoba

**Dr. Norah Vincent**, Clinical Health Psychology, Faculty of Medicine, University of Manitoba

### Fellowship

**Dr. Leigh Murphy** (Chair) Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba, CancerCare Manitoba

**Dr. Francis Lin** (Scientific Officer) Department of Physics and Astronomy, Faculty of Science, University of Manitoba

**Dr. Douglas Craig**, Department of Chemistry, Faculty of Science, University of Winnipeg

**Dr. Maryanne Crockett**, Departments of Child and Pediatric Health and Medical Microbiology, Faculty of Medicine, University of Manitoba

**Dr. B. J. Hancock**, Department of Surgery, Faculty of Medicine, University of Manitoba

**Dr. Sabine Hombach-Klonisch**, Department of Human Anatomy & Cell Science, Faculty of Medicine, University of Manitoba

**Dr. Xin-Min Li**, Department of Psychiatry, Faculty of Medicine, University of Manitoba

**Dr. David Merz**, Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Dr. Afshin Raouf**, Department of Cell Biology/Immunology, Faculty of Medicine, University of Manitoba

**Dr. Mojgan Rastegar**, Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Dr. Jude Uzonna**, Department of Immunology, Faculty of Medicine, University of Manitoba

### Studentship Review

**Dr. Pawan Singal** (Chair) Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre

**Dr. Chris Anderson**, Faculty of Pharmacology, Faculty of Medicine, University of Manitoba

**Dr. Hope Anderson**, Faculty of Pharmacy, University of Manitoba

**Dr. Rajinder Bhullar**, Department of Oral Biology/ Biochemistry & Medical Genetics, Faculty of Dentistry/ Medicine, University of Manitoba

**Dr. Kevin Campbell**, Department of Biological Sciences, Faculty of Science, University of Manitoba

**Dr. Shyamala Dakshinamurti**, Department of Pediatrics/ Physiology, Faculty of Medicine, University of Manitoba

**Dr. Todd Duhamel**, Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre

**Dr. Andrew Goertzen**, Department of Radiology, Faculty of Medicine, University of Manitoba

**Dr. Patrick Jackson**, Department of Biology, Faculty of Science, Brandon University

**Dr. Sam Kung**, Department of Immunology, Faculty of Medicine, University of Manitoba

**Dr. Kan-Zhi Liu**, Institute for Biodiagnostics, National Research Council

**Dr. Sean McKenna**, Department of Chemistry, Faculty of Science, University of Manitoba

**Dr. Kirk McManus**, Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba

**Dr. Miyoung Suh**, Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba

**Dr. Maria Vrontakis**, Department of Human Anatomy and Cell Science, Faculty of Medicine, University of Manitoba

### Opportunities Grant – Respiratory

**Dr. Jim Davie** (Chair), Scientific Director, Manitoba Health Research Council

**Dr. Darryl Knight**, Associate Professor, Department of Pharmacology and Therapeutics, University of British Columbia; Associate Director, James Hogg iCAPTURE Centre for Cardiovascular and Pulmonary Research

**Dr. Irvin Mayers**, Professor and Head, Division of Pulmonary Medicine, Department of Medicine, Faculty of Medicine and Dentistry, University of Alberta

**Dr. Michael F Murphy**, Professor and Chair Anesthesiology, Professor Emergency Medicine, Dalhousie University

**Dr. Parameswaran Nair**, Associate Professor of Medicine, Division of Respiriology, McMaster University

**Dr. Robert Newton**, Associate Professor, Department of Cell Biology & Anatomy, Faculty of Medicine, University of Calgary

**Dr. Paul Rennie**, Director, Laboratory Research, The Vancouver Prostate Centre, Professor, Department of Urologic Sciences and Department of Pathology and Laboratory, Medicine, University of British Columbia

**Dr. Jeffrey Wigle**, Principal Investigator, Vascular Development, Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre



Our new office in  
 Winnipeg's National  
 Research Council  
 complex surrounds  
 us with biomedical  
 innovation and inspires us  
 to persist in our mission  
 to support and build  
 a distinct, diverse and  
 dynamic health research  
 industry in Manitoba.





Management is responsible for the integrity of the financial information reported by the Manitoba Health Research Council.

