ON BEHALF OF THE GOVERNMENT OF ONTARIO, I am delighted to extend my appreciation and thanks to all of you associated with the Ontario Institute for Cancer Research (OICR) for your hard work in the fight against cancer.

Ensuring the health and well-being of Ontarians is vital. That is why investing in cancer research is a top health care priority for our government. By bringing together leading researchers from across the province in a network that shares resources and critical information, we are moving one step closer to winning the battle against a disease that has touched the lives of so many of us — either directly or indirectly.

The release of its second annual report provides the perfect opportunity for the OICR to highlight some of its major accomplishments. Under the guidance of Dr. Tom Hudson, a strategic plan was developed in consultation with top clinicians in the province and across the globe. World-renowned research scientists are now on board to lead the work that will result in better detection, prevention and treatment of cancer. And a new state-of-the-art laboratory is helping scientists and researchers build on their invaluable work.

By increasing access to study groups, research materials and commercialization experts, the Institute has ensured that more researchers are developing, testing and performing more leading-edge cancer therapies in more Ontario clinics and hospitals. Our government is proud to be a part of this important endeavour.

The OICR’s efforts continue to bring hope to Ontarians and Ontario families dealing with cancer. Once again, please accept my sincere thanks for your exceptional work and my best wishes for much ongoing success.

Dalton McGuinty
Premier and Minister of Research and Innovation
WE ARE PLEASED TO PRESENT the annual report of the Ontario Institute for Cancer Research (OICR) for 2006-2007. The past year was marked by rapid progress in the start-up of the Institute which was established in December 2005 to enhance Ontario’s cancer research capacity with a focus on prevention, early detection, diagnosis and treatment. Immediately after his recruitment in July 2006, as President and Scientific Director, Dr. Tom Hudson began the planning of the Institute, with extensive consultations across Ontario and sought advice from international leaders in clinical and basic sciences.

The task was launched with the vision of creating a new centre of excellence in cancer research that will move Ontario to the forefront of discovery and innovation. This will be accomplished by taking on significant challenges in cancer research with multi-disciplinary, multi-institutional teams. The outcome will be a reduction in the incidence, morbidity and mortality of cancer and Ontario will be recognized internationally as a leading jurisdiction in cancer research. Ontario will also benefit from being more competitive in attracting public and private investment in research and development of new products.

Intensive effort produced an approved strategic plan, recruitment of the first scientists to OICR, the construction of new laboratories and the implementation of several components of the plan by the end of the fiscal year.
STRATEGIC PLAN
The Strategic Plan developed in January 2007 identifies the themes, innovation programs and translation programs that will enable OICR to achieve its vision. Among the first innovation programs are the Ontario Cancer Cohort, a prospective epidemiological study to characterize cancer risk factors affecting our aging population; the One Millimetre Cancer Challenge, which will develop biomarkers and imaging technologies to detect very small tumours; and the Cancer Stem Cell Project, which will investigate the role of cancer stem cells that are resistant to chemotherapy and radiation and cause new tumours to form after treatment.

RECRUITMENT OF PROGRAM LEADERS
OICR has begun to recruit the program leaders who will turn its vision into a reality.

DR. JOHN DICK, Senior Scientist, Division of Cellular and Molecular Biology at the University Health Network’s Toronto General Research Institute in Toronto will lead the cancer stem cell initiative, which will develop therapies for cancer stem cells to prevent the recurrence and spread of cancer.

DR. AARON FENSTER, Director of the Imaging Research Laboratories at the Robarts Research Institute in London will lead the imaging platform which will accelerate the development for clinical use of imaging techniques for early diagnosis of cancer.

DR. MARTIN YAFFE, Senior Scientist, Imaging Research at Sunnybrook Health Sciences Centre in Toronto will lead the One Millimetre Cancer Challenge which will develop biomarkers and imaging techniques to diagnose cancer when a tumour is one millimetre in size.

DR. JOHN MCLAUGHLIN, Vice President, Preventive Oncology at Cancer Care Ontario will lead a large multidisciplinary team of clinicians, epidemiologists, environmental experts, ethicists, informaticians and other specialists required to design and implement the Ontario Cancer Cohort.

DR. ROBERT SUTHERLAND, a Canadian who is the former president of Varian Biosynergy of California, has been appointed Vice-President, Commercialization. He will identify projects for early stage development and engage market receptors and investor groups.

OICR LABORATORY
Construction of 10,000 square feet of state-of-the-art laboratory space in the MaRS Centre was completed this spring. The laboratory includes facilities for research in genomics, cancer biology, robotics and supporting services. The first work to be done in the new laboratory will be to develop protocols for high-resolution analyses of chromosomal rearrangements and mutations that are acquired in the development of cancer. This information will generate new gene and protein targets to be used for cancer diagnosis, prognosis and therapy.

