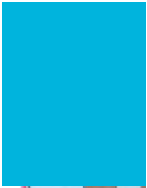


THE
FUTURE
IS IN
OUR GENES



OGI

ANNUAL
REPORT

2009





OGI'S MISSION

Use world-class research to create strategic genomics resources and accelerate Ontario's development of a globally-competitive life sciences sector



GENOMICS ACTIVITY OVERVIEW 2008-09

GLOBAL

04/08

Scientists publish genome sequence for genetically-modified, virus-resistant papaya.

05/08



Duck-billed platypus genome sequence published.

06/08

Three genome sequencing companies – 454 Life Sciences, Applied Biosystems, and Illumina Inc. – join the 1000 Genomes Project, an ambitious international research effort launched in January 2008.

07/08

H.R. 6498: The Genomics and Personalized Medicine Act of 2008 is re-introduced in the US.

08/08

Dr. Francis Collins steps down as Director of the US National Human Genome Research Institute.

9/08

Phase 3 genotype and frequency data from the International HapMap Project made available for browsing.

10/08

Complete Genomics launches as "the world's first provider of large-scale human genome sequencing services," pledging to sequence 1000 human genomes for \$5000 each in 2009.

11/08



Kangaroo genome mapped in Australia at the ARC Centre of Excellence for Kangaroo Genomics (KanGo).

12/08

Parade magazine hails the genome mapping of a cancer patient as a breakthrough of the year.

01/09

The New York Times Magazine publishes an essay, "My Genome, My Self" in which Dr. Steven Pinker, Harvard professor and renowned expert on language and cognition, reflects on having his own genome sequenced as part of the Personal Genome Project.

02/09



Events held worldwide to mark the 200th anniversary of the birth of Charles Darwin.

03/09

Team led by Dr. George Church (Harvard University) creates synthetic ribosomes that synthesize long, complex protein called firefly luciferase.

04/24

Scientists form International Cancer Genome Consortium (ICGC); ICGC secretariat located at Ontario Institute for Cancer Research in Toronto.

04/29

President George W. Bush signs into US law the Genetic Information Nondiscrimination Act of 2008.

05/07

05/21

Ontario researcher, Dr. Anthony Pawson (Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto), named 2008 recipient of the prestigious Kyoto Prize, an international award to honor those who have contributed significantly to the scientific, cultural, and spiritual betterment of mankind.

06/11

6/20



Navigenics and 23andMe receive licenses to resume offering direct-to-consumer genotyping service in California, following cease-and-desist letters sent earlier in the summer by the state government to a host of personal genomics companies.

07/15

08/01

08/20



Time magazine names the retail DNA test the Invention of the Year for 2008.

09/17

10/06

10/30

Extinct woolly mammoth genome sequenced by scientists at Pennsylvania State University.

11/18

11/20



01/07

Team of researchers from J. Craig Venter Institute sequence the genomes of all known human rhinoviruses, while scientists at the Max Planck Institute in Germany unveil the draft sequence of the Neanderthal genome.

02/12

02/12

03/09

03/09

President Barack Obama reduces restrictions on federally-funded embryonic stem cell research in the US.

OGI MILESTONES



Genome Canada launches a new competition in Applied genomics research in Bioproducts or Crops.

Government of Canada announces results of Genome Canada's Technology Development competition, including seven new Ontario-led projects to be funded through OGI. (p. 8-11)

05/05

OGI and Invitrogen host Genome 2.0: New Frontiers in Epigenomics workshop. (p. 18)

06/02



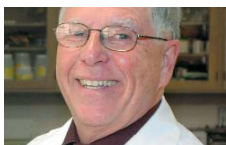
2008 OGI Summer Research Fellowship Program concludes for largest cohort to date plus first OGI – sanofi pasteur Industry Fellow. (p. 23)

08/21

OGI invests through its Pre-commercialization Business Development Fund (PBDF) in a public-private partnership to develop a point-of-contact DNA barcode-based assay. A second PBDF investment, in Cytogenix, developers of high resolution DNA probes, is made in March 2009. (p. 17-18)



09/11



OGI awards its second annual Genomics Teaching Prize to Robert Malyk at Ridley College, St. Catharines. (p. 23)

10/03

OGI shares the impact of genomics research with Ontario MPPs and ministry staff through Genomics in the Park, an event held at the Ontario legislature at Queen's Park. (p. 22)



11/24



Geee! In Genome exhibition completes six week run in Thunder Bay, attracting over 5000 visitors. (p. 20-21)

12/04

OGI launches two new programs to seed advances in Ontario's genomics research capacity – the Genomics Technology Seeding program and Genomics Capacity Building workshops. (p. 6-7, 19)

02/11

OGI brings stakeholders together for a market readiness workshop, Towards a DNA PDA, focused on the development of a handheld DNA barcoding device. (p. 19)

02/18

New multimedia immersive educational experience Club Genome, developed with support from OGI, opens at Science North in Sudbury. (p. 21)

03/16

Ontario Government's 2009 budget provides \$100 million for genomics and gene-related research, and \$5 million to support OGI, "an important partner in encouraging genomics research in Ontario". (p. 5)

03/26



Ontario Genomics Institute

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THE FUTURE IS IN INNOVATION

BUSINESS DEVELOPMENT



THE FUTURE IS IN ENGAGEMENT

OUTREACH



THE FUTURE IS IN PEOPLE

THE TEAM: BOARD OF DIRECTORS – STAFF



CHAIRMAN'S MESSAGE



“Innovation is the key to unlocking tomorrow’s jobs. To build research infrastructure, support life science research, green technologies applied research and genomics research, we will invest more than \$700 million.”

Ontario Minister of Finance, Dwight Duncan, 2009 Ontario budget speech.

THE FUTURE IS IN LEADERSHIP

Genomics and related sciences continue to drive the biotechnology and pharmaceutical industries, and activity over this past year has proven again that research and innovation are thriving right here in Ontario. Across the world, leaders in business and politics have been vocal about the importance of innovation in reviving the economy and building a sustainable future. Closer to home, the news of a \$700 million investment from the Ontario government to support research and infrastructure clearly demonstrates that a holistic and enlightened approach is being taken, sending out a clear message to the world that Ontario is serious about leadership and investment in genomics, the life sciences and the future.

Innovative leadership is also fundamental to how we work at OGI. Against the backdrop of these challenging times, I’m proud to report that the past year has been an extremely positive and rewarding one, both for the organization and for genomics research in Ontario.

OGI is entering its 10th year at the forefront of the genomics revolution, and in that time the organization has developed a portfolio of over 40 genomics research projects valued at over \$600 million. The publications, resources and downstream products generated through these investments are in use around the world, spanning a wide spectrum of application areas including agriculture, animal health, energy, environment, human health, industrial uses and natural resources management.

For example, the Structural Genomics Consortium's more than 880 3D protein structures that are in the public domain, the continuing growth of the Barcode of Life Data Systems global biodiversity database, and the Database of Genomics Variants are all made-in-Ontario examples of how the foundational resources are being built upon which innovation and true downstream benefits from biotechnology rely. These considerable and far-reaching efforts – just a few examples of our returns on investment to date – underscore the importance of continuing to invest in Ontario's genomics researchers.

Beyond our provincial borders, OGI continues to benefit from the support and collaboration of Genome Canada and Canada's other regional genome centres. We were particularly pleased that all six Canadian genome centres joined forces this year to organize a workshop on forestry genomics, which proved a major success that will lead to a national strategy document to protect forests and industries reliant upon them. This pooling of talent, knowledge and outstanding contributions from stakeholders across the country, including academic institutions, government agencies like Natural Resources Canada, and community groups, demonstrates the pioneering position Canada enjoys in spearheading genomics research and stewarding its outcomes.

I would like to express our gratitude to the research institutions, both academic and commercial, in Ontario, and to the creative, productive and innovative scientists who lead the way on all the projects we fund. The collective contribution of ideas, energy and enabling resources has kept Ontario at the top of the list as a leader in life sciences. In particular, and on behalf of OGI, I wish to thank our major partners Genome Canada and the Ontario Ministry of Research and Innovation for their leadership in identifying and supporting innovative research in Ontario and Canada that secures us a significant advantage on the world stage.

I want to thank Christian Burks, President and CEO, as well as OGI's staff for their tireless efforts in cementing OGI's role in the life sciences. I also want to thank the Board of Directors for its ongoing work, and express our sincere appreciation to Dr. Steven Rothstein, who stepped down from the Board this year, and Dr. Martin Godbout, who has been on the OGI Board since 2000, and has now transitioned to a non-voting, *ex officio* role. Their contributions were substantial in building the institution and outcomes described in this annual report.