Fulfilling this responsibility requires the preparation and presentation of the accompanying financial statements and other financial information in accordance with Canadian generally accepted accounting principles that are consistently applied, with any exceptions specifically described in the financial statements.

The accounting system used by the Council includes an appropriate system of internal controls to provide reasonable assurance that:

- transactions are authorized;
- the assets of the Council are protected from loss and unauthorized use; and
- the accounts are properly kept and financial reports are properly monitored to ensure reliable information is provided for preparation of financial statements and other financial information.

To ensure management meets its responsibilities for financial reporting and internal control, members of the Council discuss audit and financial reporting matters with representatives of management at regular meetings. Council members have also reviewed and approved the financial statements with representatives of management.

An independent Auditor has audited the Council's statement of financial position and statements of operations, change in net financial assets and cash flows. Their responsibility is to express an opinion on the fairness of management's financial statements. The Auditor's report outlines the scope of their audit and opinion.



Christina Weise  
Executive Director

**To the Members of the Council of Manitoba Health Research Council**

We have audited the accompanying financial statements of MANITOBA HEALTH RESEARCH COUNCIL, which comprise the statement of financial position as at March 31, 2011, and the statements of operations and fund balances and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

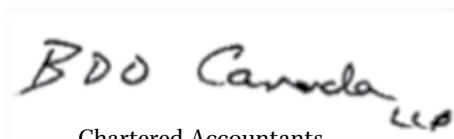
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements present fairly, in all material respects, the financial position of MANITOBA HEALTH RESEARCH COUNCIL as at March 31, 2011 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.



Chartered Accountants

Winnipeg, Manitoba

June 1, 2011

March 31	2011	2010
<b>Assets</b>		
<b>Current Assets</b>		
Cash and bank	\$ 74,020	\$ 310,623
Short-term investments	6,870,416	1,987,890
Accounts receivable	9,665	9,313
Accrued interest receivable	32,745	10,078
Prepaid expenses	2,158	2,157
Deposits	500	500
	6,989,504	2,320,561
<b>Capital assets</b> (Note 2)	14,955	18,694
	\$ 7,004,459	\$ 2,339,255

**Liabilities and Fund Balances****Current Liabilities**

Accounts payable and accrued liabilities	\$ 46,968	\$ 105,181
Deferred revenue	5,000,000	-
Research grants payable	52,263	305,297
	5,099,231	410,478

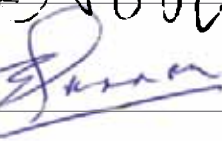
**Commitments** (Note 4)**Fund Balances**

General Research Fund (Page ii)	1,905,228	1,928,777
	\$ 7,004,459	\$ 2,339,255

Approved on behalf of the board



Director



Director

<b>For the year ended March 31</b>			<b>2011</b>	<b>2010</b>
	<b>General Research Fund</b>	<b>Regional Partnership Fund</b>	<b>Total</b>	<b>Total</b>
<b>Revenue</b>				
Province of Manitoba grants	\$ 5,002,600	\$ 1,000,000	\$ 6,002,600	\$ 6,030,200
Grants returned/rescinded	130,772	–	130,772	83,111
Investment income	65,215	–	65,215	37,306
MS Health Research	5,000,000	–	5,000,000	–
	<u>10,198,587</u>	<u>1,000,000</u>	<u>11,198,587</u>	<u>6,150,617</u>
Less deferred revenue, end of year	5,000,000	–	5,000,000	–
	<u>5,198,587</u>	<u>1,000,000</u>	<u>6,198,587</u>	<u>6,150,617</u>
<b>Expenditures</b>				
Administration (Page viii)	615,954	–	615,954	703,596
Personnel awards	1,742,801	16,000	1,758,801	2,151,573
Research grants	2,855,971	991,410	3,847,381	3,220,107
	<u>5,214,726</u>	<u>1,007,410</u>	<u>6,222,136</u>	<u>6,075,276</u>
<b>Excess (deficiency) of revenue over expenditures for the year</b>	(16,139)	(7,410)	(23,549)	75,341
<b>Fund balances, beginning of year</b>	1,928,777	–	1,928,777	1,853,436
<b>Transfer Regional Partnership Fund to General Research Fund</b>	(7,410)	7,410	–	–
<b>Fund balances, end of year (Page i)</b>	<u>\$ 1,905,228</u>	<u>\$ –</u>	<u>\$ 1,905,228</u>	<u>\$ 1,928,777</u>