ONTARIO TUMOUR BANK
The Ontario Tumour Bank now has a library of more than 33,000 samples from 3,500 donors. Almost 500 samples were distributed to academic and industry cancer researchers over the last year. Currently the bank is planning a multi-year collaboration with Cancer Care Ontario to speed up tumour data collection and increase the amount of data fields collected.
CANCER RESEARCH FUND
Last year the Cancer Research Fund awarded $8.3 million to 21 projects in two peer-reviewed grant competitions. The awards included almost $800,000 funding for six high-throughput screening projects that were co-funded by Cancer Care Ontario. These projects are the first step in the development of novel cancer therapies. The other projects included research in breast and ovarian cancer, imaging techniques, biomarkers and validation of therapeutic agents.

CLINICAL TRIALS PROGRAMS
The Clinical Trials Programs are enhancing the cancer clinical trials environment in Ontario. OICR provided funding to cancer treatment centres to hire more than 150 full-time staff members, which resulted in patient enrolment almost doubling since 2004. The website OntarioCancerTrials.ca, which is a comprehensive searchable database of all cancer clinical trials in Ontario, listed 28 per cent more trials in the last year than in the previous year.

ONTARIO CANCER RESEARCH ETHICS BOARD
In the last year the Ontario Cancer Research Ethics Board (OCREB) achieved its goal of doubling the number of hospitals and cancer centres that adopted OCREB as a Board of Record. The number of submissions from researchers wishing to conduct clinical trials increased 81 per cent.

AWARDS
We extend our congratulations to five cancer researchers affiliated with OICR who were recognized nationally and provincially for the excellence of their work.

DR. AARON SCHIMMER, a physician at Princess Margaret Hospital and leader of an internationally recognized research program at the Ontario Cancer Institute in Toronto, was named one of Canada’s Top 40 Under 40 this year. He is the recipient of an OICR Cancer Research Fund award.

DR. AARON FENSTER (see page 2) and DR. TONY PAWSON, who is a Distinguished Investigator at the Samuel Lunenfeld Research Institute and a member of OICR’s Scientific Advisory Board, each received the Premier of Ontario’s Discovery Award for Innovation Leadership.

The Premier of Ontario’s Summit Awards were bestowed on DR. JOHN DICK (see page 2) and DR. TAK MAX, Director of the Campbell Family Institute for Breast Cancer Research and Senior Scientist in the Division of Stem Cell and Developmental Biology at the Ontario Cancer Institute in Toronto and a member of OICR’s Scientific Advisory Board. The award provides extraordinary research support, which is granted to a small number of outstanding medical researchers, in partnership with their sponsoring institutions.

ACKNOWLEDGEMENTS
We wish to acknowledge the contribution of the staff of OICR whose talent, enthusiasm and dedication are responsible for the success of the Institute.

The Government of Ontario, through the Ministry of Research and Innovation, has provided continuing support for cancer research and innovation which is gratefully acknowledged.
INNOVATION PROGRAMS

- ONTARIO CANCER COHORT
- ONE MILLIMETERS CANCER CHALLENGE
- CANCER STEM CELLS
- IMMUNO- AND TARGETED THERAPIES

= PATENTS TO PRODUCTS
= HIGH CONTENT TRIALS
= CANCER CARE AND SELF HELP RESEARCH
CANCER IS USUALLY DIAGNOSED LATE in the disease process and can affect anyone. The burden of the disease is significant. Even with a successful outcome, the diagnosis and treatment of the disease cause emotional distress to the patients, their families and friends.

Current therapies have improved survival rates but much remains to be done to make cancer a completely survivable or chronic disease that can be successfully treated.

Immediately following his appointment as President and Scientific Director of OICR in July 2006, Dr. Hudson embarked on a province-wide consultation with leaders in cancer research to learn what type of research is currently being done, the strengths of Ontario cancer researchers, the facilities available in Ontario academia and research institutes, and to obtain advice on the most promising avenues of research that would benefit the people of Ontario and enhance the economy.

Those who met with Dr. Hudson were generous with their time and advice, offering insight and valuable direction for the future research of the Institute. The Strategic Plan for the next three years was completed by the end of January and implementation is underway. Recruitment of program leaders and staff has begun and research collaborations have been formed to advance the programs.

The strategy, which will guide OICR’s research over the next three years, focuses on themes, innovation programs and innovation platforms that build on existing cancer research strengths in Ontario and offer the greatest opportunity for success in combating cancer.

Research will be conducted in support of prevention, early diagnosis, cancer targets and new therapeutics. Within these themes, a number of innovation programs have already been identified. The innovation platforms that will be used for this research are imaging and interventions, bio-repositories and pathology, genomics and high-throughput screening, and informatics and biocomputing. OICR’s translation programs will move discoveries generated by the research from the laboratory bench to the clinic. The discoveries will be patented and turned into products such as drugs, imaging equipment, prevention or screening programs.