Those who invest in genomics research and the commercialization thereof do so to serve the wider public good. The considerable confidence and resources invested in OGI by its staff, partners and stakeholders helps OGI to do just that, by acting on its commitment in all its activities to support the growth and success of Ontario's life sciences sector and, ultimately, the translation of home-grown discovery and innovation into *bona fide* benefits to science, to the public and to the environment. This past year has provided a solid foundation from which to move full-steam ahead, and I am looking forward to being involved in the exciting future of genomics research and OGI.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Poznansky', written in a cursive style.

Mark Poznansky • Chair, Board of Directors

PRESENTATION MESSAGE



"Ontario scientists and their international partners' research leadership – and the resources they are creating – has global impact in the diagnosis and treatment of human disease, environmental and natural resources stewardship, agricultural optimization and development of new energy sources." Christian Burks, President and CEO, OGI.

THE FUTURE IS IN GLOBAL IMPACT

I am pleased to present the FY2009 Annual Report of the Ontario Genomics Institute (OGI).

This has been another eventful year for us, both with respect to the impact of Ontario-led genomics projects funded through OGI and OGI's initiatives and activities across the life sciences sector. For example:

- We helped launch seven new technology development projects in Ontario. Over this year and the next, we will administer \$5.5 million of new federal funding from Genome Canada to these projects; combined with an additional \$5.7 million of funding from the Ontario Research Fund and other sources, including collaborators from three companies, their work will lead to innovation through the development of key enabling technologies ranging from algorithms and computer analysis software to imaging instruments.
- We funded two new proof-of-principle projects, with the goal of near-term translation of new products into the marketplace. Both projects involve Ontario biotech companies working closely with Ontario research institutions to develop next-generation DNA-based tools: specifically, tools to improve disease diagnoses and biosurveillance. The lead investigators on these projects were earlier recruited to Ontario from the USA and Iran, respectively, attracted both by the academic research environment and by the supportive culture for life science entrepreneurs.

- An Ontario scientist, Dr. Tony Pawson was awarded the internationally prestigious 2008 Kyoto Prize in recognition of his pioneering work on cell signalling cascades, including those associated with the onset of cancer. In addition to the insights that he and his colleagues from around the world generate into the basic nature of cancer, they continue with the support of OGI and other funders to channel their findings towards patient benefit. This past year, for example, a team led by Dr. Jeff Wrana unveiled DyNeMo, new software that supports physicians in developing treatment plans by analyzing the expression levels of genes encoding key proteins found in patients' breast cancer tumours.
- The Ontario government announced in its 2009 budget an allocation of \$100 million for a research competition focused on biomedical genomics and related life sciences; the funds will support projects led by Ontario scientists with the promise of global significance. We were honoured that it also allocated \$5 million directly to OGI as "an important partner in fostering genomics research in Ontario."

More details can be found on the OGI website, for which we developed a new look and feel as well as increased functionality this year.

We continue with our mission to use world-class research to create strategic genomics resources and accelerate Ontario's development of a globally competitive life sciences sector: by identifying, attracting and supporting investment in the province's genomics research sector; by catalyzing access to and the impact of genomics resources; and by raising the visibility of genomics in Ontario and issues associated with its practice and outcomes, both to create a better understanding of the importance and impact of this research at home and to increase investment in Ontario from abroad.

I would like to recognize our Chair, Mark Poznansky, and the entire Board of Directors for their time, insight and efforts on our behalf.

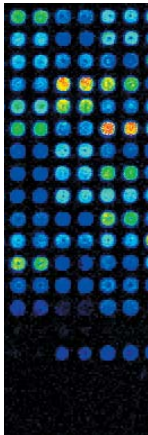
Finally, great credit is due to OGI's staff, whose hard work, energy and drive throughout the past year has been, as always, essential. I am pleased to note also the addition of four new members to our team: Caitlin Hammond (Research Program Manager), Matthew Johnson (Research Program Manager), Julien St-Pierre (Finance Officer) and Alastair Harris-Cartwright (Manager, Corporate Communications).

We look forward with great enthusiasm to the coming year and our ongoing contribution to the growth of Ontario's reputation as a global centre of excellence for life sciences research and development.

Sincerely,



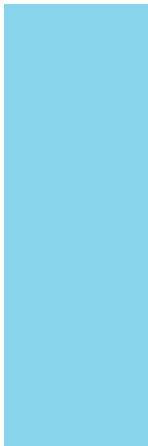
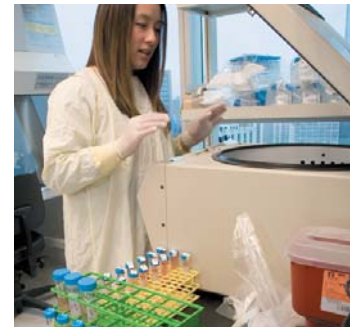
Christian Burks • President & CEO



THE FUTURE IS IN DISCOVERY



OGI's Research Programs team sources, cultivates, develops, funds and supports Ontario-led genomics and related research projects with the promise to further enhance Ontario's position as a leading global contributor to the field.



Through our work and that of our partners, Ontario-led genomics and related "omics" research is impacting research, discovery and innovation around the world. This work is changing the way that life scientists look at, understand and address challenges we and our natural surroundings face. During the past year, nearly \$93 million of funding and in-kind contributions flowed into projects in OGI's research portfolio, comprising 20 research projects and one genomics technology platform.

Research funded through OGI over the past year has helped in the development of several applications, including: a new tool to enhance prognoses for breast cancer treatment; technology to catalogue the biodiversity of the world's birds and fishes, helping to enhance the detection of and protection against consumer fraud in the process; research methods to identify previously unappreciated genetic characteristics that underlie autism spectrum disorders, cancer progression and diabetes; the development of new technologies essential to the creation of portable point-of-care diagnostic devices; and materials to help better understand the social and economic drivers that influence the development of the biotech sectors in underdeveloped nations and emerging economies.

NEW PROGRAM – GENOMICS CAPACITY BUILDING (GCB) WORKSHOPS

This new program, officially launched in February following two pilot workshops, provides funding for workshops exploring potential new collaborations between Ontario researchers and international

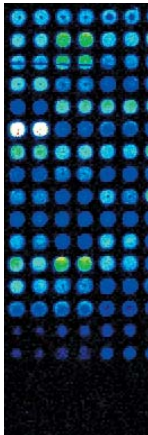


partners that will lead to competitive applications for major genomics and proteomics research funding. Prior to the GCB program launch, two pilot workshops were held in late 2008. The first workshop focused on protein function and environmental metagenomics, and the second on bacterial pathogenesis and large-scale protein science. These two events have already led to new collaborations and relationships being formed to share knowledge and research resources. Several more workshops are expected in the coming year.

WORKING COLLABORATIVELY TO COMBAT NATIONAL CHALLENGES

OGI worked with all five other regional genome centres across Canada as well as Natural Resources Canada and Ontario's Ministry of Natural Resources and Ministry of Research and Innovation to host a Canadian Forest Health Genomics Initiative Workshop in March 2009. The workshop brought together Canadian academic, provincial and federal scientists, policy and decision makers, industry, and community groups to discuss their views on current and future forest health threats. The participants focused on the potential strategic benefit of genomics research and resources to tackle important challenges faced by our forestry industries due to forest health threats and Canada's changing environment. A document outlining this strategy will be disseminated in the coming year.

To learn more about previous and continuing research projects funded through OGI, visit: www.OntarioGenomics.ca/research/research-projects



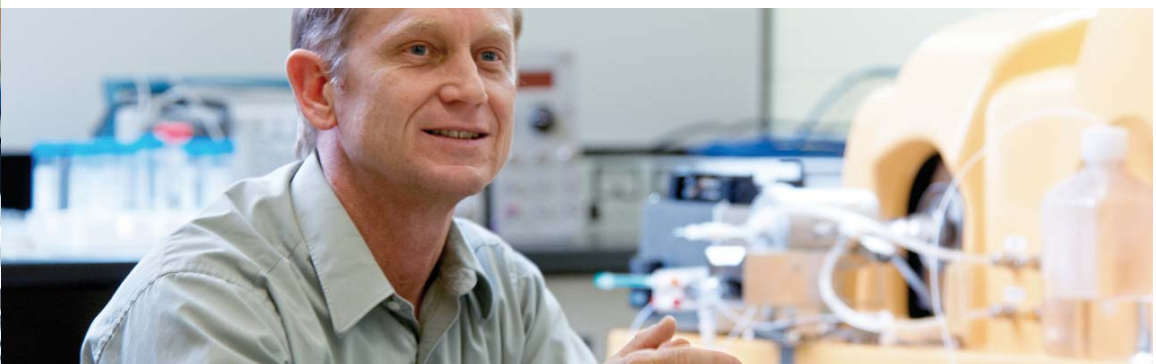
NEW RESEARCH PROJECTS TO DEVELOP INNOVATIVE TECHNOLOGIES

Staying at the leading edge of genomics research relies on the development of and access to new technologies, including instrumentation, reagents, techniques and software.

