

C4 Hits the Road to Promote Technologies

Thirty meetings in three days — it's a punishing pace but that was the schedule for some C4 members this spring.

They were part of the team C4 sent to Boston for BIO 2007, one of the world's largest trade shows dedicated to the biotechnology industry, including the pharmaceutical, health and agricultural sectors.

BIO is a huge show with 22,000 attendees representing 1,900 companies. It is also a great place to connect with industry insiders and promote the technologies that are being developed by C4 institutions.

"It's exhausting, but there is nowhere else where you can make so many great contacts in such a short period of time," said Ling Ting, Industrial Liaison Officer at the University of Western Ontario. Ting has spent the months since BIO following up with the groups he met.

"Technology transfer is relationship based business," adds Todd Copeland, Manager of Technology Development and Commercialization Manager at the Lawson Health Research Institute.

"Participation in an industry partnering meeting like BIO helps you make the connections required for development

and commercialization of technologies."

In addition to the partnering meetings, C4 also had a small booth in the Ontario pavilion to promote technologies from across the C4.

BIO was one of several trade shows that C4 participated in this spring; the C4 team hosted a technology transfer session at Biofinance in Toronto in April and had a booth at Discovery 2007 in Toronto.

This summer C4 attended the IFT show in Chicago to promote food related technologies.

"C4 gives us the resources to aggressively promote discoveries," explains Elsie Quaitte-Randall, Executive Director of the McMaster Industry Liaison Office. "We are putting our personnel into places where they meet companies who want to acquire new technologies." ☒



Ontario Premier Dalton McGuinty (left) visited the C4 booth at BIO 2007 in Boston where C4 promoted technologies to biotech and pharmaceutical companies. Pictured (right to left) are C4 members Alex Navarre, Sheldon Smart and Elsie Quaitte-Randall.

C4 Launches \$1.2 Million Proof-of-Principle Fund

A new funding program, exclusively for C4 institutions, will help researchers prove discoveries are commercially viable.

The \$1.2 million C4 Proof-of-Principle (POP) Fund fills a gap between traditional programs and venture capital.

This early stage fund will provide up to \$135,000 per project to researchers. It will fund activities such as prototyping, animal model studies, or additional programming. The funding could also be applied to market analysis, business plan preparation, and validating technical risks.

Funded by the provincial government's Ontario Research Commercialization Program, the POP program helps basic research prepare for commercialization. The C4 POP fund is similar to CIHR-POP or NSERC-I2I but with a faster cycle time.

C4 plans to support dozens of projects over three years using a three stage model.

- Stage 1 – up to \$10,000, requiring a defined milestone
- Stage 2 – up to \$25,000 to meet a second commercializa-

tion milestone; must have formal IP protection in place

- Stage 3 – up to \$100,000 in two \$50,000 rounds, providing the milestones have been met and an acceptable commercialization plan presented; second round requires a match, co-investment, or OCE Market Readiness funding

For the first stage, industry liaison officers and researchers will jointly prepare an application for review by an internal C4 selection committee. This stage offers a faster turn around with fewer burdens compared to external programs. It is intended to help start the commercialization process.

For the second stage, proposals will be reviewed by a C4 POP Advisory Board comprised of seasoned technology innovators. Applications for the third stage will be reviewed by both the advisory board and an external reviewer.

The C4 POP is designed to lead to either licensing, partnering with industry, or further development through second stage mechanisms such as CIHR-POP, NSERC-I2I, or other proof-of-principle programs. ☒

Making a Difference with C4



by Elsie Quaite-Randall
Executive Director of
the McMaster Industry
Liaison Office and
Principal Investigator
for C4

"Most scientists aspire to make a key contribution at some point in their career that will truly make a difference. For me, the Neurocompensator could be it."

—Suzanna Becker, McMaster University

Professor Becker's comments about making a difference resonated with me recently as I was reviewing an article about her hearing aid technology which promises to help thousands of hearing impaired Canadians.

Making a difference is what drives technology transfer. Yes, we get to work with cool technologies and super smart people, but at the end of the day it's about making Canadian society a better place — about making a difference.

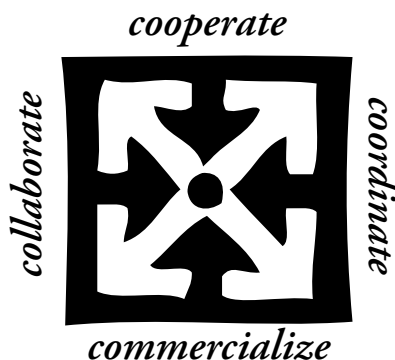
The Origins of C4

C4 was born out of a common desire to improve the way that the knowledge and discoveries that are created in universities and research institutes move into our broader society — to do a better job at making a difference. Several universities in south-west Ontario got together and asked: "how can we do better?" After a lot of planning, those universities formed C4, bringing together Guelph, McMaster, Waterloo, Western, Wilfrid Laurier and Windsor universities, as well as several research institutes. These institutions formed a consortium, pledging to coordinate their resources, cooperate with governmental and industrial bodies, collaborate in multi-disciplinary research to solve real-world problems, and commercialize the results of their research. By following these four principles, C4 encourages innovation in Ontario.