PREVENTION
ONTARIO CANCER COHORT
OICR is collaborating with Cancer Care Ontario on a prospective epidemiological study on lifestyle and behavioural factors that will also collect biological specimens and measure environmental exposures. This is a long-term, multi-disciplinary study that has attracted a number of partners conducting research in other diseases where there are common risk factors, e.g., cardiovascular disease, stroke and diabetes. The Cohort will align with Canadian and international cancer cohorts, e.g., the Tomorrow Project in Alberta and tumour registries and biobanks such as the UK Biobank, and will use harmonized tools developed by the Public Population Project in Genomics.

EARLY DIAGNOSIS
ONE MILLIMETRE CANCER CHALLENGE
The screening of populations at risk and identification of tumours at the millimetre stage would significantly affect the outcome of a diagnosis of cancer. Currently, cancer tumours are usually detected when they
THE BLUEPRINT FOR OICR RESEARCH

<table>
<thead>
<tr>
<th>Themes</th>
<th>Innovation Programs</th>
<th>Innovation Platforms</th>
<th>Discoveries</th>
<th>Translation Programs</th>
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<td>Prevention</td>
<td>• Ontario Cancer Cohort</td>
<td>• Imaging and interventions</td>
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<td>• Patents to products</td>
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<td>• One Millimetre Cancer Challenge</td>
<td>• Bio-repositories and pathology</td>
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<td>• High content trials</td>
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<td>Cancer Targets</td>
<td>• Cancer Stem Cells</td>
<td>• Genomics and high-throughput screening</td>
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<td></td>
<td>• Vulnerabilities in cancer genome</td>
<td>• Informatics and biocomputing</td>
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<td>New Therapeutics</td>
<td>• Selective agents</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Immuno- and biotherapies</td>
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are over one centimetre in size, containing over 200 million cancer cells. Through its One Millimetre Cancer Challenge Program, OICR plans to develop sensitive biomarkers and imaging technologies that will detect millimetre–size tumours and ensure that they are rapidly developed into methods and devices that can be used in a clinical setting.

CANCER TARGETS
CANCER STEM CELLS
Recent research has demonstrated that a subset of cancer cells, called cancer stem cells, are resistant to chemotherapy and radiation therapy and survive treatment. They are responsible for the creation of new tumours and metastases even years after the initial diagnosis and treatment of the disease. Ontario scientists pioneered this new field of cancer research through the identification of cancer stem cells for leukemia, colon and brain cancer. The objective of the cancer stem cell project, headed by Dr. John Dick, is to identify cancer stem cells for other types of cancer and develop therapies targeted at these cells to prevent recurrence and lessen the toxicity of cancer treatment.

OICR projects will be integrated with four platforms that will develop state-of-the-art knowledge and technologies in the following disciplines, Imaging and Interventions, Bio-repositories and Pathology, Genomics and High-Throughput Screening, and Informatics and Biocomputing.

PARTNERSHIPS
BROAD INSTITUTE OF HARVARD AND MIT
OICR has formed a strategic alliance for collaboration using research platforms developed by the Broad Institute in Boston, Massachusetts. It is a research collaboration of Harvard University, the Massachusetts Institute of Technology and the Whitehead Institute, that is creating new tools for genomic medicine and making them available to researchers.

The Broad Institute is a world leader in genome sequencing, chemical biology and functional genomics. Its RNA (ribonucleic acid) platform is an example of the Broad Institute’s expertise in rapidly developing new technologies for applications leading to the deciphering of the function of human genes. RNA is responsible for the physiological function of genes and RNA Interference (RNAi) technology blocks the expression of genes. This technology can be used to identify which genes are
A key feature of the commercialization program will be an “Ontario First Policy” that encourages the maximum participation of Ontario firms in the development, use and commercialization of inventions arising from OICR research projects.

important in the development of cancer and also for the development and validation of drugs. A Canadian researcher, Dr. Jason Moffat, who worked at the Broad Institute and is one of the leaders in the use of this technology, has been recruited back to Ontario by the University of Toronto and will help oversee the technology he developed at the Broad Institute.

INTERNATIONAL LUNG CANCER CONSORTIUM
OICR has joined the Institut National du Cancer in France, Cancer UK, and the National Institutes of Health’s National Cancer Institute in the U.S., to support the International Lung Cancer Consortium created by the World Health Organization’s International Agency for Research on Cancer. OICR is funding researchers in Ontario to conduct genetic studies of Ontario patients with lung cancer. The data will be pooled with data from the studies conducted in other countries to gain more information about the genetic causes of lung cancer.

CANCER CARE ONTARIO
Cancer Care Ontario (CCO) is an umbrella organization that steers and coordinates Ontario’s cancer services and prevention efforts. CCO and OICR have formed an essential alliance for translational research that will benefit the public and cancer patients.

TRANSLATION PROGRAMS
PATENTS TO PRODUCTS
OICR developed a commercialization strategy to ensure that its discoveries move out of the laboratory and into the clinic. The strategy was developed in collaboration with potential partners to ensure that OICR brings added value to the effort and does not duplicate existing functions in the life science sector. Dr. Robert Sutherland was recruited as the Vice-President, Commercialization and he has started to build a team to identify projects for early stage development, manage intellectual property and engage industry and financial organizations. A key feature of the commercialization program will be an “Ontario First Policy” that encourages the maximum participation of Ontario firms in the development, use and commercialization of inventions arising from OICR research projects.

