



New CFI Funding Announced for UHN

In a press conference held at the University of Ottawa on June 19, 2009, the Canada Foundation for Innovation (CFI) announced funding to three UHN-led projects totaling \$15.4M in new infrastructure support.

Dr. [Armand Keating](#) and his team will receive \$7.3M in infrastructure support under the Leading Edge Fund (LEF) program to establish the "Ontario Regional Centre for Cell and Vector Production". This regional initiative will service a full spectrum of therapeutic cell- and gene-based research, including regenerative medicine, cancer and immune dysregulation (e.g. graft-versus-host disease, autoimmune disorders).

Under the New Initiatives Fund (NIF) program, Dr. [David Jaffray](#) and his team was awarded \$5.5M for his project entitled "Robotic Positioning for Image-Guided Surgery and Radiation Therapy"—to build two translational research environments that use intra-operative and robotic systems for highly conformal, localized and minimally invasive radiation therapy.

Also under the NIF program, \$2.4M will be provided to Dr. [Gang Zheng](#) and his team to establish "NanoMed Fab: A Nanofabrication Centre for Personalized Medicine". This centre will implement emerging concepts in nanotechnology, molecular engineering and medicine towards the design of targeted nanoparticles that can be seamlessly translated and tested in clinical settings.

AL-amyloidosis: Finding New Treatment Strategies

New findings from a UHN phase I study show that the once- and twice-weekly administration of the drug bortezomib is generally well-tolerated and holds promising findings in terms of disease response in patients. A rapid response to treatment is imperative in AL-amyloidosis to prevent organ failure and death. AL-amyloidosis is a protein conformational disorder related to multiple myeloma where the structure of certain proteins becomes mutated and abnormally deposited in organs and/or tissues.

In collaboration with international colleagues, the OCI-led study has shown that bortezomib demonstrated a good safety profile when administered once- or twice-weekly in relapsed patients with AL. These preliminary patient findings also generally show a short time to response—approximately 1.2 and 2.3 months, respectively.

"Having a rapid response, as detected through patient blood samples, is critically important for patients with AL because we need to ensure timely therapeutic benefit of treatment in terms of organ response," comments study lead Dr. [Donna Reece](#). "We are in critical need of treating this disease sooner. The phase two study currently underway is looking to determine precisely the activity and tolerability of bortezomib in AL."

Reece DE, Sanchorawala V, Hegenbart U, Merlini G, Palladini G, Fermann



MRI Awards Support to UHN Researchers

UHN

congratulates OCI's Drs. Ming-Sound Tsao and Igor Jurisica for

being awarded funding in Round 3 of the Ministry of Research and Innovation's (MRI) Ontario Research Fund Research Excellence (ORF-RE) program. Their proposal entitled "Integrated Molecular Pathology of Targeted Cancer Therapy in Lung Cancer", includes team members Drs. Frances Shepherd, Geoffrey Liu, Mike Moran and Thomas Kislinger.

The project will receive upwards of \$4.6M to develop unique, patient-derived xenograft models of lung cancer. It will also help develop a robust informatics platform to comprehensively define the molecular genetic abnormalities and critical pathways in the disease. It is anticipated that this innovative project will help overcome current challenges in developing effective therapies for non-small cell lung cancer (NSCLC).

In addition, Drs. Rob Rottapel and John Dick received funding through the Ontario Institute for Cancer Research Equipment Grants program. Dr. Rottapel will receive \$1.2M in infrastructure support to identify new compounds and to co-develop novel diagnostic tests to identify the best set of agents to treat cancer patients, and \$1.5M was awarded to Dr. Dick's program which focuses on targeting and killing cancer stem cells in an effort to develop therapies that prevent cancer relapse.

Congratulations to all!

American Society of Hematology Lauds UHN



JP, Vescio RA, Liu X, Elsayed YA, Cakana A, Comenzo RL. *Blood*. 2009 Jun 4. [Epub ahead of print]. [[Pubmed abstract](#)]. Research supported by the EURAMY project (European Community's Sixth Framework Programme) and by the NOBEL project (CARIPLO Foundation, Milan Italy).

Cardiovascular Disease & Diabetes: Understanding Treatment Impact

A recent TGRI-led study has found evidence showing that the continuous use of androgen deprivation therapy (ADT) for at least six months in older men is associated with an increased risk of diabetes and fragility fractures, explains study lead Dr. [Shabbir Alibhai](#). ADT is a common treatment choice for men with prostate cancer, and is often administered for approximately two to three years. However, numerous adverse effects are associated with its use.



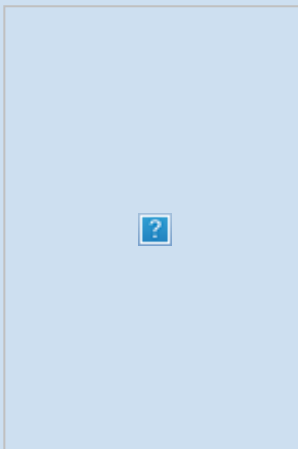
Over a six-year follow-up period, Dr. Alibhai and colleagues Drs. [Neil Fleshner](#), [Padraig Warde](#) and [Angela Cheung](#) collected data from more than 19,000 Ontario men with prostate cancer and found strong evidence suggesting a decreased risk of stroke or sudden cardiac death with ADT.

These findings, which stem from a cohort study of a large group of men, will help clinicians to discuss the risks of ADT with their patients," says Dr. Alibhai. "Additional studies are needed to determine whether men younger than 66 years of age will experience similar side effects of treatment as with what we saw in this group of older patients."

Alibhai SM, Duong-Hua M, Sutradhar R, Fleshner NE, Warde P, Cheung AM, Paszat LF. J Clin Oncol. 2009 Jun 8. [Epub ahead of print]. [[Pubmed abstract](#)].