In April 2008, seven research teams in Ontario that were awarded a total of \$11.2 million under Genome Canada's Technology Development competition began developing new enabling technologies for genomics and proteomics research over a two-year period. With the committed support of Ontario's Ministry of Research and Innovation, which deemed technology development a strategic priority for Ontario, these teams were successful in bringing nearly 60% of the total Genome Canada funding into the province through OGI.

The new technologies that come out of these projects – developed in most cases with commercial partners – will be available to researchers across Canada within two years of project completion, allowing scientists at the vanguard to use them while they are being further developed into products by commercial partners.

THE PROJECTS



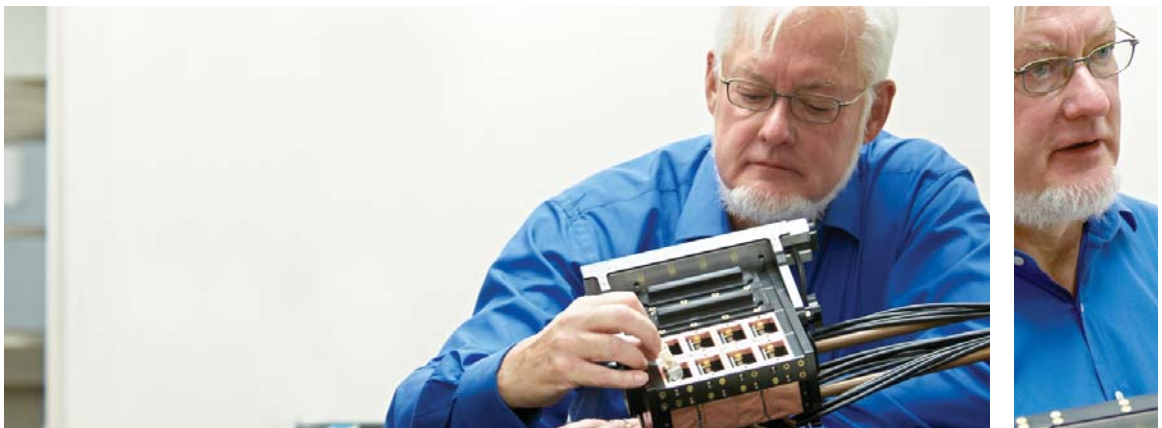
DR. SCOTT TANNER

The *Massively Multiparametric Flow Cytometer Analyzer* project led by Dr. Scott Tanner (University of Toronto) is developing new technology that provides simultaneous quantitative and independent determination of up to 100 biomarkers in individual cells. This technology will aid early disease diagnoses and monitoring of the efficacy of treatment through quicker and more effective tissue sample analysis.



DR. MEHRDAD HAJIBABAEI

Dr. Mehrdad Hajibabaei, co-applicant, and Dr. Paul Hebert, Principal Investigator (Biodiversity Institute of Ontario, University of Guelph), and their team's *Environmental Barcoding through Massively Parallelized Sequencing* project will develop new informatics tools to analyze sequence data, and develop new protocols for DNA barcode recovery from mixtures of organisms as they are found in the field. This will bypass the difficult and often impossible task of separating and cultivating individual organisms. The project team also plans to show how environmental barcoding can support a real-world need: bio-monitoring of Canada's inland waters. The technology developed during the project will also enable the assessment and monitoring of communities of higher organisms, in the context of biodiversity.



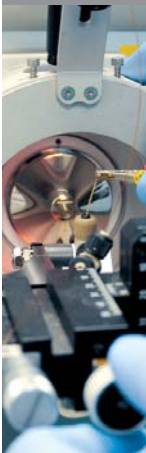
DR. MARK HENKELMAN

Dr. Mark Henkelman (The Hospital for Sick Children, Toronto) and his team's *Automated Three-dimensional Phenotyping of Mouse Embryos* project is developing new technology using sophisticated imaging and automated computer analysis to visualize the embryos of the 25,000 mutant mouse strains currently being created by an international program, the NorCOMM project, in which Ontario and other Canadian researchers are playing an essential role. The research team will use the technology to compare the mutated embryos to wild-type – or non-mutated – embryos and identify the regions of difference. As the mouse genome overlaps to a remarkable degree with the human genome, enhanced understanding of the genetic basis of disease in mice will accelerate investigations in humans.



DRS. SHANA KELLEY AND TED SARGENT

The team led by Drs. Shana Kelley and Ted Sargent (University of Toronto) is investigating new technologies to measure the expression of microRNAs in their project titled *Multiplexed MicroRNA Detection on an Electronic Chip*. Investigations into microRNA have led to new understanding of how an individual's gene expression – an indicator of cellular and physiological functioning – reflects his/her state of health. Although current technologies are powerful tools for other genomics applications, they are relatively slow and cumbersome when it comes to measuring microRNAs. This project aims to address these shortcomings by building a platform technology to quantify microRNA expression levels quickly and accurately.



DR. DANIEL FIGEYS

The *Proteomic Technologies for the Study of Rare Cells* project led by Dr. Daniel Figeys (University of Ottawa) is developing microfluidic technologies that will enable the efficient handling of very small volumes of samples for proteome analysis. This unique ability to process small volumes is critical to the study of proteins in rare and valuable tissue samples such as stem cells. The team's prototype 'proteomic reactor' simplifies handling of proteins, while greatly reducing analysis volume and processing speed.



DRS. GARY BADER AND QUAID MORRIS

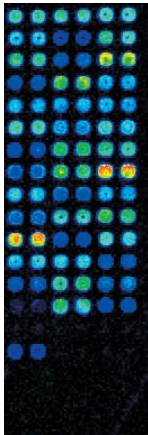
Through *Software Tools to Simplify Gene Function Prediction*, the team led by Drs. Gary Bader and Quaid Morris (University of Toronto) is building a software system – a kind of ‘Biological Google™’ – that lets people use existing genomics and proteomics data to answer specific biological questions. This project will build a user-friendly website that allows prediction of gene function using all available data from genomics and proteomics studies; and for functional genomics researchers, the team will construct a decision-support system that enables evaluation of various data-collection strategies by comparing the quality of data and the content of preliminary data with published data.



DR. ARTURAS PETRONIS

Dr. Arturas Petronis (Centre for Addiction and Mental Health, Toronto) and his team’s project *Technologies for Methylome Studies* seeks to create a set of techniques for genome-wide analysis of DNA methylation, or the ‘methylome’. These techniques will enable future studies of the role of DNA methylation in normal human development and various common diseases, including cancer, diabetes, multiple sclerosis and schizophrenia. This technology may also lead to the development of new earlier-stage diagnostic tests and individualized treatments based on DNA methylation signatures.

