

# OCE

ONTARIO CENTRES OF EXCELLENCE

07/08

THE YEAR IN REVIEW

**THE TOMORROW  
BUILDERS**

**WHICH WAY  
TO NEXT?**

**THINKING  
AHEAD**

A YEAR OF  
INNOVATIONS

**THE OPPORTUNITY  
MATRIX**

**+ PLUS**

THE YEAR BY  
NUMBERS



Ontario  
Innovation  
Where Next Happens

oce-ontario.org

Ontario Centres of Excellence (OCE) is an independent, non-profit corporation established in 1987 to encourage, fund and promote commercial innovation in support of high-value jobs, healthy communities, a clean environment and economic prosperity within Ontario and Canada. OCE works through its established network of Centres of Excellence, each with specialized expertise to analyze and assess new and emerging technologies, as well as market need and opportunity within the economy's most important sectors: energy, health, environment, manufacturing, communications and information technology.

Board of Directors

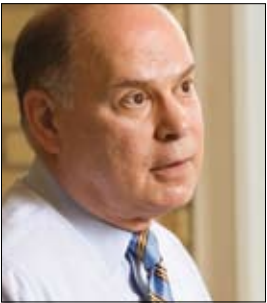
- David J. McFadden, Chair**  
*Partner, Gowling Lafleur Henderson LLP*
- Robert Moses, Vice-Chair**  
*President and CEO, PCI Enterprises Inc.*
- Jeffrey D. Steiner, Secretary**  
*President and CEO, Toronto Economic Development Corporation (TEDCO)*
- Suhayya Abu-Hakima, President and CEO**  
*Amika Mobile Corporation*
- Peter Annan, President**  
*Sensors & Software Inc.*
- Ken Carpenter, President and CEO**  
*Burlington Technologies Inc.*
- Mark Chamberlain, President and CEO**  
*Trivaris Ltd.*
- Sean Conway, Special Advisor to the Principal (External Relations) and Fellow School of Policy Studies, Queen's University**
- Paul D. Guild, Professor**  
*Department of Management Sciences, Faculty of Engineering, University of Waterloo*
- Michael J. Nobrega, President and CEO**  
*OMERS*
- Jim Orgill**
- Gilles G. Patry, Professor and Past President**  
*University of Ottawa*
- Mamdouh Shoukri, President and Vice-Chancellor**  
*York University*
- Ian C.P. Smith, Director General**  
*Institute for Biodiagnostics, National Research Council Canada*
- Kimberly A. Woodhouse, Dean**  
*Faculty of Applied Science, Queen's University*

Executive Team

- Mark Romoff, President and CEO**  
*Ontario Centres of Excellence Inc.*
- William Ballios, Vice President**  
*Finance and Administration*
- David Choat, Vice President**  
*Human Resources*
- Robert Civak, Managing Director**  
*Centre of Excellence for Materials and Manufacturing*
- Ann Holtby, Vice President**  
*Marketing and Communications*
- Bryan Kanarens, Managing Director**  
*Investment Accelerator Fund (IAF)*
- Ron Killeen, Managing Director**  
*Centre of Excellence for Communications and Information Technology*
- Dan McGillivray, Managing Director**  
*Centre of Excellence for Energy*
- Don Wilford, Managing Director**  
*Centre of Excellence for Photonics*
- Douglas Wright, Managing Director**  
*Centre of Excellence for Earth and Environmental Technologies*

CONTENTS

03. LETTER FROM THE CHAIR
04. THE YEAR BY NUMBERS
06. MESSAGE FROM THE PRESIDENT AND CEO
08. WHICH WAY TO NEXT?  
A strategic discussion on the role OCE plays in driving innovation in the province.
12. A YEAR OF INNOVATIONS
13. THINKING AHEAD  
A discussion of OCE's Talent program and the impact it has on Ontario's future innovators.
16. THE TOMORROW BUILDERS  
A showcase of the 38 start-ups OCE participated in last year.
18. THE OPPORTUNITY MATRIX  
Our partners and the role we play in driving innovation in Ontario.
20. IGNITING INNOVATION
22. RENEWING ONTARIO'S ECONOMY  
In its first year, the Investment Accelerator Fund selected two exceptionally promising companies.
22. MARTIN WALMSLEY FELLOWSHIP
23. OCE'S MIND TO MARKET AWARD
24. WHAT'S NEXT FOR ONTARIO?



06.



13.



18.



22.



20.



12.



## LETTER FROM THE CHAIR

The Ontario Centres of Excellence is playing an increasingly important role in the determination of the province's future economic strength and vitality. Over the past year, important elements of Ontario's industrial base, such as the automotive and forestry sectors, have taken major hits from international competition and adverse economic conditions. The economic challenges facing Ontario have put even more focus on the need for innovation in terms of new and improved technologies and know-how, which will enhance Ontario's competitive positioning.

OCE is the leading hothouse for the commercialization of Ontario-developed innovation. OCE works with innovative companies and their partners in universities, colleges and research hospitals and institutions throughout Ontario. 2007-08 has been an excellent year in terms of both ongoing programs and the launch of new initiatives.

As our Annual Report indicates, the core programs in our five Centres of Excellence have achieved excellent results in terms of the number of projects supported and the number of researchers involved in our projects. This combined with the number of start-ups launched through OCE-supported research and the amount of investment attracted to OCE-supported companies demonstrates our established position as a key player in driving the commercialization of research in Ontario.

Our Mind to Market Breakfast Series, showcasing success stories in Ontario's innovation sector, have been sell-outs throughout the year. As well, Discovery 08, Canada's largest innovation forum, was our biggest yet. It constitutes the leading annual showcase of Ontario's innovation activities.

During the past year we also saw the launch of a number of new initiatives. In February, with the Hon. John Wilkinson, Ontario's Minister of Research and Innovation, and the Hon. John Milloy, Minister of Training, Colleges and Universities, we announced six clean-energy technology projects which arose from the \$15 million allocation provided to OCE in the 2007 provincial Budget. These projects involve leading-edge development in solar energy, hydrogen and conservation/demand management. When combined with private sector investment, the six projects lead to a total investment of \$28 million. OCE and its partners are making a significant impact in creating a cleaner, healthier and more energy efficient Ontario.

This past fiscal year OCE also launched the Investment Accelerator Fund with financing provided by the Ministry of Research and Innovation. We announced the first two investments of the fund in the fields of health products and IT/digital media. This fund provides expertise and investment for promising new start-up companies at a critical time in their development cycle. OCE is proud to play a vital role in the early-stage development of these exciting new high-potential additions to Ontario's business community.

The OCE model received national validation when OCE was awarded \$15 million by the Government of Canada to establish a new Centre for Commercialization of Research. For the first time, through this new centre, OCE will play a role on the national stage in the commercialization of Canadian-developed research.

These are merely some of the highlights of the past year. None of this would have been possible without the outstanding efforts of our staff and management team, our Board of Directors and our Boards of Management. On behalf of the Board of Directors, I would like to congratulate President and CEO, Mark Romoff, and the entire OCE team for their excellent work over the past year and the achievements they have been able to obtain.

I would also like to thank the Board of Directors of OCE, which has worked extremely well together to provide both solid governance of the affairs of the corporation as well as hands-on assistance to management and staff in the planning and implementation of a wide variety of OCE activities throughout the year.

Finally, I wish to thank the Ontario government, in particular the Minister of Research and Innovation, the Hon. John Wilkinson, and his Deputy Minister, George Ross, who have been highly supportive of the work of OCE. Their ongoing support and encouragement is very much appreciated.

2007-08 was a very good year for OCE. It has been a singular pleasure to serve as Chair of the Board of Directors and to be part of the OCE story.



David McFadden, Chair, Board of Directors

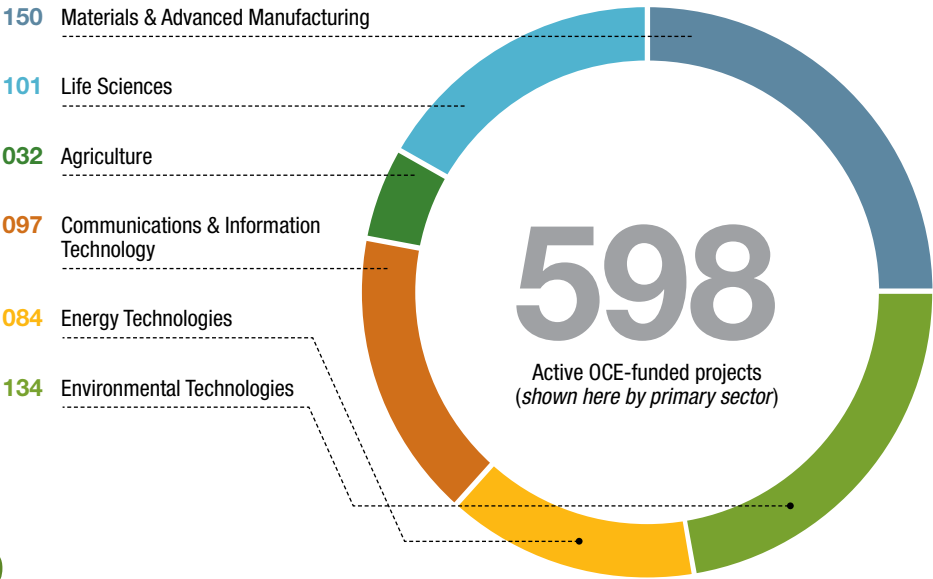
### We see a new Ontario on the horizon.

**What do you see?** Bold new ideas in earth sciences. Breakthroughs in environmental technologies. Advances in photonics and communications that are light years ahead. Innovations as far as the eye can see. They're shaping a new Ontario, spurred on by the Ontario Centres of Excellence. Since 1987, we've been accelerating innovation in our province. Connecting researchers and entrepreneurs. Developing and attracting prime talent. Helping transform amazing discoveries into competitive industries, jobs, and a global reputation for ingenuity. We're making our mark on Ontario—and it's making one on the world. See how the future is taking form at [oce-ontario.org](http://oce-ontario.org).



\$23,997,575

Invested in Research, Commercialization and Talent development



THE YEAR  
BY NUMBERS

38 START-UPS  
New leading-edge companies created through OCE support

100%  
INCREASE OVER LAST YEAR

126  
Number of active firms spun off from OCE

\$450,955,000  
Follow-on investment

SIXTEEN THOUSAND, THREE HUNDRED AND FIFTY TWO  
Participants in OCE events, seminars and educational sessions

\$36,036,185 150%

Total leveraged investment

670  
Research-company connections



INDIVIDUALS WHO ENHANCED THEIR KNOWLEDGE, TRAINING OR SKILLS THROUGH OCE SUPPORT

3,031  
Students and Private sector employees

721  
Researchers and Co-Investigators

1,337  
Individuals who worked on OCE-funded projects and moved into positions within industry



International impact  
SEVENTEEN  
Active international projects supported by OCE

19 Patents granted with support from OCE

119 Patent applications submitted with support from OCE

43 New licenses established

THIRTY-SIX  
Universities / Colleges / Research Hospitals engaged in OCE-supported projects

44%  
INCREASE OVER LAST YEAR

MESSAGE FROM  
THE PRESIDENT  
AND CEO



As the Ontario Centres of Excellence enters its 21st year, we are in a stronger position than ever to drive the commercialization of innovation. Building on our past success with our unique and extensive network of outstanding partners, people and programs, we continue to play a critical role in the future economic prosperity of Ontario.

The year 2007-08 has been as impressive as any in our history. Last year, our \$24 million investment in Research, Commercialization and Talent development programs resulted in \$36 million in further investment — a substantial 150 per cent leverage. We have also doubled the number of start-ups we have fostered over last year, bringing our total to 126 to date. And we have played a proud role in spotlighting leading innovation teams and recognizing them annually through our Mind to Market Award for collaboration between academic researchers and industry partners. This year's recipients were the University of Waterloo and RapidMind — a breakthrough high-tech company that also received a Premier's Catalyst Award in the category of Start-up Company with the Best Innovation. The Premier's Catalyst Awards celebrate and support individuals and companies that best embody Ontario's growing culture of innovation and entrepreneurship.

