



Ontario Institute
for Cancer Research

OICR invests \$2 million to move cancer discoveries from the lab into the clinic

Toronto – April 2, 2008. Dr. Tom Hudson, President and Scientific Director of the Ontario Institute for Cancer Research (OICR) today announced the investment of \$2 million in four promising early stage technologies, including a new diagnostic, an imaging and therapeutic platform and two new treatments for cancer. The four recipients will each receive \$500,000 to continue the early commercial development of their discoveries.

The recipients of the awards are:

- University Health Network, Toronto, for Dr. Li Zhang’s novel cellular immunotherapy for leukemia;
- Robarts Research Institute, (at The University of Western Ontario) London, for Dr. Aaron Fenster’s 3-D ultrasound-guided intra-operative and dynamic minimally invasive brachytherapy and biopsy platform;
- ArcticDx Inc., Toronto, for the development of a colon cancer risk prediction diagnostic tool; and
- Sunnybrook Health Sciences Centre, Toronto, for a revolutionary MRI-guided transurethral ultrasound therapy for localized prostate cancer developed by Drs. Michael Bronskill and Rajiv Chopra.

“By increasing access to study groups, research materials and commercialization experts, the OICR has ensured that more researchers are developing, testing and performing more leading-edge cancer therapies in more Ontario clinics and hospitals, said Minister of Research and Innovation, John Wilkinson. “Our government is proud to support this important endeavour. The Institute’s efforts continue to bring hope to Ontarians and Ontario families dealing with cancer.”

“Moving discoveries out of the lab and into the clinic is very important”, Dr. Hudson said. “We are bridging a funding gap because these translational projects are often ineligible for academic funding and are at too early a stage of development for private investors.”

OICR will actively participate in efforts to commercialize the selected projects by providing additional expertise and resources and working collaboratively with the recipients and their scientists.

The Ontario Institute for Cancer Research is a centre of excellence, moving Ontario to the forefront of discovery and innovation. It is dedicated to research in prevention, early detection, diagnosis, treatment and control of cancer. OICR is a not-for-profit corporation funded by the Government of Ontario through the Ministry of Research and Innovation.

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Backgrounder

Dr. Li Zhang, University Health Network, Toronto

Novel Cellular Immunotherapy for Cancer

Dr. Zhang and her colleagues have discovered that a minor population of blood cells, called DNT cells, possess broad anti-cancer properties. They have developed a technology to grow a patient's own DNT cells outside the body in order to transfer them back to the patient as a cancer therapy. In collaboration with the University Health Network's office of Technology Development and Commercialization, this technology will be developed further by producing clinical grade DNT cells and scale-up studies required to permit this therapy to be used in patients. These studies and the clinical trials will be carried out at the Princess Margaret Hospital, using its state-of-the-art Good Manufacturing Practice facility, in collaboration with internationally recognized clinical oncologists Drs. Armand Keating and Mark Minden. The therapy will be first assessed in patients with acute myeloid leukemia (AML), an aggressive form of blood cancer which afflicts approximately 14,000 individuals in North America each year. There have been very few improvements over the past 40 years in the therapies available to treat AML. If successful in treating AML, this therapy could be used to treat other types of cancer.

Dr. Aaron Fenster, Robarts Research Institute, The University of Western Ontario, London

3D Ultrasound-guided intra-operative and dynamic minimally invasive brachytherapy and biopsy platform

Dr. Fenster's team at Robarts Research Institute has developed a three dimensional ultrasound imaging system for the diagnosis and staging of prostate cancer. They have applied this new technology to cryosurgery and brachytherapy, where cancerous tumours are killed by extreme cold or radioactive "seeds" placed in the prostate. The team is also developing the prototype for 3-D tumour biopsy in which small tissue samples are taken to determine the extent and aggressiveness of the cancer. Their goal is to make an accurate, precise and adjustable system in which all aspects of the cancer treatment are performed in real-time. These include planning, monitoring organ and tumour changes, dynamic re-planning and optimal therapy placement. This system has broad potential as a platform for the treatment of a number of tumours including those of the liver, kidney, thyroid and breast.

Greg Hines, ArcticDx Inc., Toronto

Development of a colon cancer risk prediction diagnostic tool

Colon cancer affects six per cent of Ontarians during their lifetimes. It is a devastating disease that is difficult and expensive to treat, yet can often be cured if detected early. The disease develops sporadically in most people because of a combination of lifestyle factors and inherited genes. Current screening programs are not targeted at those at highest risk for the disease, with all individuals of a certain age recommended for screening. These programs have mixed success because of patients' reluctance to undergo the primary screening methods: fecal occult blood test and endoscopic bowel examination. Cancer Care Ontario is the administrator of

the Ontario screening program and is also the owner of genetic predictors for cancer risk arising from the ARCTIC study (Assessment of Risk for Colorectal Tumours in Canada). Cancer Care Ontario has licensed the genetic predictors to a new Ontario company, ArcticDx, which will pursue the clinical testing, regulatory approval and marketing of Colo-Risk[®], the first predictive test of inherited risk for sporadic colon cancer.

Drs. Michael Bronskill and Rajiv Chopra, Sunnybrook Health Sciences Centre, Toronto.

MRI-guided Transurethral Ultrasound Therapy for Localized Prostate Cancer

Treatment of low to moderate risk prostate cancer involves invasive, time-consuming procedures that can result in complications affecting sexual, urinary and bowel functions. The team at Sunnybrook is developing a novel MRI-guided transurethral ultrasound therapy for prostate cancer. High-intensity ultrasound is delivered to the prostate under real-time temperature control with MRI in order to produce a planned pattern of thermal damage in the gland. The goal is to provide a rapid, precise, and minimally invasive treatment for localized prostate cancer that is not associated with the high rate of complications patients currently endure. The feasibility of this technology has been demonstrated through simulations and a prototype has been tested in animals. They will next develop a clinical device and demonstrate its utility in humans. This technology offers the opportunity for a significant improvement to quality of life for prostate cancer patients.