More information on all these projects can be found on the OGI website:
www.OntarioGenomics.ca/research/technology-development



PROJECTS ACTIVELY FUNDED IN FY2009



Canadian Barcode of Life Network

[Paul Hebert](#)

University of Guelph
April 2005 – June 2009
\$11.0 million



Autism Genome Project

[Stephen Scherer](#)

The Hospital for Sick Children, Toronto
January 2006 – December 2009
\$15.6 million

The Centre for Applied Genomics (TCAG)

Ontario Genomics Platform

[Stephen Scherer](#)

The Hospital for Sick Children, Toronto
January 2006 – December 2009
\$7.4 million

The Dynactome: Mapping Spatio-Temporal Dynamic Systems in Humans

[Anthony Pawson](#), [Jeff Wrana](#)

Samuel Lunenfeld Research Institute, Toronto
[Shawn S-C Li](#)
University of Western Ontario, London
January 2006 – December 2009
\$27.0 million

Genome-Environment Interactions in Type I Diabetes

[Jayne Danska](#)

The Hospital for Sick Children, Toronto
[Andrew Macpherson](#)
McMaster University, Hamilton
January 2006 – December 2009
\$15.0 million

Identification of Genetic Pathways that Regulate the Survival and Development of Cancer and Cancer Stem Cells

[Cynthia Guidos](#)

The Hospital for Sick Children, Toronto
January 2006 – December 2009
\$18.8 million

Integrative Biology

[Brenda Andrews](#)

University of Toronto
January 2006 – December 2009
\$27.4 million

Quantum Dot Diagnostics: Simultaneous Genomic and Proteomic Profiling of Multiple Pathogens at Point-of-Care

[Kevin Kain](#)

University Health Network, Toronto
[Michael Greenberg](#)
FIO Systems Corporation, Toronto
January 2006 – December 2009
\$10.3 million

The Contribution of Genetic Modulators of Disease Severity in Cystic Fibrosis to Other Diseases with Similarities of Clinical Phenotype

[Peter Durie](#), [Julian Zielenski](#)

The Hospital for Sick Children, Toronto
April 2006 – March 2010
\$7.0 million

**Strengthening the Role of Genomics
and Global Health**

[Peter Singer, Abdallah Daar](#)

University of Toronto

April 2006 – March 2010

\$10.3 million

**Structural and Functional Annotation of the
Human Genome for Disease Study**

[Robert Hegele](#)

Robarts Research Institute, London

October 2006 – September 2010

\$23.1 million

**International Barcode of Life (iBOL)
Development Phase**

[Paul Hebert](#)

University of Guelph

January 2007 – June 2010

\$0.2 million

**Structural Genomics Consortium (SGC) –
Phase II**

[Aled Edwards](#)

University of Toronto

University of Oxford (UK)

Karolinska Institute, Stockholm (Sweden)

July 2007 – June 2011

\$124.3 million

International Regulome Consortium (IRC)

[Michael Rudnicki](#)

Ottawa Health Research Institute

January 2008 – June 2009

\$22.3 million

**Automated Three-dimensional Phenotyping of
Mouse Embryos**

[Mark Henkelman](#)

The Hospital for Sick Children, Toronto

April 2008 – March 2010

\$1.5 million

**Environmental Barcoding through Massively
Parallelized Sequencing**

[Paul Hebert](#)

University of Guelph

April 2008 – March 2010

\$1.8 million

**Massively Multiparametric Flow
Cytometer Analyzer**

[Scott Tanner](#)

University of Toronto

April 2008 – March 2010

\$2.8 million

**Multiplexed MicroRNA Detection on an
Electronic Chip**

[Shana Kelley, Ted Sargent](#)

University of Toronto

April 2008 – March 2010

\$0.9 million

**Proteomic Technologies for the Study of
Rare Cells**

[Daniel Figeys](#)

University of Ottawa

April 2008 – March 2010

\$1.5 million

**Software Tools to Simplify Gene
Function Prediction**

[Gary Bader, Quaid Morris](#)

University of Toronto

April 2008 – March 2010

\$1.9 million

Technologies for Methylome Studies

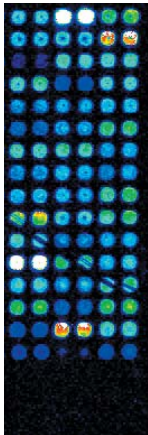
[Arturas Petronis](#)

Centre for Addiction and Mental Health, Toronto

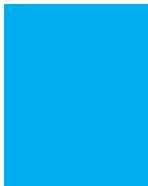
April 2008 – March 2010

\$0.8 million

Dollar amounts are total approved project costs as of March 31, 2009.



PREVIOUSLY COMPLETED PROJECTS



Canadian Program on Genomics and Global Health

[Peter Singer](#), [Abdallah Daar](#)

University of Toronto

October 2001 – September 2005

\$6.2 million

The Biomolecular Interaction Network Database (BIND)

[Christopher Hogue](#)

Samuel Lunenfeld Research Institute, Toronto

April 2002 – December 2005

\$23.1 million



Genetic Determinants of Human Health and Disease – Annotation of Chromosome 7

[Stephen Scherer](#)

The Hospital for Sick Children, Toronto

October 2001 – September 2005

\$1.8 million

Viral Proteomics

[Lori Frappier](#), [Christian Burks](#)

Affinium Pharmaceuticals, Toronto

July 2002 – December 2004

\$6.3 million

Proteomics Technology Core Facility (PTCF)

[Jack Greenblatt](#)

University of Toronto

[Gilles Lajoie](#)

University of Western Ontario, London

October 2001 – December 2005

\$8.6 million

Functional Genomics of Arabidopsis

[John Coleman](#)

University of Toronto

July 2002 – September 2005

\$1.8 million

Functional Genomics and Proteomics of Model Organisms

[Janet Rossant](#), [Anthony Pawson](#)

Samuel Lunenfeld Research Institute, Toronto

October 2001 – September 2005

[Jack Greenblatt](#), [Andrew Spence](#), [Brenda Andrews](#)

University of Toronto

October 2001 – March 2006

\$27.1 million

Genetic Determinants of Human Health and Disease

[Katherine Siminovitch](#)

Samuel Lunenfeld Research Institute, Toronto

July 2002 – March 2006

\$11.0 million

Proteomics and Functional Genomics – An Integrated Approach

[Brenda Andrews](#), [Cheryl Arrowsmith](#)

University of Toronto

July 2002 – March 2006

\$15.0 million

Genomic Resource Core Facility

[Stephen Scherer](#), [Lap-Chee Tsui](#)

The Hospital for Sick Children, Toronto

October 2001 – September 2007

\$18.0 million

The Stem Cell Genomics Project

[Michael Rudnicki](#)

Ottawa Health Research Institute

July 2002 – March 2006

\$11.1 million

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Development and Applications of Functional Genomics Technologies

[James Woodgett](#)

University Health Network, Toronto

October 2002 – September 2005

\$8.8 million

Functional Genomics of Type 1 Diabetes

[Jayne Danska](#)

The Hospital for Sick Children, Toronto

October 2002 – March 2006

\$8.5 million

Mapping and Isolation of Genes Influencing Severity of Disease in Cystic Fibrosis

[Peter Durie, Lap-Chee Tsui](#)

The Hospital for Sick Children, Toronto

October 2002 – March 2006

\$6.4 million

Bridging the Emerging Genomics Divide

[Peter Singer, Abdallah Daar](#)

University of Toronto

January 2003 – March 2006

\$2.8 million

Genomic Analysis of Soil Microorganisms

[Turlough Finan, Brian Golding](#)

McMaster University, Hamilton

January 2003 – March 2006

\$5.9 million

Genomics of the Spruce Budworm and its Viral Pathogens

[Arthur Retnakaran, Basil Arif](#)

Great Lakes Forestry Centre – NRC, Sault Ste. Marie

January 2003 – March 2006

\$4.6 million

Fiber Optic Nucleic Acid (FONA) Biosensor-based Gene Profiling: Proof of Principle by Screening for Drug Leads for Orphan Neurodegenerative Disorders and SNP Analysis

[Alex MacKenzie](#)

Children's Hospital of Eastern Ontario, Ottawa

[Paul Piunno, Ulrich Krull](#)

University of Toronto at Mississauga

July 2003 – June 2005

\$2.8 million

Structural Genomics Consortium (SGC) – Phase I

[Aled Edwards](#)

University of Toronto

University of Oxford (UK)

Karolinska Institute, Stockholm (Sweden)

July 2003 – June 2007

\$105.0 million

Segmental Duplications in Neurodevelopmental, Neurological and Behavioural Disorders

[Stephen Scherer](#)

The Hospital for Sick Children, Toronto

[Xavier Estivill](#)

Centro de Regulació Genòmica, Barcelona

April 2004 – September 2007

\$5.2 million

Assessing Risk for Colorectal Tumours in Canada (ARCTIC)

[Brent Zanke](#)

Cancer Care Ontario, Toronto

[Tom Hudson](#)

McGill University and Génome Québec

Innovation Centre

October 2004 – December 2007

\$9.6 million

Protein Expression Profiling Platform for Heart Disease Biomarker Discovery

[Peter Liu, Andrew Emili, David MacLennan](#)

University of Toronto

October 2004 – December 2007

\$6.1 million

Mass Spectrometer-based Flow Cytometer, Methods and Applications

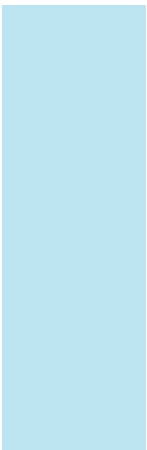
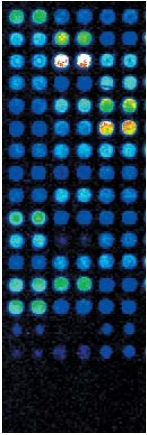
[John Dick](#)

University Health Network, Toronto

January 2005 – March 2008

\$7.8 million

Dollar amounts are total reported project expenditures as of March 31, 2009.