But there is more to the story of OCE's impact: our own people. They are a key dynamic; their breadth of experience and industry expertise comprises our intellectual property and indeed, our strategic advantage. They have enabled OCE to continue maximizing opportunities for industry and research to come together in the pursuit of new discoveries and business opportunities. As an organization, we continue forming new strategic alliances with other like-minded organizations in all corners of this province, across Canada and around the world to make complex and ambitious projects a reality.

In 2007-08 we built on our heritage of collaborations. OCE supported 598 projects that focused on the province's strengths in the areas of clean technologies, digital media, energy, materials and advanced manufacturing, photonics and biotechnology. Also last year, OCE doubled the number of partnerships it maintains with Ontario's colleges — proof of our continued support to fund promising research underway in Ontario's universities, colleges and research hospitals.

Through our strategic collaborations, we took leadership roles in a number of programs. These include the Auto Champions initiative, which is an OCE-coordinated probe by academic

researchers and industry into new, disruptive technologies for the automotive sector; and our work with IBM and multiple other organizations in developing the Centre of Excellence for Research in Adaptive Systems (CERAS), a virtual organization that will make it easier to develop and evolve software. We also expanded on our existing partnership with the Health Technology Exchange (HTX) in bringing medical technologies to market, through a new joint initiative — the Medical Assisted Technologies Map, an Internet-based roadmap to help Ontario industries improve their market exposure.

OCE has continued to foster the next generation of innovators through a variety of critical initiatives. This year we launched the Ontario Internship Program (OIP) on behalf of the

external government funds, we attracted investment in Atikokan from private sector and government partners. Our Atikokan initiative is a demonstration of OCE's ability to leverage provincial and industrial collaboration, successfully uniting industry players, research faculty and students to build toward a new energy future. Another key domestic initiative launched in 2007-08 is our Investment Accelerator Fund (IAF), which provides high-potential Ontario technology companies with significant early-stage entrepreneurial support and investment capital during their critical time of development and growth. For the full story on our IAF program and the two new companies, Atreo Medical Inc. and Metabacus Inc., who were the first to receive IAF funding, please read "Renewing Ontario's Economy" on page 22.

Last year, our \$24 million investment in Research, Commercialization and Talent development programs resulted in \$36 million in further investment — a substantial 150 per cent leverage.

Ministry of Research and Innovation, with support from industry and partners Vitesse (Re-Skilling) Canada, TECNet and Colleges Ontario Network for Industry Innovation (CONII). The \$1.2 million program will allow OCE to coordinate the strategic placement of highly skilled science and technology graduates with Ontario technology companies. And we're encouraging a passion for science, engineering and technology among grade-school pupils by supporting the Let's Talk Science program, engaging our networks to get involved in science and technology outreach. With programs such as these, OCE is making an impact by filling the pipeline with the next generation of Ontario's technology leaders.

The year 2007-08 also saw significant firsts for OCE, both nationally and internationally. At home, we were instrumental in the development of the Atikokan Bio-energy Research Centre, a new research and educational program in Ontario's north. Managing purely

On the international front, we signed an agreement with International Science and Technology Partnerships Canada (ISTP Canada) and the Canada-Israel Industrial Research and Development Foundation (CIIRDF) to pursue joint research and commercialization programs. Collectively, we are committed to pursuing international science and technology initiatives, leveraging OCE's domestic networks alongside ISTP Canada's and CIIRDF's international relationships in priority economies like China and India. We continue to build on our existing partnerships, and this year we welcomed a representative from Catalonia, Spain to join us for a year to develop opportunities for Ontario companies and researchers in Spain. Both near and far, OCE is expanding Ontario's innovation agenda.

We are pleased to report on the success of our 2008 business development initiatives: Discovery and the Mind to Market Breakfast Series, two key instruments that are advancing the culture of innovation in this province.

Once a year, OCE holds Discovery, Canada's largest innovation forum to pursue opportunities for collaboration. This year's forum, held at the Metro Toronto Convention Centre, attracted 1,500 attendees, a remarkable 15 per cent increase over last year, from private industry, government, investment and research communities. Now in its second year, our Mind to Market Breakfast Series continues to attract sold-out crowds in several locations around Ontario. The series is designed to give a wide range of participants a look at the climate of innovation brewing in Ontario.

With our additional funding and expanded toolkit of programs, we're capable of having an even greater impact on innovation and commercialization in Ontario. I would like to take this opportunity to congratulate all our employees for their many successes over the past year, and thank our Chair, David McFadden, our Board of Directors and Boards of Management — all experts in their fields who bring strategic insight and enormous passion to their roles. The work we do together, now and in the years to come, is having a significant long-term benefit to Ontario's economy, its businesses and its people.

We know that more successes, exciting collaborations and seminal initiatives lay ahead for OCE, many through our new Centre for Commercialization of Research (CCR). The Centre will work with research, industry and investors to ensure that new leading-edge technologies developed in Canada's outstanding universities, colleges and research hospitals reach the global marketplace. Together, we will usher in a new era of innovation led by dynamic young innovators with fresh ideas and bold vision.

*Mark Romoff*

Mark Romoff, President and CEO



# WHICH WAY TO NEXT?

It takes strategic vision and on-the-ground execution to overcome the gaps, roadblocks and uncertainties of bringing fresh ideas to fruition

**It takes strategic vision and on-the-ground expertise to overcome the gaps, roadblocks and impediments in bringing fresh ideas to fruition**



Much like the rest of the world, Ontario is experiencing a period of great change: one marked by economic evolution, soaring commodity prices, currency changes and challenges to traditional industries. In addition, we face increasing international competition from developing nations, particularly India and China. These countries are not content with being providers of low-cost goods and services but are seeking lucrative roles as providers of advanced technologies—an important economic advantage previously the preserve of developed nations. How can Ontario adapt? What options do we have to ensure continued prosperity?

Clearly we need to identify our strengths and then leverage them for assured growth, with knowledge-based products and services beyond the scope of developing countries. Innovation must drive our future. Ideas will ensure our global preeminence and provide us with opportunities not only to compete with developing economies, but to open these emerging markets for our advanced products and services. Places such as Ottawa and Waterloo have become renowned internationally for producing technological innovations that lead to products with household names. It's a fact that 59 per cent of all foreign venture capital flowing into Canada ends up in Ontario. With a stable business environment and a government active in encouraging an innovation culture, this province is well-positioned to become one of the world's great centres of technology entrepreneurship.



We have succeeded at innovation before. Ontario is the nation's leader in digital media and communications and information technology. The province has great promise, especially in fields such as clean energy technologies and the emerging bio-economy, provided it can find the ways and means to build these industries into world-beating, sustainable sectors that supply high-value jobs and profits. The question is how.

The Ontario Centres of Excellence is one of the important instruments in pursuing that sustainable new economy. We support the early-stage development of ideas—bridging the gap in knowledge, expertise and financial support that separates innovations from the marketplace. We have an indispensable vision, collective expertise and the kinds of programs to address the issues that will determine whether intellectual property finds commercial success, regardless of whether it is an idea arising from an industrial need, or one generated in our research institutions.

Between our business development teams we had 598 projects in various stages of development in 2007-08.



► Peat has been used as a form of energy for over 2,000 years. It is used in electricity generating stations and other facilities around the world which require long-term assured supply of environmentally favourable, economically competitive and consistent quality fuel.

Bio-Energy's Northern Frontier

Atikokan, in the province's northwest, is the focus of an important new research and educational bio-energy program. **The Atikokan Bio-energy Research Centre**, established in connection with the Atikokan Generating Station, comprises 29 university professors from seven academic institutions supervising 87 students, 44 of whom aim to eventually find work in the bio-energy sector when they graduate. As a focal point for research and education on the use of biomass for electricity generation, it is supported by \$4 million in seed funding from the Ontario Ministry of Energy, and by 29 partner organizations who are contributing \$4.6 million in cash and in-kind support. OCE's extensive managerial expertise enabled it to take a pivotal role in establishing the Centre's research program, and in developing and demonstrating priorities for the Centre. For the first time, we managed purely external government funds as well as attracting investment from outside private-sector and government partners. The research centre is not only an encouraging step toward a new energy future but it also ensures that northwest Ontario participates in the whole province's technological future. Atikokan stands as an important symbol of OCE's commitment to increasing its presence throughout Ontario's north.

There are plenty of great ideas out there, but not every one works commercially. It takes insight to recognize what can become a new product or service, especially when it comes to ideas that spark industry-changing revolutions. OCE takes great pride in having the people who can spot tomorrow's next great innovations. Our business development teams have a unique combination of scientific, cultural and entrepreneurial expertise. Our people are in the field, combing research labs and industry floors for the next big thing. Many of our business development officers have offices right inside the province's best academic institutions. They are building connections, continuously recalibrating their understanding of the marketplace. Between our teams we had 598 projects in various stages of development in 2007-08. They help innovators to think in terms of commercial possibilities and understand what will attract follow-on investment, the kind that creates high-value jobs.

We bring the separate pieces together, and to help our teams, we equip them with programs that cover three critical areas: Research, Commercialization and Talent. With these tools, our people can optimize research opportunities and match researchers with investors, industrial partners and entrepreneurs. And with our talent initiatives we can help foster a future hybrid generation of innovator-entrepreneurs.

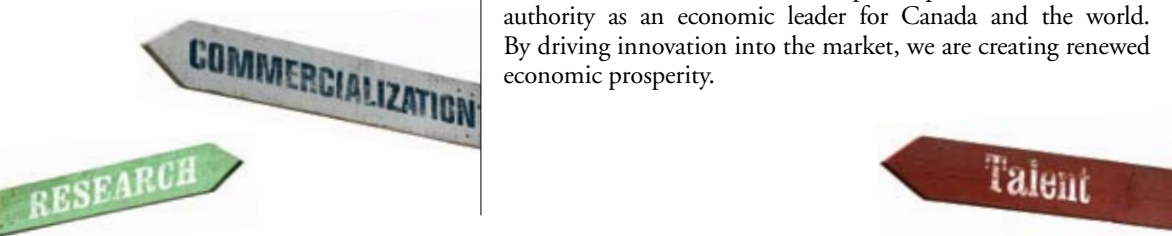


► Farm operations produce billions of tons of organic waste each year which contaminate both the atmosphere and the ground water. Companies such as StormFisher Biogas are now starting to treat this waste as a renewable fuel energy resource.

From Waste To Energy

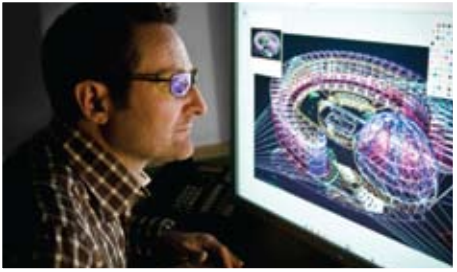
Three Ontario entrepreneurs are turning organic waste material from Ontario's farms and food processing plants into the province's newest biofuel industry. Methane from manure and other organic matter can be converted into biogas offering an even higher energy yield than ethanol, all from waste that most people consider to be unusable. Recognizing the success of the biogas industry in Europe, OCE used its expertise to lay the foundation for the success of **StormFisher Biogas**. OCE invested in early stage research, helped StormFisher develop a solid business model and connected StormFisher with the right talent through its First Job Program. With the right tools behind them, StormFisher began knocking on investors' doors. The response was more than just welcoming. Forming a strategic partnership with a Boston-based private equity firm to develop a \$350 million portfolio of projects, StormFisher is now the leader in North America's biogas sector. Working with Canada's farmers and agri-food industries, StormFisher will construct biogas facilities in London, Guelph and Niagara in 2009. Once at full capacity, these plants will offset the CO<sub>2</sub> equivalent of 26,000 cars per year and create ten direct full time jobs in rural areas, as well as indirect jobs in transportation and waste handling services.