Banding together allowed C4 to apply for federal and provincial funding to enhance the technology transfer opera-

tions across all the partner institutions. C4 received \$4.6 million in funding from the provincial and federal governments, mostly for additional staff that are shared among the C4 institutions.

This funding is evidence of the increasing emphasis that both levels of government are placing on technology transfer. Policy makers look at the success of Silicon Valley and the Boston corridor and ask, "How can we replicate that in Canada?"



Part of the proposed answer is to enhance Canada's research universities' commercialization efforts to match Stanford and MIT. C4 is a step along that path.

Changing Climate for Research

This emphasis on technology transfer has been picked up by funding agencies. We are seeing a trend towards evaluating the technology transfer qualities of grant

applications, and patents are increasingly viewed as a sign of an applicant's credibility. Even SSHRC's new strategic plan explicitly embraces knowledge transfer.

C4 is here to help you make the most of this shift in policy.

C4 provides researchers with the resources to evaluate and market their discoveries. For example, faculty, staff and students from the University of Guelph's College of Arts developed the Online Integrated Learning System, consisting of a video game, multimedia database and teaching modules. The C4 Copyright Officer, Chabriol Colebatch, worked with them to resolve complicated issues regarding copyright and patents, and helped the creators set up a spin-off company.

Finally, C4 is launching its own Proof-of-Principle fund. This is \$1.2 million in new money available to researchers in C4 institutions to help move discoveries from the lab to market (see page 1 for further details).

Challenge to Researchers

For researchers, the challenge will be taking advantage of these new resources. I encourage you to meet the industrial liaison officers at your institution. They are your gateway to C4. They are there to help you move your discoveries into society — to make a difference in the lives of Canadians. ☒

The View from the Province

Going forward, the Ministry will require that publicly sponsored research organizations manage intellectual property in ways that support Ontario's long-term innovation goals. Institutions will need to show clearly how they plan to make IP more readily available to the commercial sector; provide incentives to inventors to identify, protect and commercialize IP; ensure very low barriers to rapid exploitation of IP; and provide access for companies that develop the IP in Ontario. The Ministry strongly supports the concept of research institutions pooling their intellectual property to offer a more effective means of commercializing technology.

— Ontario. Ministry of Research and Innovation "Strategic Plan" (Nov. 2006) p.11
< <http://www.mri.gov.on.ca/english/about/documents/strategyPlan.pdf> >



Market Readiness funding recipient Peter Visscher with his invention. (see sidebar)

Tips for Market Readiness Funding

The Ontario Centres of Excellence (OCE) Market Readiness (MR) fund focuses on developing technology for the next stage of commercialization — the transfer to an existing company or the creation of a new company. MR funds enable a wide variety of activities that typically happen during the early development stage (i.e. in a University setting).

MR is an OCE commercialization program — not a research program. So no matter how good the technology is, there must be a good commercialization story.

Focus on Commercialization

Give prominence to the commercialization role by including tasks in the commercialization plan and focusing on commercialization deliverables. For example:

We will:

- (i) meet with three potential customers
- (ii) prepare an investor presentation and meet with three potential investors
- (iii) complete a prototype device
- (iv) complete a license agreement with the university
- (v) apply for four patents
- (vi) incorporate a company
- (vii) make an I2I application

Context

Give the context. A couple of paragraphs that give an overview of where the funding application falls within the broader project scope are a good idea.

For example, it may be forming a company that will generate revenue quickly. You can then follow with the specific deliverables for the project.

Eligibility Matters

Only include deliverables that are eligible for funding. Typical deliverables that OCE would pay for include the following:

- (i) complete detail design, including documentation;
- (ii) complete patent search and patent application;
- (iii) complete market survey;
- (iv) submit an I2I application; and
- (v) make and demonstrate a prototype

Timing

Approval wait times are not directly proportional to the funding amount. It doesn't take more time to approve a \$60,000 versus a \$30,000 MR application. The one threshold is the external review needed for proposals over \$70,000, which adds approximately a one month delay.