THE FUTURE IS IN INNOVATION



The Business Development team at OGI focuses on the longer-term impact of genomics research: research outcomes entering the reality of everyday life through the sharing of public resources, exchange of ideas, collaboration and the commercialization of discoveries.



OGI works with stakeholders across Ontario's life sciences sector to bridge the gap between basic research and commercialization through: direct investment in proof-of-principle phase projects through its Pre-Commercialization Business Development Fund (PBDF); hosting 'science with industry' workshops to encourage public-private partnerships; and by supporting technology platforms through the provision of funding to seed new technologies to increase the resources available to researchers.

OGI's Business Development team also manages the Genomics Sector Innovation Network portal (G-SIN – www.g-sin.com), a gateway into Ontario-wide genomics research capacity, resources and outcomes for the global life sciences sector: whether pharmaceutical or biotechnology companies looking for technology or collaborative partners; or investors looking for entrepreneurial researchers and their intellectual property.

INVESTMENTS

Last year, through the PBDF, OGI made investments in two projects focused on novel applications of genomics:



The Development of DNA-based Tools for Testing Food and Feed Purity

In response to the risk of transmissible spongiform encephalopathy (TSE) infections – for example, bovine spongiform encephalopathy (BSE), or “mad cow disease” – countries including the UK and Canada have introduced legislation that prohibits the use of mammalian-derived proteins in animal feed, pet food and fertilizer. Both importers and exporters of livestock and feeds need to certify their products as being compliant with such legislation.

OGI, in September 2008, invested in a joint effort by the Biodiversity Institute of Ontario (BIO, University of Guelph) and industry partner Safeguard Biosystems (Toronto) to develop a DNA barcode-based assay that has the potential to provide on-site analysis that allows differentiation between groups of animal species in random samples of animal foods.

They plan to develop a barcode-based identification test for animal feed material and pet food products (FeedGUARD Test System), based on a hybridization technology developed by Safeguard.

Led by researcher Dr. Mehrdad Hajibabaei, Assistant Director of the Canadian Centre for DNA Barcoding, and working with Dr. Paul Hebert, Director of BIO, this project leverages their research and the worldwide effort they are leading to build a database library of short, standardized DNA sequences (‘DNA barcodes’) for use as a rapid and reliable identification system for all species on our planet.

Better Disease Diagnoses with Single Copy DNA Probes

Disease, or the predisposition to disease, is increasingly being diagnosed with the use of molecular probes that allow clinicians to detect mutated genes or unusual levels of normal genes or the proteins they encode in the cell. At the same time, and keying off the same molecules in the cell, there is great enthusiasm about the potential for better understanding which subsets of patient populations will either benefit or suffer adverse effects from potential new therapies. Unfortunately, products currently on the market lack the accuracy and precision necessary to produce reliable results, so that the potential for either diagnosis or personalized treatment is not being realized.

In March 2009, OGI invested in Cytognomix, a London, Ontario, based start-up biotech company, to aid entrepreneurs Drs. Peter Rogan and Joan Knoll in their development of novel cytogenetic single copy fluorescent DNA probes (called "scFISH" probes) that are considerably smaller and more densely distributed across the genome than probes currently commercially available. The scFISH probes increase the resolution of detection across a broad range of mutational deletion sizes. In addition, scFISH technology has the ability to synthesize probes 'on demand' that are specific to an area of interest.

The probes produced by Cytognomix aim to enable more effective disease diagnostics and more tailored treatment, moving one step further towards personalized medicine.



Genome 2.0 event.



Honourable John Wilkinson, Minister of Research and Innovation (left) and Dr. Christian Burks (far right) present the OGI PPDF investment and the Stiller Centre Prize to Drs. Joan Knoll and Peter Rogan.

SCIENCE WITH INDUSTRY WORKSHOPS

Two events were held over the course of the year, bringing together leaders from research institutions and the private sector to discuss new advancements and technologies, and to start building the foundations of lasting relationships that result in more discoveries being brought to the marketplace and an increase in the sharing of resources on which to build and improve.

Genome 2.0: New Frontiers in Epigenomics

Epigenomics – the study of changes in gene expression that are not completely dependent on DNA sequence – is one of the most significant and exciting frontiers in genome sciences.

In June 2008, OGI teamed up with the Invitrogen Corporation (now Life Technologies), a California-based life sciences technology provider, to host *Genome 2.0: New Frontiers in Epigenomics*, a one-day symposium that addressed the growing interest in this emerging field. Participants addressed epigenetic regulation of gene expression with a focus on chromatin biology, DNA methylation, non-coding RNAs and technology development.

Over 165 people from Canada and around the world attended the meeting, including participants from research institutions and the private sector.

Barcoding: Towards a DNA PDA

DNA barcoding works on the basis that DNA sequence diversity in short, standardized gene regions provides a sophisticated tool for both the identification of known species and the discovery of new ones.

In collaboration with the Biodiversity Institute of Ontario (BIO) and the Ontario Centres of Excellence (OCE), OGI hosted a market-readiness workshop in February 2009 to assess the feasibility and steps involved in the creation of a portable, integrated DNA barcoding device. A device of this kind could be deployed to end-users across many potential fields of application including food and animal feed purity, detection of invasive species, protection of endangered species, industrial fouling and environmental assessment and remediation.



Ontario's Genomics Sector Innovation Network portal.

The one-day, by-invitation workshop, with leading genomics researchers, industry technology developers and end-user regulatory agencies in attendance, featured discussions of the challenges in creating a portable DNA barcode device that can produce rapid, accurate and inexpensive on-site identification of any species. Participants also discussed the readiness of regulatory and monitoring agencies to adopt DNA barcoding, as well as the technological and policy framework hurdles that would first have to be crossed.

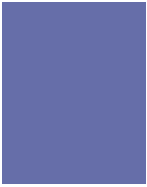
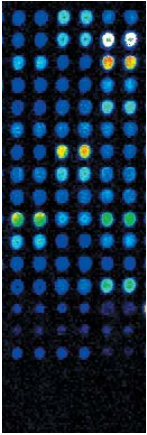
The event culminated with discussion of the next steps in the development of a portable DNA barcoder and its uptake and use by government and industrial users.

NEW PROGRAM – GENOMICS TECHNOLOGY SEEDING PROGRAM

In February 2009, OGI launched a new investment program to support and develop Ontario genomics technology service platforms affiliated with OGI.

The Genomics Technology Seeding (GTS) Program assists with testing existing technologies (e.g., reagents or instruments) for new applications, as well as validating newer, cutting-edge ones, to improve genomics and proteomics research efforts. The program is intended to leverage existing platforms to accelerate Ontario's genomics researchers' access to innovative technological tools.

OGI signed its first GTS agreement with The Centre for Applied Genomics (TCAG) at the Hospital for Sick Children. The GTS investment will assist TCAG in assessing technology that enables efficient whole-genome genotyping from Formalin Fixed and Paraffin Embedded (FFPE) tissue.



THE FUTURE IS IN ENGAGEMENT



Through diverse outreach and educational activities, OGI engages the general public, stakeholder groups and students of all ages to inform them about genomics, its implications and impacts.

As discoveries in genomics and related sciences rapidly expand the scope of our understanding of living things, and the social, economic and environmental impacts of this enhanced understanding are becoming better realized, it is increasingly important to reach out and raise awareness of this research and what it means to individuals, our families, our communities and the world around us.

ATTRACTING ATTENTION AND STIMULATING INTEREST THROUGH EXHIBITS

This past year, OGI was a presenting partner for two major genomics exhibits aimed at making genomics accessible, understandable and stimulating for public audiences.

The Gee! in Genome

In partnership with a number of research institutes and organizations in Thunder Bay's growing life sciences community, OGI presented *The Gee! in Genome*, Canada's first national touring exhibition on genomics, at the Thunder Bay Art Gallery from September to November 2008. Comprising 2500 square feet of interactive, bilingual educational content about genomics, its applications and the Canadian scientists at the forefront of the field, the exhibit drew more than 5000 visitors during its six week run.