We invested in the work of 721 researchers and co-investigators and 3,031 students and private sector employees worked on OCE-funded projects.



Illuminating Ideas

Voted by the Ottawa Business Journal as one of the start-ups to watch in 2008, **Group IV Semiconductor** is a solid-state lighting company with the potential to save almost a trillion kWh of electricity per year and eliminate 200 million tons of carbon emissions. Lighting is a \$12B global industry—these numbers make a compelling business case for Group IV's objective of selling high-efficiency, solid-state light-engines for use by lamp manufacturers in products for commercial and consumer use. Solid-state devices don't 'burn-out', so they have the potential to transform the lighting industry—no more replacing light bulbs; fixtures will be made with more imagination and embedded with light-engines that last a lifetime. Supported by OCE, Group IV and a team at McMaster University set out to develop the rare-earth-doped, silicon nano-crystal thin films that are the core of the technology. The success of the collaboration attracted early support from the Business Development Bank of Canada, Sustainable Development Technology Canada, EnCana Environmental Innovation Fund and IRAP, in addition to several private sector investors.



Getting Your Rhythm Back

Fatigue, stress, sleep disorders, depression—just some of the health effects risked by overnight shift workers due to interruptions in their daily biological cycles known as circadian rhythm. Enter **Zircadium Corp.** of Ottawa, creators of eyewear with a special filtering lens that blocks the low-wavelength light responsible for abnormalities in the production of the sleep and stress-related hormones cortisol and melatonin. (Chronic melatonin deficiencies have also been linked to certain types of cancers.) Through its Interact initiative, OCE supported Zircadium's research in determining the optimal spectral-filter cut-off wavelength the lenses required. Zircadium then received additional OCE support—a Market Readiness plan that included assistance in validating the technology through field tests as well as help in corporate start-up procedures. Further OCE involvement teamed Zircadium with **Opalux Inc.**, another OCE-supported start-up, to collaborate on developing low-wavelength blocker coatings for lights. With investment interest growing, we're proud to have brought a range of support tools to help Zircadium shine.

The following OCE research and commercialization programs serve to help innovative ideas evolve into successful business enterprises:

**The Interact** initiative is designed to initiate new industry-academic interactions that create collaborative research partnerships between industry and Ontario universities, colleges and research hospitals.

**The Proof of Concept** initiative supports feasibility studies that test an idea to mitigate the risk of further research investments. These short-term, narrowly focused projects are collaborative in nature, involving industry partner(s) and Ontario universities, colleges and research hospitals.

**The Champions of Innovation** initiative supports research and development of disruptive technologies that have the potential to create new markets and to provide the basis for new start-up companies.

**The Collaborative Research** initiative is designed to promote and harness innovative research partnerships between industry and Ontario universities, colleges and research hospitals.

**The Market Readiness** program is designed to support the development of commercial applications for technology created within Ontario's universities, colleges and research hospitals. The goal of the initiative is to further develop technology for the next stage of commercialization—the transfer to an existing company or the creation of a new enterprise.

**The Martin Walmsley Fellowship for Technological Entrepreneurship** is designed to support an academic innovator who is working to transfer technology developed with the support of OCE into a new technologically innovative business venture. The Fellowship honours the vision of Dr. Martin Walmsley in developing programs including the Ontario Centres of Excellence dedicated to stimulating research and development leading to wealth creation in areas strategic to Ontario.

# a year of innovations

For more than twenty years, OCE has supported the development of many innovations. In 2007-08, we were pleased to help even more of Ontario's ideas come to fruition. We've chosen to highlight a few technologies based on their commercial potential for both their respective industries as well as Ontario's communities. These are a few examples of the year's most interesting innovations.

**Optomem Sensors Inc.**

When it comes to sensing for potentially dangerous gases, most gas-detection systems require multiple sensors, one for each kind of gas. The University of Toronto researchers behind Optomem have created the industry's first miniature sensor on a silicon wafer, capable of detecting more than one gas, thanks to spectral fingerprint analysis. This permits a device that is small enough to fit in cell phones, thermostats or cars, providing information on the air we breathe.



**Sentinel Bioactive Paper Network**

Imagine paper towels that immediately signal contamination on kitchen counters, strips of paper that remove pathogens from water while confirming that the water is safe to drink, and medical masks that actively remove viruses. Sentinel Bioactive Paper Network is developing innovative, high value-added paper and packaging products that will detect, capture and deactivate water and airborne pathogens.



**GreenCore Composites Inc.**

This University of Toronto spin-off has developed bio-based composites for use in the automotive and toy manufacturing industries. By replacing petroleum-based materials and glass fibres with sustainable natural fibres and/or biopolymers, Green Inside™ pellets offer environmental benefits while more than doubling the strength of the base polymer.

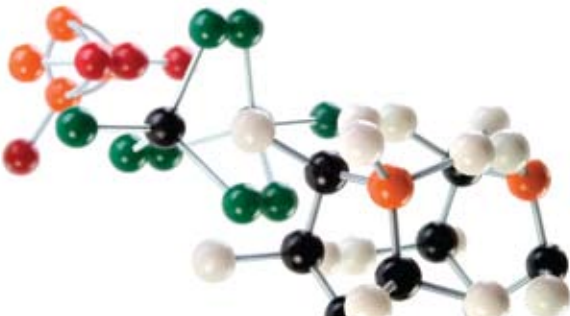
**eSight Corp.**

For people whose vision is deteriorating because of retinal diseases such as macular degeneration and glaucoma, eSight holds the potential to dramatically improve their quality of life. The company has created wearable display technology that helps previously untreatable patients using several technologies: photonics, digital-image capture and state-of-the-art display hardware.



**Northern Nanotechnologies Inc.**

Nanotechnology holds promise for a vast new palette of microscopic industrial materials that can be used in glass, paints, chemical manufacturing and consumer products. However, providing nanomaterials reliably, economically and safely in a way that is readily integrated into common production processes is essential if they are to find an ongoing role in industry. Northern Nano has created patented technology that fills this gap, ensuring safe and timely delivery of stable, cost-effective and customized materials.



**Menova Energy Inc.**

With industrial, commercial and institutional buildings in mind Menova Energy Inc. has developed an innovative way to use solar energy. The Power-Spar® Solar Concentrator can convert the sun's energy to electricity and heat, or can provide light to a building's interior. This technology is poised to reduce typical energy bills by up to 60 per cent with zero gas emissions.



**C2C Link Corp.**

Researchers working at McMaster University have developed an optical chip that converts laser light from one wavelength to another at a cost that's significantly lower than competing systems. With a total addressable market of more than \$1 billion within four years, the innovation could have widespread uses in a variety of industrial sectors, including consumer electronics. Its huge potential — consumer laser-TV, digital projection and display OEMs — have lauded it as best in class.



[Click here to review Financial Statements later](#)

# FINANCIAL STATEMENTS OF ONTARIO CENTRES OF EXCELLENCE INC.

## YEAR ENDED MARCH 31, 2008





Ontario Centres of Excellence (OCE) is an independent, non-profit corporation established in 1987 to encourage, fund and promote commercial innovation in support of high-value jobs, healthy communities, a clean environment and economic prosperity within Ontario and Canada. OCE works through its established network of Centres of Excellence, each with specialized expertise to analyze and assess new and emerging technologies, as well as market need and opportunity within the economy’s most important sectors: energy, health, environment, manufacturing, communications and information technology.

# AUDITORS’ REPORT

June 25, 2008

To the Members of Ontario Centres of Excellence Inc.

We have audited the balance sheet of Ontario Centres of Excellence Inc. as at March 31, 2008 and the statements of operations, changes in fund balances 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, 2008 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

*PricewaterhouseCoopers LLP*

Chartered Accountants, Licensed Public Accountants

PricewaterhouseCoopers refers to the Canadian firm of PricewaterhouseCoopers LLP and the other member firms of PricewaterhouseCoopers International Limited, each of which is a separate and independent legal entity.



BALANCE SHEET

As at March 31, 2008

	2008	2007
	\$	\$

Assets

Current assets		
Cash and cash equivalents	37,993,982	27,525,595
Accounts receivable	1,235,094	1,437,536
Grants receivable (note 3)	1,360,004	9,941,340
Prepaid expenses	158,937	47,072
	40,748,017	38,951,543
Loans receivable (note 4)	9	12
Investments (note 5)	106,175	8,064
Property and equipment (note 6)	508,808	624,337
	41,363,009	39,583,956

Liabilities

Current liabilities		
Accounts payable and accrued liabilities	12,311,137	11,816,845
Deferred grants and contributions (note 7)	10,342,614	5,363,739
	22,653,751	17,180,584
Long-term deferred grants and contributions (note 7)	9,975,025	15,000,000
Deferred lease obligations (note 9)	122,007	155,977
	32,750,783	32,336,561

Fund Balances

Invested in property and equipment	508,808	624,337
Unrestricted	8,103,418	6,623,058
	8,612,226	7,247,395
	41,363,009	39,583,956

Commitments and contingency (note 10)

Approved by the Board of Directors

 Director

 Director

STATEMENT OF CHANGES  
IN FUND BALANCES

For the year ended March 31, 2008

	2008	2007
--	------	------

	Invested in property and equipment \$	Unrestricted \$	Total \$	Total \$
--	--	--------------------	-------------	-------------

Fund balances - Beginning of year	624,337	6,623,058	7,247,395	5,325,500
Adjustment as a result of adopting fair value recognition of financial instruments (note 1)	-	115,685	115,685	-
Adjusted fund balances - Beginning of year	624,337	6,738,743	7,363,080	5,325,500
Excess of revenue over expenses for the year	-	1,281,400	1,281,400	1,921,895
Amortization for the year	(310,006)	310,006	-	-
Additions to property and equipment	194,477	(194,477)	-	-
Unrealized loss on investments	-	(32,254)	(32,254)	-
Fund balances - End of year	508,808	8,103,418	8,612,226	7,247,395



STATEMENT OF OPERATIONS

For the year ended March 31, 2008

2008

2007

Joint projects *(note 8)*

	General Fund	Emerging Materials Knowledge Program	Advanced Design and Manufacturing Institute	Centre for Micro-electronics Assembly and Packaging	Advanced Learning in Photonics for Manufacturing and Biotechnology Applications	Investment Accelerator Fund	Ontario Internship Program	Bio-Energy Research Centre	Total	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

Revenue

Grant	33,700,340	-	-	-	-	-	-	-	33,700,340	33,414,182
Industry contributions	2,793,268	320,556	-	35,000	-	-	-	-	3,148,824	2,657,234
Other government contributions	24,975	1,388,130	-	415,239	179,713	605,148	163,729	1,004,770	3,781,704	2,170,909
In-kind equipment contributions	-	-	-	-	23,625	-	-	-	23,625	110,307
Other	1,396,930	33,805	213,341	13,696	1,951	-	476	30,593	1,690,792	2,560,645
	37,915,513	1,742,491	213,341	463,935	205,289	605,148	164,205	1,035,363	42,345,285	40,913,277

Expenses

Program expenditures										
Research	17,538,507	1,631,061	-	384,499	-	-	-	846,741	20,400,808	21,026,569
Talent	2,233,843	-	58,864	-	83,625	-	133,612	1,021	2,510,965	1,857,201
Events and sponsorships	1,016,782	-	-	-	-	-	-	-	1,016,782	847,299
Commercialization	4,294,511	-	-	-	-	-	-	28,505	4,323,016	3,542,301
	25,083,643	1,631,061	58,864	384,499	83,625	-	133,612	876,267	28,251,571	27,273,370
Program development	6,988,946	111,430	154,477	79,436	121,664	605,148	30,593	134,016	8,225,710	7,191,122
Program support and administration	4,561,524	-	-	-	-	-	-	25,080	4,586,604	4,526,890
	36,634,113	1,742,491	213,341	463,935	205,289	605,148	164,205	1,035,363	41,063,885	38,991,382