<b>For the year ended March 31</b>	<b>2011</b>	<b>2010</b>
<b>Cash Flows from Operating Activities</b>		
Excess (deficiency) of		
revenue over expenditures for the year	\$ (23,549)	\$ 75,341
Adjustments for		
Amortization of capital assets	3,739	4,672
	(19,810)	80,013
Changes in non-cash working capital balances		
Short-term investments	(4,882,526)	285,832
Accounts receivable	(352)	(1,453)
Accrued interest receivable	(22,667)	(10,078)
Prepaid expenses	(1)	(3)
Accounts payable and accrued liabilities	(58,213)	(2,409)
Deferred revenue	5,000,000	-
Research grants payable	(253,034)	(133,671)
	(236,603)	218,231
<b>Cash Flows from Investing Activities</b>		
Purchase of capital assets	-	(7,572)
<b>Increase (decrease) in cash and cash equivalents during the year</b>		
	(236,603)	210,659
<b>Cash, beginning of year</b>	310,623	99,964
<b>Cash, end of year</b>	\$ 74,020	\$ 310,623
<b>Supplementary Information</b>		
Interest received	\$ 27,364	\$ 27,364

### For the year ended March 31, 2011

These financial statements have been prepared by management in accordance with Canadian generally accepted accounting principles.

#### Financial Instruments

The organization utilizes various financial instruments. Unless otherwise noted, it is management's opinion that the organization is not exposed to significant interest, currency or credit risks arising from these financial instruments and the carrying amounts approximate fair values.

All transactions related to financial instruments are recorded on a trade date basis.

The organization classifies its financial instruments as follows based on the purpose for which the asset was acquired and follows the disclosed accounting policy for each category.

Assets/Liability	Category	Measurement
Cash and bank	Held for trading	Fair value
Short-term investments	Held for trading	Fair value
Accounts receivable	Loans and receivables	Amortized cost
Accrued interest receivable	Loans and receivables	Amortized cost
Accounts payable and accrued liabilities	Other financial liabilities	Amortized cost
Research grants payable	Other financial liabilities	Amortized cost

- Held for trading items are carried at fair value, with changes in their fair value recognized in the statement of operations.
- Other financial liabilities are carried at amortized cost, using the effective interest method.
- Loans and receivables are carried at amortized cost, using the effective interest rate method, less any provision for impairment.

Transaction costs are expensed as incurred.

#### Capital Assets

Capital assets are stated at cost less accumulated amortization. Amortization, based on the estimated useful life of the asset, is calculated as follows:

Office equipment	20% diminishing balance basis
Computer equipment	20% diminishing balance basis

#### Fund Accounting

The Manitoba Health Research Council follows the restricted fund method of accounting for contributions.

The General Research Fund reports only restricted resources that are used for research purposes. General research grants are charged to expenditures in the year the funding is committed for, by Council. Research grants returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Regional Partnership awards are charged to expenditures when funding is received from the Province of Manitoba. Regional partnership awards returned to or rescinded by the Council are recorded as revenues when received or rescinded.

**For the year ended March 31, 2011**

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**Revenue Recognition**

Grant revenue is reflected in income in the period in which the grant is received or becomes receivable. Interest income is recognized as revenue when earned and is allocated to the General Fund.

**Grants and Awards**

All grants and awards and their renewals are charged to expenditures when funding is approved by Council.

**Administrative Expenditures**

Administration expenses are allocated 100% to the General Research Fund.

**New Accounting****Pronouncements**

In December 2010, the Accounting Standards Board (AcSB) and Public Sector Accounting Board (PSAB) issued new standards for not-for-profit organizations (NPOs) as follows:

For non-government (private sector) NPOs, they have a choice of:

1. International Financial Reporting Standards (“IFRS”) or
2. Accounting Standards for NPOs (which is essentially the Accounting Standards for Private Enterprises with the current 4400 series of NPO specific standards added with some minor changes)

For government (public sector) NPOs they have a choice of:

1. Public Sector Accounting standards with the current series of NPO-specific standards added with some minor changes; or
2. Public Sector Accounting standards.