Leverage Helps

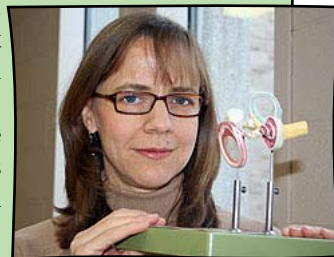
Leverage other OCE funds. If your MR and I2I applications are successful, you should be thinking about OCE's Accelerator program which gives \$250,000 to launch a company. There's a lot of work to be done — but if it's your goal then it's work you'll have to do anyway. ☒

C4 Garner's OCE Funding

OCE's Market Readiness program is investing \$100,000 to develop an innovative hearing-aid technology, the Neuro-Compensator, developed by Dr. Suzanna Becker, a professor at McMaster University. This technology improves hearing-aid performance in noisy situations, such as crowds, where traditional hearing aids have difficulty.

With this investment, Becker will employ a software programmer to develop the underlying algorithms and refine the technology.

Once this work is complete, an industrial partner, CAYCe Medical, plans to begin clinical trials.



Suzanna Becker

Suspension Bounces to the Top

OCE's Market Readiness program made two investments in a snowmobile suspension system developed at the University of Western Ontario. Totalling \$33,000, the funding helped the Western-based inventor optimize the suspension and prepare it for commercial development.

Developed by Peter Visscher, a student at Western, this suspension system increases the snowmobile's performance and makes the vehicle easier to control.

Clear video garners OCE notice

This June, OCE's Market Readiness made a \$52,000 investment in an innovative video compression technology developed by Dr. Shaowen Song, associate professor at Wilfrid Laurier University. Song is developing a high definition video communications protocol based on system-on-chip technology. This technology will allow HD video conferencing over the internet.

The OCE investment will fund completion of a final prototype and a pilot installation. Song and his team hope to launch a start-up company to market the technology in 2008. ☒

C4 Members Receive Patents Worldwide

Researchers at C4 institutions have been awarded a number of patents recently.

Streptogramin antibiotics

Disclosed is a cyclic peptide antibiotic in which an enzyme-sensitive bond is replaced by an enzyme-resistant bond.

U.S. Patent #7169756

Compositions for the preservation of fruits and vegetables

The invention discloses compositions for the preservation of fruits, vegetables, partially processed products, other produce and flowers.

U.S. Patent #7198811

Genetic markers for skatole metabolism

Novel metabolites and enzymes involved in skatole metabolism are disclosed

U.S. Patent #7202035

Method and apparatus for dispensing paint powders for powder coatings

U.S. Patent #7240861

Micro-positioning device

A micro-positioning device adapted for displacement in a direction of travel.

U.S. Patent #7218035

Novel enzymes metabolites involved in skatole metabolism

European Patent #1218534

Initiators for carbocationic polymerization of olefins

European Patent #1036099

Photocatalytic reactor and method for destruction of organic air-borne pollutants

Canadian Patent #2286152

Researchers Wanted

Collaboration Opportunity

C4 industrial liaison offices routinely receive inquiries from businesses who need research help. Here is one opportunity:

A company in the pet health industry is currently searching for ingredients which they can license as the active ingredient in a dental health product which they are developing for companion animals. The company is looking for ingredients which have:

- a bactericidal or bacteriostatic effect on gram negative bacteria (in particular *Porphyromonas* and *Prevotella* species) or
- an effect on biofilm formation in the oral cavity or
- general positive effects on oral health

The ingredient would preferably be natural and must be suitable for ingestion on a weekly or daily basis. A patented or patentable ingredient is required.

If you are interested in pursuing this collaboration opportunity, please email: information@c4ontario.ca

Research to Receptor Forum

for Functional Food Innovation

October 10, London

October 11, Guelph

October 16, Hamilton

MaRS Landing, C4 and the Golden Horseshoe Biosciences Network are launching the *Research to Receptor Forum* series. It will be an elite gathering of researchers, academics and executives who are involved in functional food and agriculture research and innovation.

The program will include plenary sessions and seminars, with guest speakers and thought-provoking panel discussions focusing on functional food and nutraceutical programs. From discovery to product launch and beyond, you'll hear leading experts share their views. This forum will provide you with an opportunity to network and interact with these key leaders and your industry peers, to discover paths for commercializing research, and connect with companies that need research help.

Topics Include:

- How to find the research that will lead to profits
- How to identify research opportunities and partners
- Functional food and nutraceutical operations in Ontario

To register: <http://www.marslanding.ca/events.aspx>

C4 is partially funded by the Canadian federal government's Intellectual Property Mobilization program through the Natural Sciences and Engineering Research Council (NSERC) and the Canadian Institutes of Health Research (CIHR). Additional funding is provided by the government of Ontario through the Ministry of Research and Innovation's Ontario Research Commercialization Program.



The Stepping Stone is produced by C4, south-west Ontario's technology transfer community. Questions regarding C4 may be directed to:

information@c4ontario.ca

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