Excess of revenue over expenses for the year

1,281,400	-	-	-	-	-	-	-	-	1,281,400	1,921,895
-----------	---	---	---	---	---	---	---	---	-----------	-----------



# STATEMENT OF CASH FLOWS

For the year ended March 31, 2008

	2008	2007
	\$	\$
Cash provided by (used in)		
Operating activities		
Excess of revenue over expenses for the year	1,281,400	1,921,895
Items not involving cash		
Amortization of property and equipment	310,006	263,596
Amortization of deferred lease obligations	(33,970)	(42,331)
Writedown of loans receivable	175,003	999,996
Gain on sale of marketable securities	(56,483)	(1,696,742)
Changes in non-cash operating working capital		
Accounts receivable	202,442	(445,004)
Grants receivable	8,581,336	1,238,878
Prepaid expenses	(111,865)	(9,500)
Accounts payable and accrued liabilities	494,292	(3,415,557)
Deferred grants and contributions	(46,100)	17,915,556
	10,796,061	16,730,787
Investing activities		
Purchase of property and equipment	(194,477)	(358,063)
Proceeds on sale of marketable securities	41,803	1,771,643
Increase in loans receivable	(175,000)	(1,000,000)
	(327,674)	413,580
Increase in cash and cash equivalents during the year	10,468,387	17,144,367
Cash and cash equivalents - Beginning of year	27,525,595	10,381,228
Cash and cash equivalents - End of year	37,993,982	27,525,595

# NOTES TO FINANCIAL STATEMENTS

March 31, 2008

Ontario Centres of Excellence Inc. (OCE) was incorporated under the Corporations Act (Ontario) on July 3, 2003, as a not-for-profit corporation without share capital. OCE’s principal objectives are to stimulate, promote, foster, sponsor and direct fundamental and applied research in support of the changing needs of, and challenges faced by, Ontario industries; facilitate the training and education of researchers, scholars, scientists and engineers in areas relevant to Ontario industries; and facilitate transfer, sharing and diffusion of learning, knowledge and technology between Ontario universities and industries.

## 1 Change in accounting policies

On April 1, 2007, OCE adopted Section 1506, Accounting Changes, of The Canadian Institute of Chartered Accountants (CICA) Handbook, which prescribes the criteria for changing accounting policies, together with the accounting treatment and disclosure of changes in accounting policies, changes in accounting estimates and the correction of errors. This standard did not affect OCE’s financial position or results of operations.

As required by the CICA, on April 1, 2007, OCE adopted CICA Handbook Section 3855, Financial Instruments – Recognition and Measurement, and Section 3861, Financial Instruments – Disclosure and Presentation. The new standards were applied retrospectively without restatement that resulted in changes in the accounting and presentation for financial instruments as well as the recognition of certain transition adjustments that have been recorded in the opening statement of operations.

In accordance with the provisions of these new standards, OCE reflected an adjustment at April 1, 2007 to increase investments and unrestricted fund balances by \$115,685, in order to reflect investments at fair market value.

### Future changes in accounting policies

The CICA issued three new accounting standards: Section 1535, Capital Disclosures; Section 3862, Financial Instruments – Disclosures; and Section 3863, Financial Instruments – Presentation.

- Section 1535 establishes disclosure requirements about an entity’s fund balances and how they are managed. The purpose will be to enable users of the financial statements to evaluate objectives, policies and processes for managing fund balances.
- Sections 3862 and 3863 will replace Section 3861, Financial Instruments – Disclosure and Presentation, revising and enhancing disclosure requirements while carrying forward its presentation requirements. These new sections will place increased emphasis on disclosure about the nature and extent of risks arising from financial instruments and how the entity manages those risks.

OCE will adopt these sections effective April 1, 2008.

2 Summary of significant accounting policies

The accounting principles of OCE conform to accounting principles generally accepted for not-for-profit organizations. Significant accounting policies adopted by OCE are summarized as follows:

**Revenue recognition**  
OCE funds various research projects and activities out of funds received as grant revenue from The Ministry of Research and Innovation (MRI) and from industry and other contributions. OCE follows the deferral method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Expenses are first applied against MRI grant revenue based on budgeted project costs. Contributions for the purchase of property and equipment are deferred and amortized into revenue on a straight-line basis at a rate corresponding with the amortization rate for the related property and equipment. 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.

Interest income from loans receivable is recorded on a cash basis. This is due to the uncertainty of the future performance and viability of the companies to which such loans have been issued.

Interest from short-term investments is recorded on an accrual basis, with amounts being recorded in the period in which they are earned.

In-kind equipment donations are valued at their estimated fair value based on the information obtained from an independent appraiser. In accordance with the agreements for the joint projects, all equipment donated to the projects is the property of the universities. Therefore, in-kind equipment donations are recorded as a period expense.

**Unrestricted fund balances**  
Unrestricted funds represent accumulated income (net) from other than government grants and industry contributions and include interest income and income from other miscellaneous sources. The unrestricted funds are dedicated to OCE's ongoing programs.

**Cash and cash equivalents**  
OCE considers all highly liquid investments with a remaining maturity of three months or less at the time of purchase to be cash and cash equivalents. These cash and cash equivalents consist primarily of interest bearing deposits. Investments with maturities from greater than three months to one year are classified as short-term investments. Cash and cash equivalents and short-term investments are stated at cost, which approximates fair value.

**Loans receivable**  
Loans receivable, including interest accrued, are carried at a nominal value due to the uncertainty in the future performance and viability of the underlying companies. An allowance against face value recognizes this uncertainty. Any funds that are collected as repayment of the principal or interest are recognized as an offset to program expenditures at the time of the repayment.

**Investments**  
Investments are recorded at fair value. OCE receives shares of non-affiliated companies, representing either a recovery of OCE costs associated with a research project, or compensation to OCE under Technology Licensing Agreements concluded with such companies. These investments are in companies in which OCE has neither the control nor the ability to exercise significant influence. They are recorded at nominal amounts due to the uncertainty in the future performance and viability of the underlying companies. Subsequent investments in non-affiliated companies as a result of rights granted to OCE are recorded at the lower of cost and market value. Proceeds from the sale of the investments are recognized as revenue at the time the investments are sold.

**Property and equipment**  
Purchased property and equipment for use by OCE are recorded at cost. Amortization is provided on a straight-line basis over their estimated useful lives as follows:

Computer equipment	3 years
Furniture and fixtures	5 years
Leasehold improvements	term of lease

In accordance with the agreements with the universities, all research equipment purchased with OCE funds is the property of the university making the purchase. Therefore, research equipment purchased is recorded as a period expense.

**Deferred lease obligations**  
Deferred lease obligations, including deferred lease inducements, are being amortized on a straight-line basis over the term of the lease as a charge to lease expense.

**Financial instruments**  
OCE utilizes various financial instruments. Unless otherwise noted, it is management's opinion that OCE is not exposed to significant interest, currency or credit risks arising from these financial instruments.

Investments are classified as available-for-sale and are recorded at fair value. Fair values are determined using listed market values. For other financial instruments, including cash and cash equivalents, accounts receivable, grants receivable and accounts payable and accrued liabilities approximates their respective fair market values because of their short term to realization or maturity.

The fair values of loans receivable and investments in non-public entities are not practicable to determine due to a lack of available comparable market information.

**Income taxes**  
OCE is a not-for-profit organization under the Income Tax Act (Canada) and, accordingly, is exempt from income taxes under Section 149(l)(i) of the Income Tax Act (Canada).

**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 the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.



3 Grants receivable

Grants receivable as at March 31 consist of the following amounts:

	2008	2007
	\$	\$
MRI		
General	-	8,575,000
Joint projects	592,489	344,000
Ontario Research and Development		
Challenge Fund (ORDCF) - joint projects	767,515	1,022,340
	1,360,004	9,941,340

4 Loans receivable

Loans receivable are convertible secured debentures bearing interest at the prime lending rate set by HSBC Bank Canada plus 1% per annum, calculated daily, with a maturity date three years from the date of the agreement. The principal and interest can be repaid at any time. In the event of financing in excess of \$500,000, the outstanding loans and interest shall be converted into common shares as per the terms of the debenture agreement.

OCE has assigned a nominal value of \$1 to each loan held, since the loans were made to start-up companies and the likelihood of repayment is considered low. During the current year, the loans provided for two companies were converted into equity of these companies and were appropriately reflected in the investment balance.

5 Investments

	2008		2007	
	Cost \$	Market Value \$	Cost \$	Market Value \$
Common stocks and equivalents	22,708	106,175	8,064	123,749
			\$	
Cumulative unrealized gain - Beginning of year			115,685	
Adjustment for the unrealized loss on investments			(32,254)	
Cumulative unrealized gain - End of year			83,431	

Occasionally, OCE receives shares of non-affiliated companies, representing full or partial compensation to OCE under Technology Licensing Agreements concluded with such companies. OCE has investments in three public companies and 36 private companies as at March 31, 2008.

6 Property and equipment

	2008		
	Cost \$	Accumulated amortization \$	Net \$
Computer equipment	864,510	677,895	186,615
Furniture and fixtures	586,032	526,961	59,071
Leasehold improvements	444,649	181,527	263,122
	1,895,191	1,386,383	508,808

	2007		
	Cost \$	Accumulated amortization \$	Net \$
Computer equipment	715,443	544,382	171,061
Furniture and fixtures	583,449	392,428	191,021
Leasehold improvements	401,822	139,567	262,255
	1,700,714	1,076,377	624,337

7 Deferred grants and contributions

Deferred grant revenue represents unspent government funds from MRI, which represents funding received during the current year that is related to a subsequent year’s operations.

Deferred industry contributions include committed, but unspent, industry funds, which are for externally restricted operations representing funding received or receivable during the current year that is related to subsequent years’ operations.

Deferred other contributions include committed but unspent government and other funds, which are restricted for the joint university and college projects representing funding received during the current year that is related to subsequent years’ operations.

	2008				
	Deferred grant revenue \$	Deferred energy fund \$	Deferred industry contributions \$	Deferred other contributions \$	Total \$
Deferred revenues - Beginning of year	1,798,341	15,000,000	1,791,164	1,774,234	20,363,739
Contributions received	34,300,000	-	3,225,323	3,376,932	40,902,255
Amounts recognized as revenue	(33,700,340)	(24,975)	(2,793,268)	(4,429,772)	(41,118,725)
Deferred revenues - End of year	2,398,001	14,975,025	2,223,219	721,394	20,317,639
Current portion	2,398,001	5,000,000	2,223,219	721,394	10,342,614
Long-term portion	-	9,975,025	-	-	9,975,025
	2,398,001	14,975,025	2,223,219	721,394	20,317,639

	2007				
	Deferred grant revenue \$	Deferred energy fund \$	Deferred industry contributions \$	Deferred other contributions \$	Total \$
Deferred revenues - Beginning of year	912,523	-	1,444,877	90,783	2,448,183
Contributions received	34,300,000	15,000,000	2,630,317	5,071,090	57,001,407
Amounts recognized as revenue	(33,414,182)	-	(2,284,030)	(3,387,639)	(39,085,851)
Deferred revenues - End of year	1,798,341	15,000,000	1,791,164	1,774,234	20,363,739
Current portion	1,798,341	-	1,791,164	1,774,234	5,363,739
Long-term portion	-	15,000,000	-	-	15,000,000
	1,798,341	15,000,000	1,791,164	1,774,234	20,363,739

8 Joint university and college projects

**Emerging Materials Knowledge Program (EMK)**  
EMK operates as a joint university and industry consortium for leading edge research in the field of emerging materials.

OCE has an agreement with the Province of Ontario (the province), whereby the province, through the ORDCEF program will provide funds not to exceed \$6,864,000 over a five-year period ending March 31, 2007. The EMK network currently consists of OCE, nine Ontario universities and nine companies dedicated to realizing the commercial potential of emerging materials. This program was extended to December 31, 2008.

Financial support totalling \$2.5 million from sources other than provincial grants has been committed from OCE to the EMK program commencing April 1, 2002. The support was provided over five years in equal amounts of \$500,000 ending March 31, 2007.