HIGH CONTENT TRIALS AND CANCER CARE SERVICES RESEARCH
After consulting with clinician-scientists in Ontario to obtain advice on the components of the translation programs, OICR established the Clinical Investigation Advisory Board (CIAB) to advise on: strategies to augment OICR’s clinical translation potential, clinical research priorities; and leadership needs of the various clinical research programs. The CIAB is chaired by Dr. Bill Evans, a medical oncologist, who is the President of the Juravinski Cancer Centre in Hamilton and the Regional Vice-President Cancer Services, Hamilton at Cancer Care Ontario. Members include clinicians and clinician scientists in medical, radiation and surgical oncology, molecular pathology and radiobiology. The CIAB developed a plan for the recruitment of two leaders in 2007-2008, that will implement programs for clinical testing of new therapies (High Content Trials Program) and provide evidence-based assessments of benefits, risks and costs regarding the use of such interventions in the health care system (Cancer Care and Services Research Program).
Left to right: Dr. Jack Gauldie, Chair of Pathology and Molecular Medicine, Director, Centre for Gene Therapeutics, McMaster University; Dr. Graeme Fraser, Clinical Scholar, Hematology, McMaster University, National Cancer Institute of Canada-Terry Fox Foundation, Academic Oncology Fellow, Juravinski Cancer Centre; Dr. Ronan Foley, Assistant Professor, Department of Pathology and Molecular Medicine, McMaster University and Hematologist, Hamilton Health Sciences Corporation.
CANCER RESEARCH FUND

THE CANCER RESEARCH FUND supports translational research projects through peer-reviewed grant competitions held twice a year. Funding is available for academic scientists in Ontario and for industry when the principal investigator is at an Ontario university or research institute. Since 2002, $55.8 million has been awarded to 103 projects in 21 institutions.

Funded Projects

<table>
<thead>
<tr>
<th>Round</th>
<th>Date</th>
<th>Projects Funded</th>
<th>Funds Awarded (in millions of dollars)</th>
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<tr>
<td>1</td>
<td>May 2002</td>
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<td>3</td>
<td>May 2003</td>
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<td>May 2004</td>
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<td>6</td>
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<td>7</td>
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<td>8</td>
<td>May 2006</td>
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<td>9</td>
<td>November 2006</td>
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<tr>
<td>Total</td>
<td></td>
<td>103</td>
<td>$55.8</td>
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Cancer Type and Number of Projects*

Number of projects in rounds 1-9

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Number of Projects</th>
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<tbody>
<tr>
<td>All</td>
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<tr>
<td>Brain</td>
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<tr>
<td>Breast</td>
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<tr>
<td>Colorectal</td>
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<tr>
<td>Head and neck</td>
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<tr>
<td>Haematological</td>
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<tr>
<td>Lung</td>
<td>14</td>
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<tr>
<td>Multiple cancers</td>
<td>9</td>
</tr>
<tr>
<td>Melanoma</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
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<tr>
<td>Ovarian</td>
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<tr>
<td>Pancreatic</td>
<td>4</td>
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<tr>
<td>Prostate</td>
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</tbody>
</table>

* Some projects have an impact on more than one type of cancer

Commercial Activity Generated by 71 Projects in Rounds 1-6

2002 – 2005

Communications Arising from 71 Projects in Rounds 1-6

2002 – 2005

Highly Qualified Personnel Working on 71 Projects in Rounds 1-6

2002 – 2005

OICR Annual Report 06/07
**Acute myeloid leukemia (AML) is sustained by rare leukemic stem cells (LSC) that are able to survive standard treatment. Dr. John Dick and his team at the University Health Network in Toronto found that these cancer stem cells require a unique micro-environment in the bone marrow to thrive. Interfering with the trafficking of the LSC to the bone marrow environment makes it impossible for them to grow and multiply. The therapeutic approach blocks protein CD44, interferes with their trafficking, prevents them from attaching to the bone marrow and it induces the cancer cells to become more differentiated. This method targets the cancer stem cells without harming healthy stem cells. Dick's research offers the hope that leukemia can be eradicated and the method used may be applicable to other types of cancer.**
**DR. JACK GUALDIE**

Chronic lymphocytic leukemia (CLL) is a type of incurable blood cancer that occurs in the white blood cells that normally aid in the production of antibodies and make the immune system function. Dr. Jack Gauldie, lead investigator at McMaster University’s Institute for Molecular Medicine and Health in Hamilton, is investigating a new therapeutic treatment option for treating CLL by using the patient’s own immune system to target the cancer cells.

A dendritic vaccine was developed to eradicate cancer by stimulating the immune system to attack tumour cells. The vaccine involves modifying antigens – cell molecules that stimulate the immune system – so that they attack cancer cells and leave healthy cells intact.