The exhibit, produced by the Canadian Museum of Nature and presented nationally by Genome Canada, was complemented by a weekly evening speakers program open to the public, which featured distinguished local scientists and others, such as OGI-funded researcher Dr. Rob Hegele, OGI Board Member and President of Let's Talk Science, Dr. Bonnie Schmidt, and OGI staff. Also, to add to student visitors' experiences, OGI staff visited four Thunder Bay high schools to lead discussions with approximately 200 students about issues raised by the exhibit as well as career opportunities in genomics and related sciences.

Club Genome

Launched in March 2009 and running through 2011 at Science North in Sudbury, *Club Genome* is a multimedia object theatre that uses dynamic music, lights and animation to bring visitors inside a cell where they learn about DNA, proteins and the science of genomics in a fun and entertaining way.

Club Genome was produced with financial support from OGI and the Northern Ontario Heritage Fund. OGI staff also acted as science advisors, sharing their expertise throughout the development of the project. Over the next three to four years, OGI will continue to act in this advisory capacity, helping to develop additional educational exhibits at Science North that build on the topics and themes introduced in *Club Genome*.

TAKING GENOMICS FROM THE LAB TO THE PEOPLE

Dance 'N Action (DNA) in the Park

Held during National Biotechnology Week in September 2008 in Toronto and Hamilton, *Dance 'N Action (DNA) in the Park* explored potential links between creative minds in genomics research and in the performing arts, and the use of such creative collaborations to educate and increase awareness of genomics and its impacts.



Dance 'N Action in the Park.

Developed by OGI in partnership with the Golden Horseshoe Biosciences Network and in collaboration with McMaster University, *DNA in the Park* featured interactive dance, spoken-word and other performances that explored DNA structure and function, genetic inheritance and genomics as a new approach to life sciences research. Over 600 students, teachers and members of the general public were engaged through the performances.



Genomics in the Park – from left to right: Dr. Christian Burks, Dr. Wendy Roberts, Minister John Wilkinson, MPP Laurie Scott, MPP Michael Prue, Dr. Mark Poznansky and Dr. Stephen Scherer.

Genomics in the Park: Breakthroughs, Catalysts, Impacts

On November 24th, 2008, with the support of the Ontario Ministry of Research and Innovation, OGI hosted *Genomics in the Park* at the Ontario legislature at Queen's Park, which brought together 35 members of the provincial parliament and ministry staff – including four ministers and representatives from each of Ontario's major political parties – with OGI-funded researchers and their market-receptor partners to discuss the impacts of genomics research in Ontario. Five success stories were presented in an open forum, with brief remarks provided by the Honourable John Wilkinson, Minister of Research and Innovation, and OGI staff.

INCREASING LEARNING OPPORTUNITIES THROUGH GENOMICS EDUCATION

This year marked the successful continuation of one of OGI's two primary educational initiatives and an innovative expansion of the other.

OGI Genomics Teaching Prize

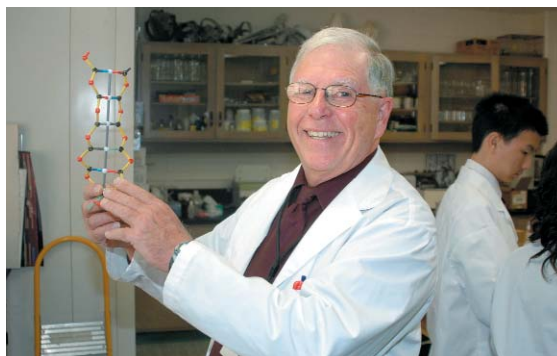
Launched in 2007, the OGI Genomics Teaching Prize is awarded annually to the Ontario secondary school teacher whose teaching best exemplifies OGI's commitment to building an awareness of genomics research and the resources to which it leads, as well as the deeper understanding of life it provides.

This year's prize was awarded to Robert Malyk, from Ridley College in St. Catharines, whose students' work in determining human DNA sequences ended up being included in GenBank, the international DNA sequence database. Students also had the opportunity to explore ethical issues related to genomics research.

Mr. Malyk received a \$5,000 cash prize, \$2,000 in new laboratory equipment and expenses to travel to the Science Teachers' Association of Ontario (STAO) Conference in November 2008 to share his award-winning approach with other teachers. His genomics curriculum has been further disseminated through OGI's website and a presentation to the National Bioscience Educators Conference in Toronto in February 2009.



Dr. Shane Green (third from left) with the OGI Summer Research Fellows.



OGI Genomics Teaching Prize winner Robert Malyk.

OGI Summer Research Fellowship Program

In 2008, in response to growing interest in this very competitive program, OGI expanded its Summer Research Fellowship program, which engages undergraduate students in research projects with established researchers pushing the boundaries in genomics, associated technologies and GE³LS (ethical, economic, environmental, legal and social issues relating to genomics research).

Seven students – the largest cohort in the six years the program has been running – received Fellowships in 2008. This was also the first year for the OGI-sanofi pasteur Industry Fellowship, through which a student working with Canada's largest vaccine company took part in OGI's program throughout the summer. Unique among similar summer research fellowship opportunities for undergraduates, and in addition to a stipend, Fellows benefit from ongoing support from each other and OGI staff – through peer-to-peer meetings, frequent teleconference journal clubs and roundtable discussions – reinforcing the culture and skills of interactive-at-a-distance collaboration in large-scale research projects.

THE FUTURE IS IN PEOPLE

BOARD OF DIRECTORS

(AS AT MARCH 31, 2009):

DIRECTORS

Mark J. Poznansky (Chair)
President, G2G Consulting

Christian Burks
President & CEO,
Ontario Genomics Institute

Elizabeth Dowdeswell
Visiting Professor, Public Health
Sciences, McLaughlin-Rotman
Centre for Global Health

James D. Friesen
Professor Emeritus
Banting & Best Department
of Medical Research,
University of Toronto

Martin Godbout (*ex officio*)
President & CEO, Genome Canada

Jay A. Lefton
Senior Partner, Ogilvy Renault LLP

J. Mark Lievonen
President, sanofi pasteur

Tim McTiernan
Executive Director of Innovations,
University of Toronto

John P. Molloy
President & CEO
PARTEQ Innovations

George Ross (*ex officio*)
Deputy Minister, Ontario Ministry of
Research and Innovation

Bonnie Schmidt
President, Let's Talk Science

Louis Siminovitch
Research Director Emeritus,
Samuel Lunenfeld Research Institute

Niclas Stiernholm
President & CEO,
Trillium Therapeutics

Brian Underdown
Managing Director,
Lumira Capital

Paul J. Van Damme
Chief Financial Officer,
Bradmer Pharmaceuticals

TREASURER

Narinder Dehal
VP, Finance & Operations,
Ontario Genomics Institute

SECRETARY

Keith Pinder
Consultant,
Innovation Institute of Ontario

STAFF

(AS AT MARCH 31, 2009):

Siân Bevan
Team Lead, Research Programs

Christian Burks
President & CEO

Narinder Dehal
VP, Finance & Operations

Klaus Fiebig
Chief Scientific Officer & VP,
Research Programs

Shane K. Green
Director, Outreach

Caitlin Hammond
Research Program Manager

Alastair Harris-Cartwright
Manager, Corporate
Communications

Matthew Johnson
Research Program Manager

Dennis McCormac
Director, Platform Development

Teresa McGrath
Research Program Manager

Helen Petropoulos
Business Development Manager

Kimberly Riley
Manager, Events and Outreach

Christine Scaramuzzo
Executive Assistant to
the President & CEO

Julien St-Pierre
Finance Officer

Rhonda Tannenbaum
Director, Business Development

Sonja Wesholowski
Web Coordinator

Annual Report FY09

CORPORATE INFORMATION

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Fax: +1 416 977-8342

www.OntarioGenomics.ca

info@OntarioGenomics.ca

ANNUAL GENERAL MEETING

September 29, 2009

3:00 pm

Ogilvy Renault LLP

200 Bay St, Suite 3800, Boardroom D

Royal Bank Plaza, South Tower

Toronto, Ontario, Canada

The Future is in Our Genes



Ontario**Genomics**Institute

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OGI
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2009



CONSOLIDATED FINANCIAL STATEMENTS
YEAR ENDED MARCH 31, 2009

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OGI'S MISSION

Use world-class research to create strategic genomics resources and accelerate Ontario's development of a globally-competitive life sciences sector

AUDITOR'S REPORT

To the Board of Directors of Ontario Genomics Institute,

We have audited the consolidated statement of financial position of the Ontario Genomics Institute as at March 31, 2009 and the consolidated statements of operations, changes in net assets and cash flows for the year then ended. These financial statements are the responsibility of the Corporation'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 consolidated financial statements present fairly, in all material respects, the financial position of the Corporation as at March 31, 2009 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles. As required by the Canada Corporations Act, we report that, in our opinion, these principles have been applied on a basis consistent with that of the preceding year.