**Advanced Design and Manufacturing Institute (ADMI)**  
ADMI is an organization created through the partnership of five leading Ontario universities and OCE. ADMI assists these universities and industry to pool key academic and industrial resources to offer a program leading to a Masters Degree in Engineering, Design, Manufacturing and Management. Funding for the organization is provided partly by the participating organizations, and the remainder is generated via course fees.

**Centre for Microelectronics Assembly and Packaging (CMAP)**  
Effective August 1, 2003, OCE, on behalf of CMAP, assumed from the University of Toronto the role of administrative institution. The original contract with ORDCEF was from August 1, 1999 to December 31, 2004 with total funds not to exceed \$3,598,672. OCE received approval to extend the project to January 31, 2007 under the same funding terms. Another extension to December 31, 2007 was received in 2006. CMAP operates as a joint university/industry consortium. The network currently consists of OCE, three Ontario universities and five companies.

**Advanced Learning in Photonics for Manufacturing and Biotechnology Applications (PAL)**  
Effective November 13, 2003, a collaborative partnership was created between OCE, Niagara, Algonquin and the province. The province, represented by MRI, will provide funds not to exceed \$2,660,325 over a five-year period. Niagara, Algonquin and OCE are collectively responsible for the establishment, management and operation of PAL, which will provide training opportunities for photonics related skills in Ontario.

OCE is to receive funds from MRI on behalf of PAL and distribute these funds to the partners. As of March 31, 2008, an outstanding installment of \$185,000 has been accrued as receivable and \$60,000 has been accrued as a liability to the partners.

Donations of equipment initiated by OCE for the PAL program are recorded in the financial statements.

**Investment Accelerator Fund**  
MRI established the Market Readiness Program (MRP) to help increase the skills of Ontario entrepreneurs involved with innovative, technology-based companies and to help provide pre-seed capital investments to the most promising of these companies.

The MRP has two distinct components. The Investment Accelerator Fund (IAF) and The Business Mentorship and Entrepreneurship Program (BMEP). OCE has agreed to deliver the IAF program. The total funds ear-marked for IAF is \$27.5 million with a completion date of March 31, 2011.



Ontario Internship Program

The MRI has established the Ontario Internship Program (OIP) by entering into an agreement with OCE dated July 16, 2007. The goal of the OIP is to place capable individuals in new positions, help grow technology-based industries, enable the commercialization of new technologies to market and foster linkages between industry and academic institutions.

The maximum funding from MRI will be \$1.2 million during the term of the agreement. The program is expected to end on November 30, 2009.

Bio-Energy Research Centre (Atikokan)

Effective April 1, 2006, the Ministry of Energy established a new Bio-Energy Research Centre linked to the Atikokan Generating Station to encourage and fund research, development and demonstration relating to bio-energy with a focus on co-firing bio-energy sources with coal.

OCE is to receive funds from the Ministry of Energy in order to establish, manage and coordinate the research and development program of Atikokan within the governance structure of OCE. The duration of the program is from April 1, 2006 to March 31, 2009 with total funding of \$4,000,000.

9 Deferred lease obligations

Deferred lease obligations represent escalating lease payments and the value of the benefits obtained by OCE as a result of a rent-free period and leasehold inducements made by the lessor as inducements to enter into a long-term lease agreement.

The components of deferred lease obligations are as follows:

	2008	2007
	\$	\$
Leasehold inducements	165,480	165,480
Rent-free period and escalating lease payments	66,847	67,721
	232,327	233,201
Less: Accumulated amortization	110,320	77,224
	122,007	155,977

10 Commitments and contingency

- a) Future minimum lease payments under operating leases are as follows:

	\$
2009	434,444
2010	451,128
2011	432,515
2012	372,101
2013	348,762
	2,038,950

- b) OCE receives funding from MRI. The agreement with MRI states that these funds be placed in an interest bearing account and that all interest earned on these funds shall be used only for the purposes authorized by MRI. Based on a verbal agreement with MRI, OCE has not deferred these funds, but rather taken them into income as earned, applying the income against program expenditures.
- c) The company is party to legal claims that have arisen in the ordinary course of business. At the present time, the outcome of these claims is not determinable. The company believes these claims are without merit and will vigorously defend itself in each of these actions. Any material settlement arising from the final resolution of these claims would be treated as a charge to earnings in the year of settlement.

11 Pension plan

OCE operates a defined contribution pension plan. The assets of the plan are held separately from those of OCE in an independently administered fund. The pension expense is equal to the contributions paid by OCE.

The contributions paid and expensed by OCE for the year amounted to \$308,155 (2007 — \$303,151).

12 Comparative figures

Comparative figures have been reclassified to conform to the presentation adopted in the current year.

BOARD OF DIRECTORS AND  
EXECUTIVE TEAM

Board of Directors

David J. McFadden, *Chair*  
*Partner, Gowling Lafleur Henderson LLP*

Robert Moses, *Vice-Chair*  
*President and CEO*  
*PCI Enterprises Inc.*

Jeffrey D. Steiner, *Secretary*  
*President and CEO*  
*Toronto Economic Development Corporation (TEDCO)*

Suhayya Abu-Hakima, *President and CEO*  
*Amika Mobile Corporation*

Peter Annan, *President*  
*Sensors & Software Inc.*

Ken Carpenter, *President and CEO*  
*Burlington Technologies Inc.*

Mark Chamberlain, *President and CEO*  
*Trivaris Ltd.*

Sean Conway, *Special Advisor to the Principal*  
*(External Relations) and Fellow, School of Policy Studies*  
*Queen's University*

Paul D. Guild, *Professor*  
*Department of Management Sciences, Faculty of Engineering*  
*University of Waterloo*

Michael J. Nobrega, *President and CEO*  
*OMERS*

Jim Orgill

Gilles G. Patry, *Professor and Past President*  
*University of Ottawa*

Mamdouh Shoukri, *President and Vice-Chancellor*  
*York University*

Ian C.P. Smith, *Director General*  
*Institute for Biodiagnostics*  
*National Research Council Canada*

Kimberly A. Woodhouse, *Dean*  
*Faculty of Applied Science*  
*Queen's University*

Executive Team

Mark Romoff, *President and CEO*  
*Ontario Centres of Excellence Inc.*

William Ballios, *Vice President*  
*Finance and Administration*

David Choat, *Vice President*  
*Human Resources*

Robert Cihak, *Managing Director*  
*Centre of Excellence for Materials and Manufacturing*

Ann Holtby, *Vice President*  
*Marketing and Communications*

Bryan Kanarens, *Managing Director*  
*Investment Accelerator Fund (IAF)*

Ron Killeen, *Managing Director*  
*Centre of Excellence for Communications and Information Technology*

Dan McGillivray, *Managing Director*  
*Centre of Excellence for Energy*

Don Wilford, *Managing Director*  
*Centre of Excellence for Photonics*

Douglas Wright, *Managing Director*  
*Centre of Excellence for Earth and*  
*Environmental Technologies*



oce-ontario.org | info@oce-ontario.org | Toll Free: 1.866.759.6014



# THINKING AHEAD

## Launching the next generation of innovators

Hossein Rahnama left Canada for a few months to study in Sweden and returned home with a superb opportunity — a new research lab. A computer-engineering graduate student at Ryerson University, Rahnama has done extensive work in context-aware social networks, part of a discipline known as context awareness. Context awareness enables devices to be aware of their surroundings, to provide pertinent information, and even to make assumptions about a user’s circumstances. One of his innovations was matchmaker software for mobile devices such as cell phones. When users input personal information, the program searches for matches within a geographical area, in real time.

Photography: Gerald Allan





To take his research to the next level, Rahnama really needed to spend four months studying in Sweden, where similar, advanced research has been going on. With an International Scholarship from OCE, Rahnama was able to work with Appear Networks, a Swedish software company. His research there led to software that can help disabled travelers navigate their way through public transit. Appear was so encouraged by its experience with Rahnama that in June 2008, it turned to Ryerson's Ubiquitous and Pervasive Computing Lab to pursue a strategic partnership for researching mobile software products. During the announcement, Appear's CEO and co-founder, Xavier Aubrey, said: "OCE played a key role in establishing this important partnership that is the cornerstone of our North American expansion strategy. We believe Ontario is a great place to start."

While not every experience in education has such immediate and tangible rewards for students, industry and the province, the value of investing in education is clear. The Software Human Resources Council, a non-profit body that monitors the Canadian IT sector, recently released the results of a study that shows the kinds of numbers Canada needs to keep thriving. The information and communications technology sector alone will require 35,000 new workers in 2008 and by 2012 it will need another 89,000. Ontario needs students with both



**Brain boost** Ryerson University computer-engineering graduate student Hossein Rahnama.

Ontario needs students with both scientific backgrounds and an understanding of how to commercialize the discoveries they make.

scientific backgrounds and an understanding of how to commercialize the discoveries they make. As well, they need the opportunity to network with the real world of industry so they can apply technical knowledge in commercially practical ways.

OCE's talent strategy is designed to help people like Hossein Rahnama and those thousands of other bright minds. With an investment of \$2.2 million last year, our strategy consists of a number of initiatives and strategic partnerships that help students and young innovators at various stages of their development. OCE's initiatives include helping student researchers learn and refine their business skills; apply their expertise to real-world problems; provide opportunities to conduct research for the private sector and present research to industry peers. We work with Ontario's universities and colleges and through our strategic partnerships with Let's Talk Science and Shad Valley, we complement our programs by partnering with organizations that promote science and technology throughout the education life cycle.

No one organization can solve the looming demand issues facing the province, but coordinated programs such as those that OCE is involved with can make a difference. OCE has a mandate to inform, encourage and enable Ontario's next generation of innovators.

6 EXAMPLES OF HOW OCE IS HELPING OUR YOUNG INNOVATORS

50 NEW STUDENTS, 24 NEW COMPANIES

To train the next generation of entrepreneurs, the University of Waterloo worked with OCE to develop the Centre for Business, Entrepreneurship and Technology (CBET). Developed with an investment from OCE, CBET offers a masters degree in technology entrepreneurship, a 12-month program intended to provide business skills for researchers looking to move ideas to market. The centre's work has already yielded significant results: 50 graduates have gone on to start up 24 companies, thanks to their training at CBET. One of those companies is LimeStyle Productions – a start-up based in Mississauga, Ontario, created by CBET graduate Jordan Monaghan and his partner Kevin Lane. LimeStyle was awarded the 2007 Entrepreneur(s) of the Year Award by the Mississauga Board of Trade. In the highly competitive media and entertainment industry, LimeStyle specializes in corporate video marketing and feature film production — having produced two commercially successful feature films.

1

ENGINEERS = ENTREPRENEURS

To meet the need for a new generation of engineers and scientists who can recognize and exploit viable new technologies, McMaster University created a master's program in engineering entrepreneurship and innovation. Known as the McMaster University Xerox Centre for Engineering Entrepreneurship and Innovation, the program receives funding from OCE to help train a new generation of engineers and scientists. As an endorsement of the school's curriculum, OCE provided significant funding, building on a record of achievement in marrying technical engineering to entrepreneurship. Among the school's early successes has been the selection of two start-up projects by students that were among the 2007 winners of Canada's Top 10 Competition, organized by the Ottawa Centre for Research and Innovation.

2

HIGH SCORE LEARNING

When two employees of a healthcare new-media company, InVivo Communications, began a start-up to make an educational video game series known as Genomics Digital Lab (GDL), OCE spotted an opportunity. With support from OCE and assistance in-kind from InVivo, the two developed a start-up called Spongelab Interactive. Designed for Ontario's high school science curriculum, Spongelab's Plant Cells game/lab teaches students about biology through the simulated care of plants. What attracted OCE was the game's far-reaching potential, with a place in every classroom. The company's products now boast 200 users in 22 countries, a figure that will dramatically increase in autumn 2008, with the launch of a new game.