Gauldie evaluated the treatment in a pre-clinical trial and received approval from Health Canada to conduct a large-scale clinical trial. Recruitment of patients began in June 2006 and the team is hopeful that this vaccination will increase the survival rate of patients with CLL.

**DR. RAYMOND REILLY**

Molecular imaging involves tracking tumours and studying the properties of the cancer cells. Dr. Raymond Reilly, an Associate Professor at the Leslie Dan Faculty of Pharmacy at the University of Toronto and a scientist in the Division of Clinical Investigation and Human Physiology at the University Health Network’s Toronto General Research Institute in Toronto, is investigating new molecular imaging agents for cancer. His approach combines radioisotopes with drugs used in standard cancer treatments, converting them into “radiopharmaceuticals”. These release gamma rays which can be imaged using a gamma camera making it easier to see tumours, reveal their biological features and improve treatment.

Reilly and his team are using fragments of trastuzumab (Herceptin®) labelled with indium-111 – a radioactive substance. When the trastuzumab is administered intravenously it begins to hone in on the cancer cells marking them for imaging and surgical removal. This technique, called radioimmunoguided surgery, is expected to help surgeons who will use a specially-designed hand-held gamma probe to detect the “radioactively tagged” cancer cells during surgery, ensuring that as much cancerous tissue is removed as possible.

Reilly recently received approval from Health Canada to conduct clinical trials of radioimmunoguided surgery, to be completed with Dr. Claire Holloway, a surgical oncologist at Sunnybrook Health Sciences Centre in Toronto.
DR. AARON SCHIMMER

FLIP is a protein found in certain types of cancers including prostate cancer and leukemia. FLIP blocks the protein Caspase 8 that normally communicates when the cell should die. Dr. Aaron Schimmer demonstrated that when FLIP is increased in cancer cells, the cells cannot die, and the cancer spreads into other parts of the body.

Schimmer and his team at the University Health Network's Ontario Cancer Institute in Toronto, began investigating ways to block FLIP in cancer cells. Early in the project, working with human prostate cells, they discovered that molecule 5809354 inhibits FLIP, making the cancer cells vulnerable to death and preventing them from metastasizing.

Having demonstrated a role for FLIP in metastasis, Schimmer began investigating other potential substances that could also block this process, but act through mechanisms different from 5809354. Through a high-throughput screening process other molecules were found to make the cancer cells more vulnerable to death signals and the team is investigating their properties further. Schimmer also validated CDDO, an organic chemical, as a blocker of FLIP and cell death activator in acute myeloid leukemia cells.

The validation of CDDO has led to an early stage clinical trial at Princess Margaret Hospital in Toronto.

DR. GURMIT SINGH

A technique combining imaging and genetics can track cancer cells in mice and reveal patterns and details of the disease. Dr. Gurmit Singh, Director of Research at the Juravinski Cancer Centre in Hamilton and his team created a unique system that imagines cancer cells as they are spreading and can also detect when cells are dying.

Singh combines a fluorescent protein found in light-generating creatures, such as fireflies and jellyfish, with cancer cells which are then injected into rodents. Using a very powerful camera, the Andor Ikon CCD, he was able to track the cancer cells.

Bioluminescent cells give off light as they die, which makes Singh’s approach to this type of imaging unique. Treatments, such as chemotherapy or standard drugs, are administered and as the cancer cells die, the bioluminescent cells reveal how effectively targeted the treatment is, emitting light which can be imaged. Singh and his team are screening standard therapies to see how they respond to various sites within the body.

Being able to see where cancer cells are will enable the group to rapidly screen novel cancer treatments before recommending them for further clinical studies and could lead to innovative and effective cancer treatments.
Multiple myeloma is an incurable cancer of the blood. By identifying cancer-specific genes, new targeted treatments can be investigated. Along with her team, Dr. Suzanne Trudel, a scientist in the Division of Applied Molecular Oncology of the University Health Network's Ontario Cancer Institute in Toronto, identified FGFR3 as a cancer-specific gene associated with about 20 per cent of all multiple myeloma cases.

Trudel's research focuses on identifying potential drugs that can block the function of gene FGFR3 and lead to more effective treatments of multiple myeloma. Through pre-clinical research and screening, several substances have been identified as potential inhibitors of FGFR3.

In 2004, an early stage clinical trial was established to screen patients for the FGFR3 gene, to monitor and compare the effectiveness of the drug CHIR-258 in patients both with and without the gene and to identify the therapeutic dosage. Through this trial, markers have been identified which predict whether the drug will block the cancer gene FGFR3 in patients. In addition to this trial, two more promising drugs have been identified by Trudel's team; one will be entering a mid-stage clinical trial in 2007.