The logo for KPMG LLP, featuring the letters 'KPMG' in a bold, sans-serif font, followed by 'LLP' in a smaller, similar font. A horizontal line is drawn underneath the text.

Chartered Accountants, Licensed Public Accountants

Toronto, Canada
May 29, 2009

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CONSOLIDATED STATEMENT OF FINANCIAL POSITION

March 31, 2009, with comparative figures for 2008

	<u>2009</u>	<u>2008</u>
Assets		
Current assets:		
Cash	\$ 3,058,639	\$ 4,456,353
Accounts receivable (note 4)	75,722	79,763
Advances to genomic research projects	531,568	-
Deposits and prepaid expenses	92,601	91,228
	3,758,530	4,627,344
Long-term advances and investments (note 5)	287,095	200,000
Capital assets (note 6)	178,968	236,295
	\$ 4,224,593	\$ 5,063,639
Liabilities and Net Assets		
Current liabilities:		
Accounts payable and accrued liabilities (note 7)	\$ 328,639	\$ 464,409
Amounts due to genomic research projects	-	333,131
Current portion of lease inducement (notes 6 and 9)	18,000	18,000
	346,639	815,540
Deferred contributions (note 8)	2,287,092	2,623,614
Lease inducement (notes 6 and 9)	13,500	31,500
Net assets:		
Invested in capital assets (note 9)	147,468	186,795
Unrestricted	1,429,894	1,406,190
	1,577,362	1,592,985
Commitments (note 13)		
	\$ 4,224,593	\$ 5,063,639

See accompanying notes to consolidated financial statements.

On behalf of the Board:



Director



Director

CONSOLIDATED STATEMENT OF OPERATIONS

Year ended March 31, 2009, with comparative figures for 2008

	<u>2009</u>	<u>2008</u>
Revenue:		
Amortization of deferred contributions (note 8)	\$ 31,243,583	\$ 32,116,964
Interest and other revenue	212,749	414,768
	31,456,332	32,531,732
Expenses:		
Genomic research projects	28,699,111	29,611,903
General and administrative	1,992,359	2,129,313
Outreach, communications and GE ³ LS	337,323	342,082
Commercialization	141,053	179,829
Research advisory	195,234	195,774
Amortization of capital assets	93,970	72,858
	31,459,050	32,531,759
Deficiency of revenue over expenses	\$ (2,718)	\$ (27)

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN NET ASSETS

Year ended March 31, 2009, with comparative figures for 2008

			<u>2009</u>	<u>2008</u>
	Invested in capital assets (note 9)	Unrestricted	<u>Total</u>	<u>Total</u>
Net assets, beginning of year	\$ 186,795	\$ 1,406,190	\$ 1,592,985	\$ 1,593,012
Excess (deficiency) of revenue over expenses	(75,970)	73,252	(2,718)	(27)
Unrealized loss on long-term investment (note 5)	-	(12,905)	(12,905)	-
Net change in investment in capital assets (note 9)	36,643	(36,643)	-	-
Net assets, end of year	<u>\$ 147,468</u>	<u>\$ 1,429,894</u>	<u>\$ 1,577,362</u>	<u>\$ 1,592,985</u>

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

Year ended March 31, 2009, with comparative figures for 2008

	2009	2008
Cash provided by (used in):		
Operations:		
Deficiency of revenue over expenses	\$ (2,718)	\$ (27)
Items not involving cash:		
Amortization of deferred contributions (note 8)	(31,243,583)	(32,116,964)
Amortization of capital assets	93,970	72,858
Amortization of lease inducement	(18,000)	(18,000)
	(31,170,331)	(32,062,133)
Change in non-cash operating working capital:		
Decrease (increase) in accounts receivable	4,041	(3,987)
Decrease (increase) in advances to genomic research projects	(531,568)	964,800
Increase (decrease) in amounts due to genomic research projects	(333,131)	333,131
Increase in deposits and prepaid expenses	(1,373)	(15,670)
Increase (decrease) in accounts payable and accrued liabilities	(135,770)	183,534
Increase in deferred contributions	30,907,061	29,375,778
	(1,261,071)	(1,224,547)
Investments:		
Increase in long-term advances and investments	(100,000)	-
Additions to capital assets	(36,643)	(121,570)
	(136,643)	(121,570)
Decrease in cash	(1,397,714)	(1,346,117)
Cash, beginning of year	4,456,353	5,802,470
Cash, end of year	\$ 3,058,639	\$ 4,456,353

See accompanying notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

Ontario Genomics Institute (the "Corporation" or "OGI") was incorporated without share capital on October 18, 2000 under the Canada Corporations Act as a not-for-profit organization. OGI's role is to use world-class research to create strategic genomics resources and accelerate Ontario's development of a globally-competitive life sciences sector by concentrating on three strategic areas:

- (a) through Research Program Management, to identify, attract and support investment in Ontario's genomics research;
- (b) through Business Development, to catalyze access to and impact of genomics capacity and resources created; and
- (c) through Outreach, to raise visibility of genomics as well as its impact and associated issues, and to increase the visibility of Ontario on the international playing field.

1. Significant accounting policies:

(a) Basis of presentation:

These consolidated financial statements include the results of OGI with those of the Corporation's wholly owned subsidiary, Genomics Ontario Inc. All significant intercompany accounts and transactions have been eliminated upon consolidation.

(b) Revenue recognition:

The Corporation follows the deferral method of accounting for contributions, which include funds from Genome Canada and the Government of Ontario's Ministry of Research and Innovation. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Externally restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Investment income earned on unspent externally restricted contributions is recognized in the year in which it is earned.

(c) Advances to/amounts due to genomics research projects:

Advances to research projects are comprised of amounts provided by the Corporation to approved research projects which have not been expensed. Amounts due to research projects comprise amounts payable by the Corporation to projects for expenses already incurred and approved.

(d) Financial instruments other than long-term advances and investments:

OGI designates its cash as held-for-trading, which is measured at fair value. Accounts receivable and advances to genomic research projects are classified as receivables, which are measured at amortized cost. Accounts payable and accrued liabilities and amounts due to genomic research projects are classified as other financial liabilities, which are measured at amortized cost.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

1. Significant accounting policies (continued):

OGI has adopted The Canadian Institute of Chartered Accountants' ("CICA") Handbook Section 3861, Financial Instruments – Disclosure and Presentation. In accordance with the Accounting Standards Board's decision to exempt not-for-profit organizations from the disclosure requirements with respect to financial instruments contained within Section 3862, Financial Instruments – Disclosures, and Section 3863, Financial Instruments - Presentation, OGI has elected not to adopt these standards in its consolidated financial statements.

The carrying values of cash, accounts receivable, advances to genomic research projects, accounts payable and accrued liabilities and amounts due to genomic research projects approximate fair values due to the relatively short term maturity of these financial instruments.

(e) Long-term advances and investments:

The long-term advances and investments in the entities for which fair value is not readily determinable are accounted for using the cost method.

The long-term advances and investments in entities for which fair value is readily determinable are classified as available-for-sale and stated at fair value. The change in the difference between the fair value and cost of investments at the beginning and end of each year is reflected in the consolidated statement of changes in net assets.

(f) Capital assets:

Capital assets are recorded at cost less accumulated amortization. Leasehold improvements are amortized on a straight-line basis over the lesser of estimated useful life or the term of the lease. Furniture and fixtures are amortized on a straight-line basis over five years. Computer equipment is amortized on a straight-line basis over three years. In the year of acquisition, capital assets are amortized at 50% of the annual rate.

(g) Lease inducement:

Lease inducement represents a tenant improvement allowance provided to the Corporation by its lessor. This amount is being repaid on a straight-line basis over the term of the lease and is recorded as an increase in rent expense. The costs associated with these tenant improvements have been capitalized as leasehold improvements and are being amortized over the lesser of the estimated useful lives and the term of the lease.

(h) Use of estimates:

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the year. Amounts subject to significant estimates and assumptions include the carrying value of capital assets, fair value of long-term advances and investments, valuation of accounts receivable and provisions and accruals. Actual results could differ from those estimates.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

2. Adoption of new accounting standards:

Effective April 1, 2008, the Corporation adopted the following new accounting standard issued by the CICA relating to the accounting for and disclosure of capital:

Section 1535, Capital Disclosures, establishes standards for disclosing information about an entity's capital and how it is managed. Under this standard, the Corporation is required to disclose quantitative and qualitative information about its objectives, policies and processes for managing capital.