3

GET WITH THE PROGRAM

Last year, OCE helped 3,752 of Ontario's undergraduates, post-graduate students, professors and private sector employees improve their knowledge, training and skills. Among the programs are:

**INTERNATIONAL SCHOLARSHIPS**

Scholarships enable students in programs funded by OCE to learn in other countries, working with internationally recognized leaders in their field to gain experience that complements or extends their Canadian education.

**FIRST JOB**

Enabling talented graduates to make the transition from school to industry requires a little help. This program helps graduates and in turn, it also enables companies to increase their innovation capacity with bright young minds.

**VALUE-ADDED PERSONNEL**

Student researchers need help developing fundamental business skills that complement their technical expertise. Among the subjects offered in the last year were IP and technology transfer; business etiquette; business development and entrepreneurship; networking; and communications.

**PROFESSIONAL OUTREACH AWARDS**

These grants help students attend international events where they can present the results of their research to their peers.

**CONNECTIONS**

This program provides students with the opportunity to perform commercially relevant research in the private sector and serves as a platform to support collaboration between students and private industry.

Just a few of the programs and organizations we are working with.

NEXT GENERATION GROWTH

Ontario's future depends on the growth of its start-ups and businesses, which in turn depend on the fresh brainpower of young innovators. That's why OCE is proud to lead the Ontario Internship Program (OIP), helping to bring minds to market by fueling industry with academia's most promising talent. By matching interns with companies and subsidizing 50 to 80 per cent of their salaries, the OIP infuses Ontario's businesses with the new thinking our prosperity demands. OCE, partnering with Vitesse Canada, TECNet and Colleges Ontario Network for Industry Innovation, has been recognized by the Ontario Ministry of Research and Innovation (MRI) as having the right qualities to lead OIP. Our role includes overseeing government and associated partner contributions and relationships, as well as managing all contractual steps between interns and host companies.

4

WELCOME TO THE REAL WORLD

With an aim to provide undergraduates with a real-world sense of both science and business, OCE's Connections program enables students to conduct commercially relevant research. A participating company sets out a technological problem for students to investigate. This benefits industry by connecting it to research and teaching faculties while students build contacts with industry. In 2007-08, the Connections program expanded to include 227 industry-led technology-development projects that involved 821 final-year students at seven universities and six colleges. Dozens of these students were given the opportunity to take their research out of the classroom and into the real world through the Connections competition at Discovery 08. There, each student competed for prizes, presenting their research to a distinguished panel of judges from the investment community that provided invaluable insight.

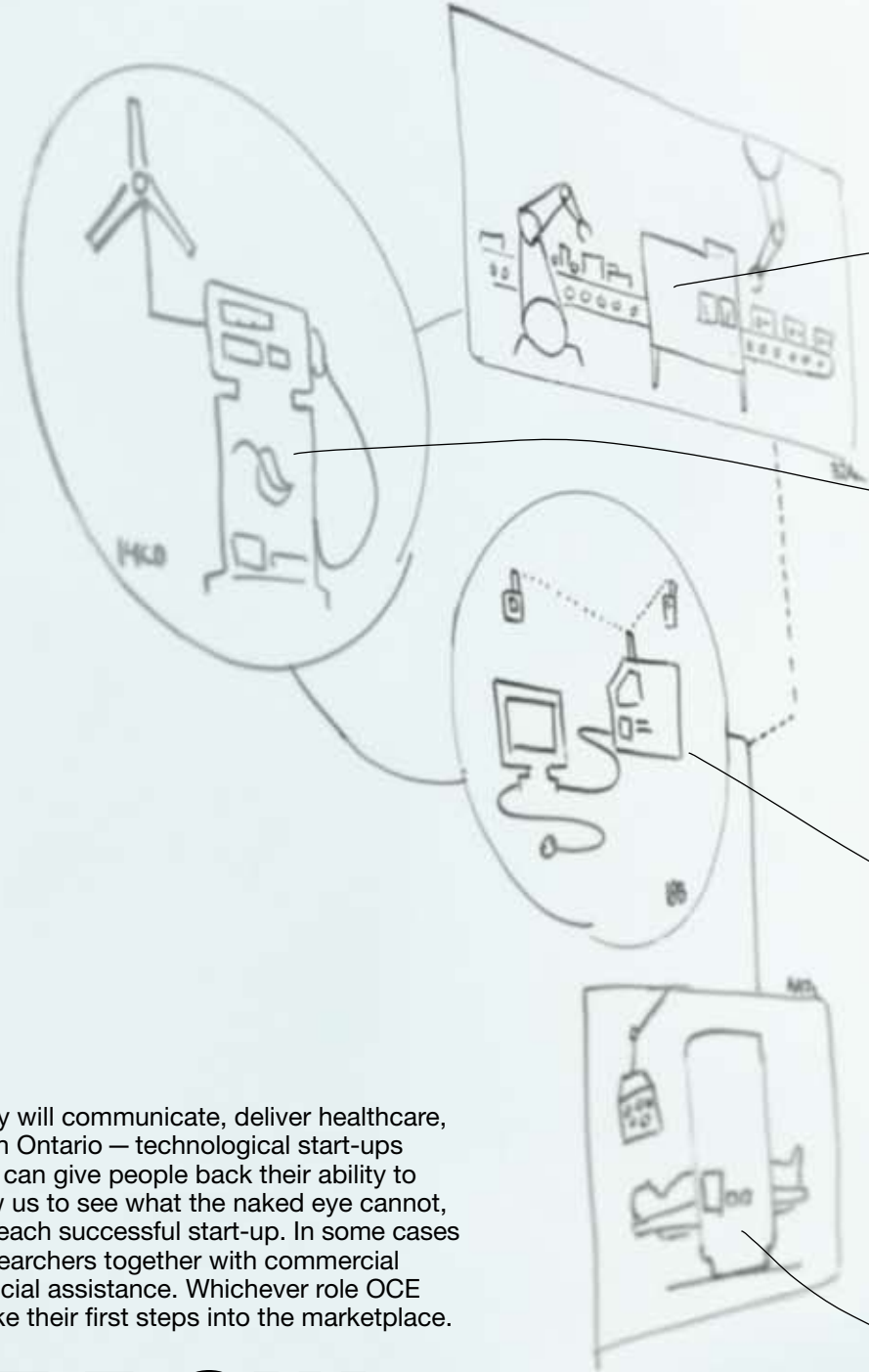
5

PHOTONICS SEES THE LIGHT OF DAY

At the beginning of this decade, despite explosive demand for qualified personnel, it was impossible to earn a degree or even a diploma in photonics in Ontario. Working with Niagara and Algonquin colleges, OCE helped devise a three-year diploma course for photonics engineering technology. The four-year \$7.6 million project, funded in part by OCE, built the curriculum and even the facilities from scratch. By the time it was open, the province had decided to allow colleges to offer degree programs so Niagara, Algonquin and OCE set to work on building a degree course in photonics. This year, the first Bachelor of Applied Technology-Photonics graduates from Niagara and Algonquin College, armed with the skills and experience to immediately contribute to photonic innovation, will begin illuminating careers in a field that will have a significant impact on all industrial and health-care sectors.

6





Who are the architects of the future ways society will communicate, deliver healthcare, prosper and sustain itself? Many are right here in Ontario — technological start-ups bringing spectacular ideas to market, ideas that can give people back their ability to hear, produce clean-running biodiesel fuel, allow us to see what the naked eye cannot, and much more. There are a variety of routes to each successful start-up. In some cases it may be OCE’s matchmaking skills: getting researchers together with commercial experts; or delivering strategically targeted financial assistance. Whichever role OCE has taken, these companies were enabled to take their first steps into the marketplace.

# THE TOMORROW BUILDERS

In 2007-08 we fostered a record 38 start-up companies across the province. Start-ups typically experience a high rate of growth in the number of jobs created in Ontario, and this year was no exception, with 112 new high-quality jobs. The start-ups included companies in a wide range of industries from medical diagnostics to advanced manufacturing and clean technology from across the province: **Hamilton, Waterloo, Guelph, Kingston, Burlington, London, Richmond Hill, Ottawa, Aurora, Mississauga and Toronto.** The jobs they are creating are the kind that this province needs to continue carving out a bright future in an increasingly high-tech world.

**This year, 38 start-ups created 112 jobs.**

► For more information on OCE-supported start-ups, visit [www.oce-ontario.org](http://www.oce-ontario.org)

## ADVANCED MANUFACTURING

As the 21st century progresses, so too must the products, systems and processes our rapidly changing world demands. Manufacturing sector start-ups are responding with a myriad of breakthrough innovations. Advancements such as green energy machines, earthquake-proof structures, on-the-spot ore grading tests, new ways to measure the human cell, better testing systems for fibre optics production, and powerful water repellents to inhibit ice build-up on aircraft are setting new benchmarks in efficiency, accuracy, safety and sustainability.

**Agri-Therm • Cast ConneX • CellScale Biomaterials  
Heliocentric Technologies • Hydrophobic • Inometrix**

## ALTERNATIVE ENERGY

Generating energy and using it efficiently is becoming a vastly complex, vital issue. Enter some incredible start-ups in Ontario with the innovative vision to ask “why not?” in the face of the global energy challenge. The answers are yielding imaginative, marketable solutions such as developing biofuel from feedstock waste, biogas from food-processing byproducts, and utilizing waste heat from diesel engine heat to assist with freezing fish at sea.

**BDR Technologies • StormFisher • ThermalFrost**

## IT / DIGITAL MEDIA

The digital age is evolving society at an unprecedented rate. Helping speed that evolution are start-ups utilizing digital technology to create a world full of greater possibilities.

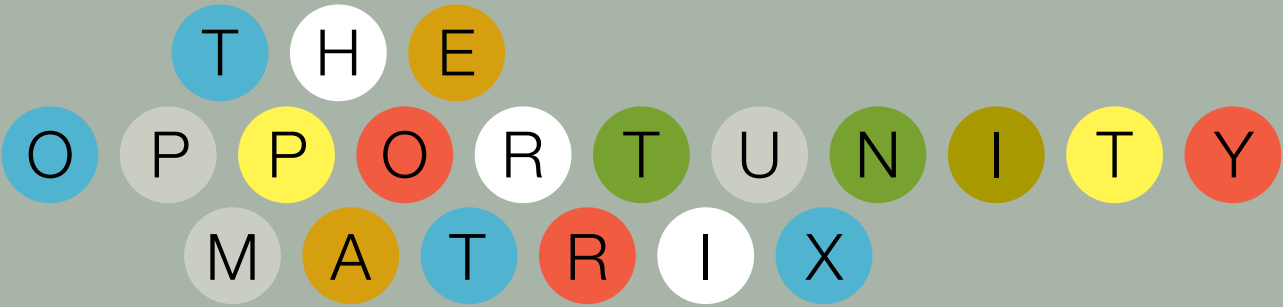
New generations of micromachines and microchip production systems are underway. Airborne robots, dangerous gas detectors and barcoded websites are redefining what’s possible. The wireless universe is expanding with everything from making wireless ubiquitous for millions of people to helping visually impaired individuals find their way home. New software is boosting the power of online marketing, business management and search engines. From the bottom line to the heights of our imagination, our digital media and IT start-ups are having a significant impact.

**Aeryon • Astilbe Networks • CertiChip • Devera Logic  
Dossier View • Ergo WiFi • OMESH Networks  
IDCOR/IDEO • MASSolutions • Parapixel • PRATA  
Privacy Analytics • Optomem Sensors • Real Risk  
Semacode • SimonSays Voice Technologies  
SOC Technologies • Tactile Sight**

## HEALTHCARE

Ontario’s start-ups are changing the face of testing, prevention, monitoring and life-changing technologies across the healthcare spectrum. Imagine gloves that provide verbal instruction on CPR; highly realistic sound and image delivery for the hearing and visually impaired; the ability to preview the results of reconstructive facial surgery before surgery occurs; and a simple, accessible way to check for gum disease via spit test. These are just some of the real ways Ontario’s companies are propelling the future of healthcare.