There is a great deal of excitement in the scientific community about the significant role biomarkers could play in the diagnosis and prognosis of cancer as well as in the development of personalized cancer therapies. The Ontario Cancer Biomarker Network (OCBN) was created with funding from OICR in December 2005 to accelerate and augment cancer biomarker discovery, validation and commercialization. The network of pathologists, clinical oncologists, proteomic and genomic researchers, bioinformaticians and statisticians is led by Dr. Ken Evans, president and CEO and Dr. Eleftherios Diamandis, principal investigator.

OCBN’s facility in the MaRS Centre in Toronto is filled with state-of-the-art equipment acquired through collaborations with research instrument manufacturers. More than 20 diverse research programs are underway, using numerous technological platforms and methodological approaches to study biomarkers’ association with various types of cancer. Other projects involve drug development programs.

A portfolio of intellectual property that can be validated and developed with a view to commercialization is growing, helping OCBN to move towards its goal of sustainability.
THE ONTARIO TUMOUR BANK (OTB) is a biorepository and data bank that collects human tumour and other tissues across the province and makes them available to academic and industry-based cancer researchers.

One of OTB’s customers is the internationally renowned scientist Dr. Tak Mak who has been using OTB’s samples since the program was in its testing phase in 2004. Dr. Nancy Ng, a colleague of Dr. Mak’s, is the Therapeutics Director of Project Management at the Campbell Family Institute for Breast Cancer Research in Toronto. “The Ontario Tumour Bank provides a very valuable service to researchers,” states Dr. Ng. “Its use of strict, standardized collection procedures to ensure high-quality samples and the availability of clinical data that accompanies each sample are added benefits.”

Since its inception, OTB has continuously expanded and now has a library of more than 33,000 samples from approximately 3,500 donors, which include tumour tissue, normal adjacent tissue and peripheral blood. During the past year OTB distributed almost 500 samples.

“The tumour samples and complete clinical information that we have received from the Ontario Tumour Bank have been essential to Med BioGene Inc. being at the forefront of discovering and developing cancer diagnostics,” said Nathan Yoganathan, president and chief scientific officer of Med BioGene, Inc.
CLINICAL TRIALS PROGRAMS

In 2004, the Clinical Trials Infrastructure Fund (CTIF) program set a goal to double patient recruitment... In March 2007, the goal had almost been reached with an overall increase in patient enrolment by 92 per cent.

THE MISSION OF THE CLINICAL TRIALS PROGRAM is to lead the process of improvements necessary to promote speed, quality and access to clinical trials for patients in Ontario, with the aim of advancing cancer treatments.

DOUBLING RECRUITMENT AND INFRASTRUCTURE

In 2004, the Clinical Trials Infrastructure Fund (CTIF) program set a goal to double patient recruitment into cancer clinical trials in the 28 participating cancer treatment centres within three years. In March 2007, the goal had almost been reached with an overall increase in patient enrolment by 92 per cent.

A secondary goal of the CTIF sought to double the amount of hospital personnel to increase clinical trial activity at participating sites with a budget of $12.9 million over three years; this goal was also achieved. From the inception of CTIF, the number of clinical trials staff has increased by 96 per cent at the sites. More than 150 full-time staff members were hired increasing the potential amount of clinical trials activity.

Dr. Jim Wright, head of clinical trials at the Juravinski Cancer Centre in Hamilton says, “the Clinical Trials Infrastructure Fund has allowed us to train additional research personnel in anticipation of increased clinical trials activity. With well trained research staff in place we were then able to accelerate our growth and like most centres, the Juravinski Cancer Centre almost doubled the number of patients enrolled in clinical trials during the first three years of funding. We believe clinical trials are advantageous for our clinician investigators, our industry partners and most importantly our patients.”

TRAINING CLINICAL TRIALS PERSONNEL

To provide clinical trials staff with the tools and information needed to perform their duties as efficiently as possible, the Clinical Trials Network began to deliver training workshops in 2005. This year, 160 people participated in the basic and intermediate workshops, bringing the total number of participants to 352.

Dr. Susan Dent, a medical oncologist and Head of Clinical Trials Research at the Ottawa Hospital Regional Cancer Centre says, “These workshops are great. They provide clinical trials staff with an opportunity to keep up-to-date on the changing environment in clinical trials as well as to discuss common problems in clinical research encountered by centres throughout the province.”
The architecture of the website was built with the capability for a Canada-wide cancer clinical trials database which will be available this winter.

ONTARIOCANCERTRIALS.CA
While clinical trials infrastructure helps support clinical trial activity within the hospitals, OntarioCancerTrials.ca serves to inform patients about cancer clinical trials being conducted in Ontario for which they may be eligible. OntarioCancerTrials.ca is a comprehensive searchable database meeting the World Health Organization criteria as a registry. The website is now averaging about 450 trial listings – a 28 per cent increase from last year. Approximately 150 trials were added this year and the website continues to be updated daily ensuring that the data listed is always as up-to-date as possible.

Visitors to the site can ask to be informed by e-mail about clinical trials appropriate to their needs. Approximately 25 people are signing up monthly for e-mail alerts.