Regenerative Medicine: Defining Cell Growth Requirements

Understanding the mechanisms required for stem cells—immature cells yet to grow into a specific or defined cell type—to divide and grow into mature cells is important to developing new strategies for patient-directed research. New findings out of TGRI are doing exactly this for cardiac investigators.



"Our findings from this animal study will help us to better understand the molecular and cellular mechanisms by which adult bone marrow cells (BMCs) can develop into cardiac muscle-like cells," comments TGRI study lead Dr. [Ren-Ke Li](#).

Dr. Ren-Ke Li, along with colleagues from Germany and Australia, profiled different environmental conditions to show that a specific subpopulation of BMCs from mice, when in the presence of specific proteins at optimal combinations and concentrations, formed clustered groups capable of beating in a fashion similar to early heart cells. The clustered cells also expressed proteins specific to heart muscle and exhibited structural

UHN's Dr. John Dick has been awarded the E. Donnell Thomas Lecture and Prize from the American Society of Hematology in recognition of his pioneering research achievements in the field of hematology.



Dr. Dick will receive his award at the 51st Annual Meeting and Exposition of the American Society of Hematology in December 2009 where he will deliver his lecture entitled "Stem Cell Biology Meets Cancer Research".

Dr. Dick is recognized for his work in developing a human blood stem cell assay using immune-deficient mice and for leading the team that identified leukemia stem cells.

PMH Awarded Three New CCO Research Chairs

Cancer Care Ontario (CCO) has recently announced six new recipients in the 2009 CCO Research Chairs program. Included in this were three new Chairs for UHN. The program—funded by the Ministry of Health and Long-Term Care—is designed to attract leading new scientists to Ontario and to support the outstanding scientists already working in the province. The Program focuses on four areas, specifically: cancer imaging, health services research, population studies, and experimental therapeutics.



UHN awardees include:

Dr. Lillian Siu (Experimental Therapeutics). Dr. Siu's research focus is the study of new anticancer drugs, especially in the first stage of clinical testing and in patients with head and neck cancer.

Dr. Geoffrey Liu (Experimental Therapeutics and Population Studies). His research will examine how variations in patients' genetic makeup influence their response to cancer treatment. He will also study how variation in tumor genetic makeup affects the course of the disease.

Dr. Ralph DaCosta (Cancer Imaging). Dr. DaCosta will develop a comprehensive research program exploring ways to apply advanced imaging technologies to detect and treat disease.

Terry Fox Foundation and UHN: New Funding Announced

features, such as fibers, similar to those of muscle cells in the human heart.

As explained by Dr. Li, "With the improvement in transplant techniques and cell delivery by way of biomaterials, these clustered cells could one day be used to repopulate lost heart cells and restore heart cell function. Continued research is needed to fully understand the function of these beating cell clusters, and whether engraftment in the heart is possible".

Xaymardan M, Cimini M, Fazel S, Weisel RD, Lu WY, Martin U, Harvey RP, Li RK. Stem Cells. 2009 Apr 30. [Epub ahead of print]. [PubMed abstract]. Research supported by the Heart and Stroke Foundation of Ontario and the Canadian Institutes of Health Research.

Parkinson's Disease: Stimulating the Brain

Investigators at TWRI are one step closer to understanding how blood flow and communication networks in a specific region of the brain known as the pedunculo pontine nucleus (PPN) may be associated with controlling lower limb movements and gait in patients with advanced Parkinson's Disease (PD). These findings have important implications for future treatment strategies.

Led by Dr. [Antonio Strafella](#) and colleagues Drs. [Anthony Lang](#), [Andres Lozano](#) and [Elena Moro](#), the team used positron emission tomography to image the blood flow in the PPN region of PD patients who had undergone deep brain stimulation—a technique using electrodes implanted in the brain to stimulate specific regions. Study findings showed changes to cerebral blood flow and brain cell activity in the regions associated with balance and motor control when deep brain stimulation was applied, including the PPN.

"These findings suggest that modulating the PPN may cause functional changes in brain networks associated with the control of voluntary lower limb movements and gait in patients with PD," says Dr. Strafella. "Future studies are necessary to determine the exact clinical effects of deep brain stimulation in the PPN region."

Ballanger B, Lozano AM, Moro E, van Eimeren T, Hamani C, Chen R, Cilia R, Houle S, Poon YY, Lang AE, Strafella AP. Hum Brain Mapp. 2009 May 28. [Epub ahead of print]. [PubMed abstract]. Research supported by the Canadian Institutes of Health Research.



UHN congratulates Drs. Bradley Wouters, Robert Bristow and Christopher Paige on their successful Terry Fox Foundation New Frontiers Program Project Grants that will provide approximately \$12.5M in new operating and equipment support over the next five years.



Drs. Wouters and Bristow (Program leaders) will use the \$4.98M awarded to support their project entitled "Hypoxia in Tumours: Clinical and Experimental Studies". Team members include Drs. Richard Hill, David Hedley, Michael Milosevic, Anthony Fyles, Marianne Koritzinsky, David Jaffray, Ivan Yeung, and Christine Allen.

Program leader Dr. Paige will use \$7.56M in awarded funds to investigate the project entitled "Molecular and Cellular Differentiation: New Targets and Treatments". Team members include Drs. Norman Iscove, John Dick, Ben Neel, Robert Rottapel, Tak Mak and Juan Carlos Zuniga Pflucker.

The Terry Fox New Frontiers Program Project Grants are awarded to groups of investigators to support new frontiers in Canadian cancer research—breakthrough and transformative biomedical, clinical, and translational research which may form the basis for innovative cancer prevention, diagnosis and/or treatment.

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