**Atreo Medical • BKIN Technologies  
CAYCe Medical • eSight • ICSPi • MGPDG  
ModiFace • Nanovate • REM Healthcare  
Therapeutic Monitoring • Zircadium**



Pursuing complex technological opportunities takes collective action

Imagine a vast computer system that has self-managing properties, reduced complexity, makes better use of its resources and makes creation and evolution of highly sophisticated software easier than ever before. The Centre of Excellence for Research in Adaptive Systems (CERAS) is working on this very concept, that of a virtual organization. It is a promising technological advance that would make it easier to develop and evolve software. This sophisticated network is like a massive brain that will make it possible to exploit software and computing resources where and when they're needed, with far less administrative and operational burden.

CERAS is a collaborative virtual organization that investigates how applications can evolve, be used and run in a virtual infrastructure. The scale of the project and the depth of the topics being studied can't be undertaken by any one organization. The organizations participating in it testify to the resources and talent being devoted to the project: the University of Waterloo, Carleton University, Queen's University, York University, the University Health Network, the Universitat Politècnica de Catalunya, North Carolina State University, as well as IBM and OCE are all working to make CERAS happen.

CERAS is just one example of the achievement that is possible when OCE collaborates with organizations from research institutions to large corporations in an effort to share and broaden our expertise, experience and perspective. Together we can influence the evolution of entirely new advancements like CERAS. Leveraging our collective expertise through such collaborations allows all participants to address new opportunities which would otherwise be out of reach for any single organization. We can leverage shared resources and common interests into new possibilities for growth.

Among the types of collaborations that OCE participates in are those that focus on sectors where we have broad targeted strategies, such as in energy, environment, materials and manufacturing, photonics, digital media and IT. In addition to institutional and corporate collaborations like CERAS, we form alliances with other not-for-profit organizations who are driving innovation in Ontario.

Ontario's innovators are among the best in the world. Actively seeking out global opportunities, OCE is committed to retaining Ontario's position at the forefront of innovation – on an international level. In March, OCE formed a strategic alliance with International Science and Technology Partnerships Canada (ISTP Canada) and the Canada-Israel Industrial Research and Development Foundation (CIIRDF) to collectively pursue international science and technology initiatives. Expanding on a previously successful partnership model between OCE and CIIRDF which led to the Convergent Medical Technologies Program, this most recent partnership will enable OCE to leverage our networks to accelerate the commercialization of Ontario-based research. OCE's strength in building strong research alliances will be matched with ISTP's and CIIRDF's experience and success in priority international economies like California, Israel and Brazil. We are already reviewing calls for proposals for collaborative research from interested parties in China and India. Furthermore, OCE continues to build on its existing international collaboration with the Institute of Photonic Sciences (ICFO) in Catalonia, Spain. This year, OCE welcomed a representative from Catalonia who is working to develop opportunities for Ontario companies and researchers in this vibrant region of Spain. These are just a few examples of how OCE is prepared to help Ontario innovators address the increasingly complex technical challenges and global economic opportunities at home and around the globe.

Waterloo's Quantum Leap

Quantum computing is an exciting new field being addressed by the University of Waterloo's Institute for Quantum Computing (IQC) – a state-of-the-art facility to harness the fascinating properties of the quantum world. IQC's goal is to become a world leader in research and commercialization, initially in quantum cryptography – a technology which uses the properties of quantum mechanics to ensure security of information, e.g. financial data and health records. OCE has a two-fold relationship: supporting IQC's research through our Champions of Innovation program, and commercialization of the resulting knowledge by adding business development expertise. IQC's research will focus on building a prototype 'quantum key distribution' system – transmitters and receivers of 'entangled' photons and a network protocol. While it's impossible to predict exactly what start-up ventures will evolve, both Waterloo and Ontario plan to be at the forefront of a revolution in the exploitation of science – and a global leader in the knowledge, jobs and wealth that will result.

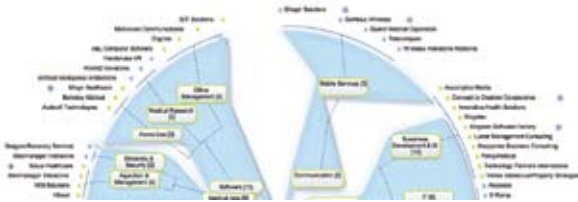


Digging Up the Past

This province has approximately 30,000 brownfield properties: post-industrial land sites contaminated with hydrocarbons, chemicals, metals, salts and other toxins. They are a lost economic opportunity and an environmental liability that could otherwise be productive real estate – creating jobs, businesses and a better way of life for Ontarians. To address this costly issue, the Centre of Excellence for Earth and Environmental Technologies is working with the Ontario Brownfield Innovation Partnership and the Government of Ontario to find and foster technologies that can reduce the province's brownfields legacy. These include soil and groundwater remediation techniques and risk- and effects-measurement. OCE is investing upwards of \$2 million in two- to three-year projects.

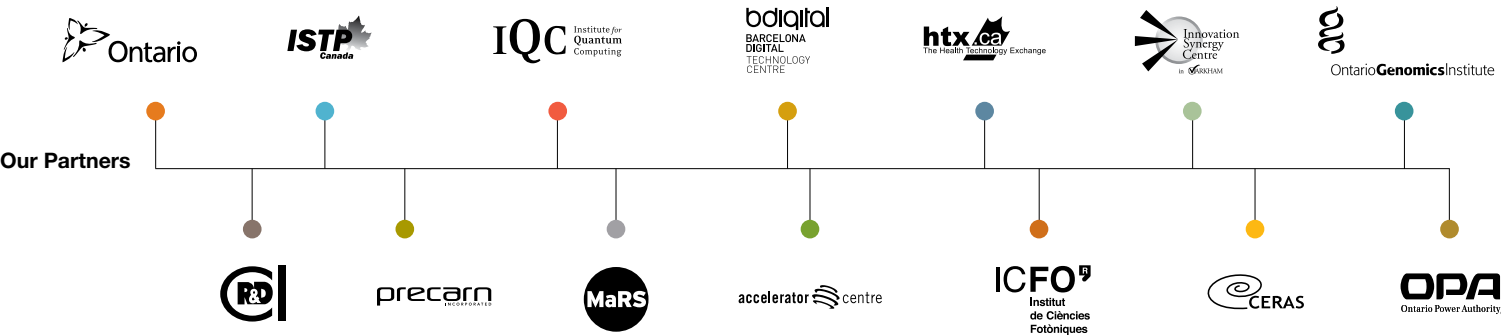
Mapping An Industry Genome

Having a roadmap through new technologies, companies and services and showing their inter-connections will help Ontario industries improve their market penetration. This is the thinking behind the Medical and Assistive Technologies (MAT) Ontario Industry Map, created by OCE and the Health Technology Exchange (HTX). HTX is a not-for-profit organization focused on supporting research and development and commercialization of medical and assistive technologies created at Ontario institutions. The MAT Map, the latest result from OCE's long-standing partnership with HTX, debuted at one of the Mind to Market Breakfast series earlier this year. The MAT Map enables anyone to see at a glance the companies participating in various MAT sectors, such as those in drug-delivery, diagnostic tools or medical imaging. With more than 400 links to companies, the web-based tool is a product of OCE leveraging its own alliances with other organizations such as HTX to bring research and business together. The MAT Map is just one example of numerous ongoing collaborations with HTX.



Auto Champions

Consider the airbag, a tough balloon that inflates and cushions drivers during a collision. Today it is an accepted, ubiquitous safety device. But think of how absurd the idea might have seemed back in the 1970s. OCE is assisting in the search for similar disruptive technologies: overlooked today but industry-changing tomorrow. Our Auto Champions initiative, part of OCE's Champions of Innovation program, funds big ideas with big potential that have an increased risk of failing – concepts the automotive companies are not pursuing but could hold huge promise. For example, we support work by Ontario researchers working to create auto glass with the lightness of plastic but with the scratch resistance of glass. In using this new kind of windshield, auto makers could create a vehicle that is lighter and therefore more fuel-efficient but still has resistance to chipping and scratching. It's just one example of how people are coming together to evaluate ideas that may change one of Ontario's largest and most important industries with revolutionary breakthroughs. Is there a better way to clear water from windshields than the century-old windshield wiper? What sort of material could be created for car seats that would have the feel of leather but the cost of vinyl? The answers to these and other questions could transform the industry, and OCE is helping to find them.





Where great minds come together

# IGNITING INNOVATION

**Innovation is all about collaboration.** At OCE we understand that. Throughout the year, our business development team scours the province looking for new discoveries and opportunities to connect researchers, innovators, industry and entrepreneurs. Our one-on-one relationships are at the core of what we do. In addition, we recognize that opportunities can arise when you provide forums where all the stakeholders of innovation can come together. Facilitating unique opportunities for knowledge exchange, idea sharing and relationship building, OCE plays a crucial role in promoting and driving Ontario's innovation culture.



## CRITICALMASS

When someone's heart stops, death is a couple of minutes away. Every year in North America, cardio-pulmonary resuscitation (CPR) is administered 350,000 times outside of hospitals, often in less-than-ideal circumstances and by people who don't work in healthcare. The chances of doing it wrong are significant. Three Ontario students developed a device, a glove that could help the untrained perform CPR with great effectiveness — but no one knew about it, until they brought it to Discovery 07.

The inventors presented their proposal at Discovery's student poster competition. Thanks to connections made through OCE at Discovery 07, the three

McMaster University students received OCE support. Stemming from its experience at Discovery, Atreo Medical has achieved great success, receiving international acclaim for its CPRGlove™, including recognition by *Time* magazine as one of its Innovations of the Year and by *Popular Science* magazine as one of its Top Ten Inventions of the Year. At Discovery 08 OCE made a further investment in Atreo Medical as they became one of the first two recipients of OCE's Investment Accelerator Fund.

Held once a year, Discovery, Canada's largest innovation forum — brings together private industry, investors, scientists, researchers and governments to pursue

## WAKE UP AND SMELL THE FUTURE

As a respected player in next-generation web technology, Albert Lai, who founded and sold his first company while still in his teens, was the perfect person to unlock the mysteries of web 3.0 by speaking to a packed audience of more than 300. He was one of nine speakers appearing at OCE's Mind to Market Breakfast Series in 2007-08. Hosted several times a year throughout Ontario, the

series invites key players in sectors and industries in which Ontario has interests. Industry experts share insights, host session Q&As and participate in post-breakfast roundtable discussions involving a cross-section of key industry players and attendees. Attendees have an opportunity to learn about breakthroughs in research amid a convivial atmosphere of intellectual stimulation, and Lai was no

exception. At only 28 years old, Lai has funded, founded or launched almost a dozen technology companies. An expert in recognizing and commercializing digital technology, Lai spoke on what society should expect from the next generation of Internet-enabled devices.



## MINDTOMARKET BREAKFASTSERIES



opportunities for collaboration. Completely new innovations like the CPRGlove come to the fore. Laser treatments, cancer detection software, rethinking the computer desktop — all ideas that got their creators noticed at Discovery.

Discovery 08 was held on May 12 and 13 in Toronto and drew 1,500 attendees and 175 exhibitors who showcased their innovations. This year's forum featured best-selling authors and renowned speakers Nassim Nicholas Taleb and Michael Raynor — champions of harnessing uncertainty and risk in the pursuit of commercial success. Other highlights included keynote speaker the Honourable John Wilkinson, Ontario's

Minister of Research and Innovation; the Elevator Pitch — where participants had an opportunity to test their business pitch on venture capitalists; and Sector Forums featuring thought leaders from key areas such as Energy and Environment, Life Sciences and Digital Media, as well as dynamic presentations both live and in digital format from some of our brightest students.