To provide easier navigation and more specialized search features, OICR redesigned http://OntarioCancerTrials.ca. The effectiveness and accuracy of the site has prompted the demand for a national cancer clinical trials searchable database. The architecture of the website was built with the capability for a Canada-wide cancer clinical trials database which will be available this winter.

CLINICAL TRIALS ADVISORY COUNCIL
The Clinical Trials Advisory Council (CTAC) was established in March 2007, comprised of representatives of the cancer treatment centres with Dr. Jim Wright, an oncologist and head of cancer clinical trials at the Juravinski Cancer Centre in Hamilton, as its first chair. The funding that had been provided to cancer treatment centres through the Clinical Trials Infrastructure Fund, enabled the centres to hire additional staff and therefore conduct more clinical trials than they had in the past. A portion of the extra revenue generated by conducting these additional trials was placed in a fund administered by OICR. CTAC is advising OICR and the centres on the best use of those funds.

CANCER CLINICAL TRIALS CONSORTIUM
Work began during the year to create a Cancer Clinical Trials Consortium to standardize the way cancer clinical trials are initiated and conducted with a view to shortening the time required to complete an ethics review and to standardize budgets. This would allow for a quicker start-up of the trials and reduce costs. A pilot program at the Hamilton Health Sciences Centre, Sunnybrook Health Sciences Centre and The Ottawa Hospital is scheduled to begin in 2008.
ONTARIO CANCER RESEARCH ETHICS BOARD

The mandate of the Ontario Cancer Research Ethics Board (OCREB) is to ensure the protection of human subjects involved in cancer research in Ontario. As a provincial REB, OCREB also strives to reduce the workload and duplication associated with reviews of the same study by multiple ethics boards and decrease the time it takes to get a study approved initially and at multiple sites across the province.

Created in 2004, OCREB is currently the research ethics board for multi-centre oncology clinical trials in 14 cancer treatment centres in Ontario. This represents a 100 per cent increase in the number of centres using OCREB in the last 18 months.

In the last year, the number of new protocols submitted to OCREB increased from 31 to 56. The number of clinical trials submitted more than doubled over the same period from 21 to 54. Three initiatives launched in early 2007 will reduce the workload of investigators and their staff at the local level, enhance patient protection and strengthen communication: 1) a centralized system for receiving and tracking the myriad reports of external Serious Adverse Events (SAEs), 2) a standardized consent form template, and 3) a monthly open dialogue with local centres. By incorporating input from the Ontario oncology research community and national partners such as the Clinical Trials Group of the National Cancer Institute of Canada, these endeavours demonstrate the collaborative nature of OCREB’s operations and reflect a strong emphasis on continuous communication.

“OCREB has made great progress in improving the clinical trials infrastructure in Ontario,” said Dr. Padraig Warde, Medical Director of the Clinical Research Unit at Princess Margaret Hospital in Toronto. “Having one provincial Research Ethics Board for multi-centre studies has speeded up the whole process of study approval and avoided unnecessary duplication of effort.”

HOSPITALS/CANCER TREATMENT CENTRES USING OCREB

Cambridge Memorial Hospital
Grand River Regional Cancer Centre (Kitchener)
Juravinski Cancer Centre (Hamilton)
London Regional Cancer Program
Mount Sinai Hospital (Toronto)
Niagara Health Sciences (St. Catharines)
Ottawa Hospital Regional Cancer Centre
Princess Margaret Hospital (Toronto)
Southlake Regional Health Centre (Newmarket)
Thunder Bay Regional Health Sciences Centre Cancer Care Program
Toronto East General Hospital
Toronto Sunnybrook Regional Cancer Centre
Trillium Health Centre (Mississauga)
Windsor Regional Cancer Centre
TO THE DIRECTORS OF ONTARIO INSTITUTE FOR CANCER RESEARCH

We have audited the balance sheet of Ontario Institute for Cancer Research as at March 31, 2007 and the statements of operations and surplus and cash flows for the year then ended. These financial statements are the responsibility of the organization’s management. 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 plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the organization as at March 31, 2007 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Smich Nixon LLP
Licensed Public Accountants
Chartered Accountants
Toronto, Ontario
June 1, 2007
## Balance Sheet

**As at March 31**

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$4,885,662</td>
<td>$1,842,776</td>
</tr>
<tr>
<td>Other receivables</td>
<td>1,017,980</td>
<td>325,830</td>
</tr>
<tr>
<td>Inventory</td>
<td>683,706</td>
<td>–</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>209,176</td>
<td>52,818</td>
</tr>
<tr>
<td></td>
<td>$6,796,524</td>
<td>2,221,424</td>
</tr>
<tr>
<td><strong>Property and Equipment</strong></td>
<td>$5,834,722</td>
<td>813,644</td>
</tr>
<tr>
<td><strong>Note Receivable</strong></td>
<td>500,000</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>$13,131,246</td>
<td>$3,035,068</td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable and accrued liabilities</td>
<td>$2,799,689</td>
<td>$777,702</td>
</tr>
<tr>
<td><strong>Deferred Revenue</strong></td>
<td>8,782,218</td>
<td>1,893,239</td>
</tr>
<tr>
<td><strong>Term Loan</strong></td>
<td>500,000</td>
<td>–</td>
</tr>
<tr>
<td><strong>Surplus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unrestricted</td>
<td>1,049,339</td>
<td>364,127</td>
</tr>
<tr>
<td></td>
<td>$13,131,246</td>
<td>$3,035,068</td>
</tr>
</tbody>
</table>
# Statement of Operations and Surplus