Adoption of this standard did not require the Corporation to restate prior periods as this new standard has been adopted prospectively. The adoption did require additional note disclosure in note 12.

3. Future accounting standards:

Section 4400, Financial Statement Presentation by Not-for-Profit Organizations:

Recent amendments to Section 4400, Financial Statement Presentation by Non-for-Profit Organizations, will modify the requirements with respect to various elements of financial statement presentation. These amendments include:

- (a) Reporting certain revenue at its gross amounts in the consolidated statement of operations.
- (b) The elimination of the requirement to treat net assets invested in capital assets as a separate component of net assets.
- (c) When a not-for-profit organization classifies its expenses by function and allocates some of its general support costs to another function, disclosing the policy adopted for expenses and amounts allocated from general support costs to other functions.

The new standard applies to consolidated financial statements relating to the fiscal years beginning on or after January 1, 2009. OGI is evaluating the impact of the amendments on its consolidated financial statements.

4. Accounts receivable:

	<u>2009</u>	<u>2008</u>
Grants receivable: Genome Canada	\$ 31,327	\$ -
Goods and services taxes	27,323	68,873
Interest and other	17,072	10,890
	<u>\$ 75,722</u>	<u>\$ 79,763</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

5. Long-term advances and investments:

Pursuant to the commercialization policy of the Corporation, the Corporation invests in genomics-related research where traditional sources of financing are unavailable and the Corporation believes the technology may be of commercial interest in the future. Additional investments of \$100,000 (2008 – nil) were made during the year. This amount includes an interest-bearing, convertible debenture of \$50,000 which is due on February 5, 2011. Investments for which fair value is not determinable are recorded at cost as at March 31, 2009, as the Corporation does not have significant influence over the entities. The investment in a publicly-traded company has a fair value of \$87,095 (2008 – \$119,571) and cost of \$100,000 (2008 – \$100,000). It is recorded at fair value.

6. Capital assets:

			<u>2009</u>	<u>2008</u>
	Cost	Accumulated amortization	Net book value	Net book value
Leasehold improvements	\$ 305,465	\$ 193,159	\$ 112,306	\$ 187,177
Furniture and fixtures	64,957	28,831	36,126	49,118
Computer equipment	36,643	6,107	30,536	–
	<u>\$ 407,065</u>	<u>\$ 228,097</u>	<u>\$ 178,968</u>	<u>\$ 236,295</u>

Pursuant to its move into new premises in 2006, the Corporation made expenditures of \$202,132 on leasehold improvements. The related lease inducement loan of \$90,000 has been recorded as a deferred inducement and is being repaid over the lease term.

7. Accounts payable and accrued liabilities:

	<u>2009</u>	<u>2008</u>
Accrued liabilities	\$ 142,509	\$ 203,728
Accounts payable	131,403	219,772
Vacation accrual	54,727	40,909
	<u>\$ 328,639</u>	<u>\$ 464,409</u>

8. Deferred contributions:

The Corporation receives funding from Genome Canada and other parties to be administrated and distributed in accordance with the related funding agreements.

Deferred contributions related to expenses of future periods represent unspent externally restricted funding, to be used for the purposes of providing funds to eligible recipients and the payment of operating and capital expenditures in future periods.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

8. Deferred contributions (continued):

The changes in the deferred contributions balances are as follows:

	<u>2009</u>	<u>2008</u>
Opening balance	\$186,269,058	\$156,893,280
Contributions received or receivable during the year:		
Genome Canada – Research	23,153,977	24,776,652
Genome Canada – Operations	1,500,470	905,030
Genome Canada – Structural Genomics Consortium	6,252,614	3,594,096
Other	–	100,000
	<u>217,176,119</u>	<u>186,269,058</u>
Amount amortized to revenue	(214,889,027)	(183,645,444)
	<u>\$ 2,287,092</u>	<u>\$ 2,623,614</u>

9. Invested in capital assets:

(a) Invested in capital assets is calculated as follows:

	<u>2009</u>	<u>2008</u>
Capital assets	\$ 178,968	\$ 236,295
Less lease inducement	31,500	49,500
	<u>\$ 147,468</u>	<u>\$ 186,795</u>

(b) Change in net assets invested in capital assets is calculated as follows:

	<u>2009</u>	<u>2008</u>
Excess (deficiency) of revenue over expenses:		
Amortization of deferred lease inducement related to capital assets	\$ 18,000	\$ 18,000
Amortization of capital assets	(93,970)	(72,858)
	<u>\$ (75,970)</u>	<u>\$ (54,858)</u>
Net change in investment in capital assets:		
Capital assets acquired, consisting of computer equipment (2008 – furniture and fixtures)	\$ 36,643	\$ 121,570

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year ended March 31, 2009

10. Related party transactions and balances:

In October 2003, the Corporation acquired the common shares of Genomics Ontario Inc., a for-profit entity which provides an investment vehicle for certain commercialization activities. During the year, an intercompany loan for \$3,000 (2008 – \$1,500) was provided to Genomics Ontario Inc. to fund operations. The loan is non-interest bearing, unsecured and payable on demand. This transaction has been eliminated upon consolidation.

11. Financial instruments:

(a) Interest rate risk:

Interest rate risk arises from interest income on the cash balance. The effect on revenue of an increase or decrease in interest rates is not significant.

(b) Market risk:

Market risk arises from the long-term investment in a publicly-traded company. The exposure is limited to the carrying value of this investment.

It is management's opinion that OGI is not exposed to significant interest rate, market, credit or currency risk arising from financial instruments.

12. Capital disclosures:

The Corporation's current objectives when managing capital are to safeguard the assets and maintain liquidity. The Corporation maintains its liquidity by monitoring actual and projected cash commitments to ensure that it has sufficient liquidity through funding received for operations.

13. Commitments:

(a) Funding:

The Corporation has committed to the following:

		Less amount paid for:		
	Commitments	Expenses incurred	Advances (due to)	Residual commitments
		(000's)		
Competition III	\$ 83,450	\$ 60,017	\$ 403	\$ 23,030
International Consortium Initiatives	30,676	21,966	187	8,523
Platforms	17,853	17,853	(110)	110
Technology Development				
Competition	5,507	2,470	52	2,985
	<u>\$ 137,486</u>	<u>\$ 102,306</u>	<u>\$ 532</u>	<u>\$ 34,648</u>

Year ended March 31, 2009

13. Commitments (continued):

In accordance with an agreement with Genome Canada with regard to financial commitments totalling \$83,449,608 for Competition III, \$17,853,486 for Platforms and \$5,507,011 for Technology Development Competition projects, the Corporation had agreed, among other things, to obtain equivalent financial support from other parties.

Genome Canada has entered into an agreement with the Corporation under which Genome Canada agreed to provide the Corporation with financial contributions up to \$28,453,200 for disbursement to the Structural Genomics Consortium ("SGC") and \$2,013,160 for the International Regulome Consortium ("IRC"), collectively referred to as the International Consortium Initiatives ("ICI"). Under the agreement, the Corporation disburses funds to the project but expenditures are reported directly to Genome Canada; therefore, the Corporation treats these funds as unrestricted and expenses when they are disbursed.

In fiscal 2009, OGI entered into an agreement with Genome Canada regarding the development of the International Barcode of Life ("iBOL") project. Genome Canada agreed to provide up to \$110,000 to fund the development phase of the ICI.

In fiscal 2006, OGI received \$5,000,000 in funding from the Ministry of Research and Innovation. On March 26, 2009, the Government of Ontario announced additional funding of \$5,000,000 for OGI. The terms of the agreement remain to be determined as of the publication date of these consolidated financial statements.

(b) Operating lease:

The Corporation is committed under a five year operating lease for premises as follows:

2010	\$ 204,421
2011	<u>153,316</u>
	<u>\$ 357,737</u>

(c) Support services:

In September 2008, OGI entered into a one-year agreement with the IIO, where IIO would provide accounting support at a cost of \$42,575 (plus GST). The agreement was extended for a one-year period, at a cost of \$30,000 (plus GST).

(d) Educational project:

In March 2009, OGI entered into an agreement with Science North to support an educational project related to genomics, for a total of \$50,000. As of March 31, 2009, OGI's residual commitment was \$30,000.



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CORPORATE INFORMATION

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ANNUAL GENERAL MEETING

September 29, 2009

3:00 pm

Ogilvy Renault LLP

200 Bay St, Suite 3800, Boardroom D

Royal Bank Plaza, South Tower

Toronto, Ontario, Canada



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