## 07 / 08 MIND TO MARKET BREAKFAST SESSIONS

**Innovation:** Powering the Future of Electricity  
**Dr. Jan Carr**, CEO, Ontario Power Authority

**Bottling Innovation:** Increasing The Profile and Profitability of Viticulture in Ontario

**Donald Ziraldo**, Former President and Founder of Inniskillin Wines

**Navigating the Waters to Commercial Success in Clean Technology:** The Zenon Environmental Story

**Rafael Simon**, Advisor, XPV Cleantech Fund LP and former COO, ZENON Environmental

**The Next Five in Five (Ottawa)**

**Dan Fortin**, President, IBM Canada

**Web 3.0:** Opportunity.com

**Albert Lai**, Founder, BubbleShare

**Breaking Through Barriers:** Advancing Ontario Biomed Technology

**Anders Elmik**, **Paul Gilbert**, **Dr. Geoff Fernie**, **Dr. Les Levin** and **Jacques Sayegh**

**New Directions:** Driving Ontario's Auto Industry (Oakville)

**Dennis DeRosiers**, President, DesRosiers Automotive Consulting Inc.

**Fueling a Renewable Energy Start-Up:** The StormFisher Biogas Success Story

**Ryan Little**, Vice President, Business Development StormFisher Biogas

**Opening Global Lines for Communication:** Is Ontario on Hold? (Waterloo)

**John Roesse**, CTO, Nortel



# Renewing Ontario's Economy



The Investment Accelerator Fund plants the seeds for start-ups and early-stage companies

New technologies require the right kind of help to flourish. New products and processes need financial assistance even before venture capitalists step in. Funds are needed to prepare innovators for the entrepreneurial experience. That's where OCE's Investment Accelerator Fund (IAF) steps in. The IAF helps especially promising Ontario start-ups and early-stage companies with seed money of up to \$500,000 to get them on their feet. IAF funds address very specific needs of these start-ups to help them grow into successful, vibrant companies. Funds go toward technical development; proof of concept; intellectual property development; and other needs such as market analysis, business development and recruiting of employees. For Metabacus Inc., the IAF is doing just that, supporting the development of their chip design automation solution – the world's first truly scalable electronic system level (ESL).

Dr. Jianwan Zhu of the University of Toronto has developed a new way to automate computer chip design. His process uses a technology called behaviour synthesis, discovered in the 1980s, unperfected until now. The approach simplifies chip design and enables manufacturers to slash the cost and time needed to design new chips by automating the writing of millions of lines of low-level machine code. By using simple software, that code can be turned out quickly and easily. Dr. Zhu and his colleagues created Metabacus Inc., a company that would commercialize their findings. OCE recognized their research as a disruptive technology that could revolutionize chip production.

IAF is part of the Ministry of Research and Innovation's Market Readiness Program, an initiative which supports commercial development of technology created in Ontario research institutions. OCE jointly administers the initiative with MaRS and the National Angel Organization. Since its creation late last year the IAF has received proposals from 320 high-potential technology companies looking for early-stage funding. From those proposals, two exceptionally promising companies were selected – Metabacus Inc. and Atreo Medical Inc., now both part of OCE's portfolio. Proof of what can happen when industry-changing ideas are given the opportunity to prosper.

► Atreo Medical has invented the CPRGlove™ a portable device that gives any user a better chance at saving a life. The glove is equipped with sensors and verbally instructs the user on correct hand placement as well as the depth, rate, force and angle of compressions to be given.



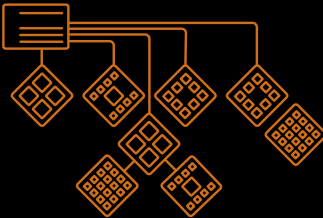
# MARTIN WALMSLEY FELLOWSHIP for TECHNOLOGICAL ENTREPRENEURSHIP

Awarded annually, the Martin Walmsley Fellowship for Technological Entrepreneurship is designed to support an academic innovator who is working to transfer technology developed with help from OCE into a new technologically innovative business venture. Awarding \$50,000 annually for up to two years, the fellowship aims to stimulate research and development in key economic focus areas. This year's fellowship was awarded to Carlos de Oliveira, CEO of Cast ConneX Corp. whose innovation was recognized for the transformational impact that it will have on the steel construction industry. His research into earthquake-resistant steel castings while at the University of Toronto evolved into Cast ConneX, with products including a range of braces and connectors for low- and medium-sized steel structures. In addition to the fact that Oliveira's company is poised to emerge as the technological choice for the North American steel construction industry, Oliveira's innovations could save thousands of lives and millions of dollars in property damaged by earthquakes and natural disasters.

► Cast ConneX™ develops a wide range of innovative solutions that make steel design, detailing, fabrication, and erection faster, simpler, and more economical.



# OCE'S MIND TO MARKET AWARD



**RECIPIENT: RapidMind Inc. + University Of Waterloo**  
Imagine developing a computer solution today which computer experts say is five years away. That's what RapidMind Inc. has done, and no surprise, it's caught the attention of IBM, AMD, Intel and Hewlett Packard. RapidMind and the University of Waterloo are providing application programming interfaces that take advantage of the hardware potential that multi-core technology offers. The result – a computer that operates as much as 140 times faster, with enormous potential for areas such as medical imaging, database transactions and image and video manipulation.



**FINALIST: Cleanfield Energy Inc. + McMaster University**  
Think wind turbines and one often imagines giant propellers stretching to the sky. But what if they could be made smaller to power individual buildings or factories? Working with McMaster University, Cleanfield Energy – a leader in Ontario's alternative energy sector – has designed a compact wind turbine for residential and commercial use, even on rooftops. With Cleanfield's Vertical-Axis Wind Turbine, homeowners and businesses have a natural source of clean, reliable energy and reduced utility bills.



**FINALIST: Theralase Inc. + University Health Network**  
Call it healing at the speed of light. Theralase, a world renowned light therapy technology company, has collaborated with the University Health Network to create laser therapy products that zap wounds and ease both inflammation and pain. The Mayo Clinic and The Scripps Institute are both very interested in seeing what its latest laser can do for knee osteoarthritis and diabetic foot ulcers. And hey, if the Toronto Blue Jays' ace, Roy Halladay uses this therapy for his pitching arm...



**FINALIST: Advanced Engine Technology Ltd. + Carleton University**  
Advanced Engine Technology (AET) Ltd. is capturing the attention of the world's oil industry with a new, award winning way to make diesel fuel a little sweeter with a testing process that will lead to cleaner, higher quality diesel fuel and lower exhaust emissions. With the oil sector beginning to take notice of AET's Ignition Quality Tester (IQT), the company is now working with Carleton University to make the IQT even better. The IQT is already in use in more than 50 petroleum and additive companies around the world.



**FINALIST: REGEN Energy Inc. + Centennial College**  
For building owners and operators of large industrial facilities, electricity bills can be an unpleasant jolt. Working with Centennial College, REGEN Energy offers a way to go green and slash energy costs with its peak-demand management controllers. Installed in heating, air conditioning and other operating systems, the controllers "talk" to each other wirelessly, telling each system when to turn on or off for a few minutes at a time, resulting in energy savings.

# THE PANEL

- Dr. Suzanne Fortier** (Chair)  
President, Natural Sciences and Engineering Research Council of Canada (NSERC)

**Patrick Crowley**  
Chief Financial Officer  
OMERS

**Kalai Kalaichelvan**  
Chairman and Chief Executive Officer, EION Inc.

**Tim Lee**  
Senior Vice President Investments  
Ontario GrowthWorks Capital Ltd.
- John Molloy**  
President & CEO  
PARTEQ Innovations

**Mark Romoff**  
President and CEO, Ontario Centres of Excellence

**Dr. Molly Shoichet**  
Canada Research Chair in Tissue Engineering and Professor of Chemical Engineering & Applied Chemistry, University of Toronto

President & Founder,  
Matregen Corp.

# and the award goes to...

Every year OCE recognizes a particularly outstanding collaboration between academia and industry leading to commercialization, with the Mind to Market Award. Presented each year at Discovery, the Mind to Market Award is judged by an esteemed panel of leading minds in science and commerce from across Ontario on the basis of innovation, collaboration, commercial success and the sheer "WOW" factor of the idea and its impact on the marketplace.

# What’s Next for Ontario?

Which issues will define, shape and drive our exploration towards new technologies and solutions? Whatever the answers, OCE will be involved, pinpointing opportunities as the world enters a time where revolutionary technology, evolving markets and environmental dynamics are converging as never before. In fact, our five Centres of Excellence are already on it.

### What’s Next in Energy

As Ontario enters a projected 20-year evolution of the “greening” of its grid, tremendous opportunities are arising in the form of emerging technologies and hot new clusters with names like *Grid Scale*, *Advanced Solar* and *Distributed Generation*. Society will be affected across every power arena, including the relationship between transportation and electricity as hybrid electric vehicles interact with the new, “smart” grid. And as Ontario’s energy transformation advances, so too will our work in the opportunity-rich areas of Renewables, Conservation and Demand Management, Energy Markets, and Sustainable Communities.

### What’s Next in Photonics

The role of photonics will be substantial. The technology of light will continue its ascent, for example, by helping to transform manufacturing with new high-power laser machining technologies, and by advancing healthcare with improved medical imaging, drug discovery processes and medical and assistive devices. Ubiquitous, secure, low-cost broadband will also be a photonics-driven reality, meeting the escalating needs of consumers demanding top-quality video, voice and global connectivity anytime and anywhere. And the desire to reduce Ontario’s carbon footprint will be enabled by photonics innovations, such as high-efficiency organic light-emitting diodes (OLEDs) replacing conventional LEDs, new high-efficiency solar cells.

### What’s Next in Communications and Information Technology

As we evolve into a society being ever more shaped by information and communications, we’re seeing a convergence of those technologies in areas such as digital media, biotechnology, medical devices, energy systems, even the automotive industry. This unprecedented mash-up has already begun to merge science, engineering and business to create new industries here in Ontario. The result will be local innovations that feed the global future of IT—a world where networking, access, information search and security will be redefined by technologies like cloud computing and virtualization; Web 3.0; Long-term Evolution (LTE) and 4G wireless; communications-enabled applications; ad hoc and mesh networks; quantum computing; and quantum cryptography.

### What’s Next in Materials and Manufacturing

Rising oil prices and the need to decrease Ontario’s carbon footprint are already inspiring innovators in Materials and Manufacturing to explore exciting solutions, many that will engage a wide spectrum of sectors. A key example of this is automotive — a manufacturing industry that will invite the development of far-reaching, issue-driven innovations such as zero-CO<sub>2</sub> fuels from renewable materials; hydrogen fuels with reduced storage requirements; more lightweight, cost-effective production processes and materials; and efficient new approaches to transportation and infrastructure. Whichever technologies will come to dominate the future, we will continue to support those that show significant advantage beyond the status quo.

### What’s Next in Earth and Environmental Technologies

The realities of climate change are creating opportunities for Ontario to create vital systems and technologies that will help society mitigate and adapt to the situation. A core focus will be the management of our dwindling clean water supply, requiring advanced approaches to water infrastructure and treatment as well as new methods of water conservation. Equally critical will be new technologies in waste management efficiency, landfill restoration and brownfield remediation — factors leading to the productive reuse of land, decreasing human impact on the environment. And the need for adaptive technologies such as green, energy-smart buildings and cleaner air emissions systems will offer Ontario’s innovators further territory in which to produce invaluable solutions.

### What’s Next for OCE?

Whichever issues tomorrow brings, they will have impact across all our Centres, inviting us to ally our strengths and leverage our collective expertise to face, respond to and invent the future. Through our common processes, our shared approach of partnership, and our philosophy of collaboration, we can create a convergence of our own to embrace the coming convergence of needs, priorities and challenges, and together, both within OCE and with our partners, help create the Next Ontario.



TORONTO   KINGSTON   LONDON   MARKHAM   MISSISSAUGA   OTTAWA   SUDBURY   WATERLOO  
oce-ontario.org | info@oce-ontario.org | Toll Free: 1.866.759.6014



## DON'T MISS THE FUTURE

---

Be part of it. Register to receive event information for OCE's Discovery 2009, Canada's premier innovation and commercialization forum, taking place at the Metro Toronto Convention Centre May 11th – 12th, 2009.

---

For more information visit [ocediscovery.com](http://ocediscovery.com)