## For the Year Ended March 31

### Revenue

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontario Cancer Research Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grant funding</td>
<td>$13,084,478</td>
<td>$6,599,491</td>
</tr>
<tr>
<td>Fee and workshop revenue</td>
<td>–</td>
<td>681,427</td>
</tr>
<tr>
<td>Non grant interest</td>
<td>–</td>
<td>3,772</td>
</tr>
<tr>
<td>Other grant funding</td>
<td>9,180</td>
<td>379,372</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>$13,093,658</td>
<td>$7,664,062</td>
</tr>
</tbody>
</table>

### Expenses

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amortization</strong></td>
<td>106,069</td>
<td>268</td>
</tr>
<tr>
<td><strong>Audit</strong></td>
<td>32,418</td>
<td>–</td>
</tr>
<tr>
<td><strong>Capital expenses</strong></td>
<td>9,064</td>
<td>54,668</td>
</tr>
<tr>
<td><strong>Electronic data capture</strong></td>
<td>–</td>
<td>1,923,864</td>
</tr>
<tr>
<td><strong>Clinical trials network-programs</strong></td>
<td>7,343</td>
<td>4,800</td>
</tr>
<tr>
<td><strong>Contracted services</strong></td>
<td>329,919</td>
<td>453,566</td>
</tr>
<tr>
<td><strong>Large scale population cohort program</strong></td>
<td>17,990</td>
<td>–</td>
</tr>
<tr>
<td><strong>Grants</strong></td>
<td>10,132,368</td>
<td>866,831</td>
</tr>
<tr>
<td><strong>Information system support</strong></td>
<td>–</td>
<td>261,609</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td>21,965</td>
<td>21,832</td>
</tr>
<tr>
<td><strong>Legal</strong></td>
<td>32,866</td>
<td>16,351</td>
</tr>
<tr>
<td><strong>Marketing and communications</strong></td>
<td>156,137</td>
<td>39,420</td>
</tr>
<tr>
<td><strong>Office and general</strong></td>
<td>102,332</td>
<td>221,433</td>
</tr>
<tr>
<td><strong>Research ethics board</strong></td>
<td>–</td>
<td>105,517</td>
</tr>
<tr>
<td><strong>Rent</strong></td>
<td>737,093</td>
<td>72,397</td>
</tr>
<tr>
<td><strong>Salaries, benefits and contracting</strong></td>
<td>1,101,646</td>
<td>1,548,144</td>
</tr>
<tr>
<td><strong>Support service fees</strong></td>
<td>134,280</td>
<td>371,235</td>
</tr>
<tr>
<td><strong>Travel</strong></td>
<td>127,390</td>
<td>166,571</td>
</tr>
<tr>
<td><strong>Tumour bank implementation and operation</strong></td>
<td>–</td>
<td>850,344</td>
</tr>
<tr>
<td><strong>Scientific advisory board</strong></td>
<td>44,778</td>
<td>–</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>$13,093,658</td>
<td>$6,978,850</td>
</tr>
</tbody>
</table>

### Excess of Revenues over Expenses

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excess of Revenues over Expenses</strong></td>
<td>–</td>
<td>685,212</td>
</tr>
</tbody>
</table>

### Surplus, Beginning of Year

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surplus, Beginning of Year</strong></td>
<td>–</td>
<td>364,127</td>
</tr>
</tbody>
</table>

### Surplus, End of Year

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surplus, End of Year</strong></td>
<td>$</td>
<td>$1,049,339</td>
</tr>
</tbody>
</table>

A copy of the complete audited financial statements is available upon request.
BOARD OF DIRECTORS
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Chair, MaRS Discovery District

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Professor, Department of Oncology, Queen’s University

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Massachusetts Institute of Technology

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The Campbell Family Institute for Breast Cancer Research
Ontario Cancer Institute

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Memorial Sloan-Kettering Cancer Center

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University of Chicago

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Robert Phillips
Chief Operating Officer

Jane van Alphen
Vice-President, Operations

Robert Sutherland
Vice-President, Commercialization

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Vice-President and Director, Ontario Tumour Bank

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Director, Business Development

Greg Baker
Director, Finance Programs

Rhea Cohen
Director, Communications

Kay Friel
Director, Clinical Trials Programs

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Executive Director, Ontario Cancer Research Ethics Board

Teresa Petrocelli
Director, Grants and Awards