The Boards require NPOs to adopt their respective standards for year ends beginning on or after January 1, 2012; early adoption is allowed. Until the date of transition to the new standards, all NPOs will continue to follow the current Canadian Institute of Chartered Accountants Handbook – Accounting Part V – Pre-Changeover Standards.

**For the year ended March 31, 2011****1. Entity Definition**

The Manitoba Health Research Council was established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. The Manitoba Health Research Council is a registered charity and is exempt from tax under the Income Tax Act.

**2. Capital Assets**

	2011		2010	
	Cost	Accumulated Amortization	Cost	Accumulated Amortization
Office equipment	\$ 21,059	\$ 10,285	\$ 21,059	\$ 7,592
Computer equipment	12,861	8,680	12,861	7,634
	<u>\$ 33,920</u>	<u>\$ 18,965</u>	<u>\$ 33,920</u>	<u>\$ 15,226</u>
Cost less accumulated amortization		<u>\$ 14,955</u>		<u>\$ 18,694</u>

**3. Related Party Transactions**

Manitoba Health Research Council is related to all Province of Manitoba departments and agencies. During the year, the Council had the following transactions with related organizations:

	2011	2010
Grant revenue	\$ 6,002,600	\$ 6,030,200
MS Health Research Revenue	5,000,000	–

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

**For the year ended March 31, 2011****4. Commitments**

The Manitoba Health Research Council has committed grants and awards under the General Research Fund and the Regional Partnership Fund as follows:

<b>Year</b>	<b>General Research Fund</b>	<b>Regional Partnership Fund</b>	<b>Total</b>
2012	\$ 1,791,467	\$ 831,488	\$ 2,622,955
2013	934,310	332,331	1,266,641
2014	400,000	–	400,000
2015	200,000	–	200,000
	<u>\$ 3,325,777</u>	<u>\$ 1,163,819</u>	<u>\$ 4,489,596</u>

Commitments of future years of the General Research Fund and Regional Partnership Fund are not recorded as an expenditure in the year of commitment, they are recorded as an expenditure in the year they are committed for. These commitments will be funded as follows:

Current General Research Fund Balance	\$ 1,905,228
Future Province of Manitoba grants	2,584,368
	<u>\$ 4,489,596</u>

**5. Economic Dependence**

The Manitoba Health Research Council relies almost entirely on grants from the Province of Manitoba.

**6. Capital Disclosures**

The Council considers its capital consists of its end of year Fund balances. There have been no changes to what the Council considers to be its capital since the previous period.

The Council manages its capital to ensure it retains sufficient cash resources to enable it to carry out its mission of providing grants to assist with medical research in Manitoba.



<b>For the year ended March 31</b>	<b>2011</b>	<b>2010</b>
Accounting and audit	\$ 4,670	\$ 4,409
Amortization	3,739	4,672
Bank charges and interest	328	405
Communications	91,698	113,931
Conferences, meetings and travel	17,359	14,087
Consulting and professional fees	7,910	56,881
Council and committee expenses	5,098	17,222
Delivery	1,293	3,130
GST expense	-	684
Insurance	4,523	4,487
Marketing	35,310	23,724
Parking	968	1,561
Printing, stationery and office supplies	10,143	9,531
Repairs and maintenance	12,061	6,785
Reviewer's expenses	23,888	28,412
Salaries and benefits	393,904	409,167
Workshops and training	3,062	4,508
	<u>\$ 615,954</u>	<u>\$ 703,596</u>

understanding  
building capacity vision and insights  
having an impact  
culture of innovation  
manitobans  
research community innovative research  
evolving  
ongoing collaborations  
envisioning the future  
improving the health care system innovative research  
potential understanding building capacity  
research community  
envisioning the future  
culture of innovation  
research community  
ongoing collaborations  
fostering growth  
health of manitobans  
evolving innovative research  
improving the health care system gain awareness  
evolving envisioning the future understanding  
innovative research  
culture of innovation  
understanding evolving vision and insights  
potential gain awareness ongoing collab  
envisioning the innovative research understa  
innovative research  
improving the health care system  
understanding building capacity vision and insights  
research community having an impact  
envisioning the future potential  
culture of innovation health of manitobans continue a dialogues  
research community innovative research  
research community



For more information contact:

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