

## Competitive Technical Intelligence: Fermion, a success story

After the events of September 11, 2001, and subsequent terrorist threats, there has been an increased demand south of the border for devices that trace explosives as well as biological and chemical agents such as anthrax. The Transportation Safety Administration (TSA) and Department of Homeland Security (DHS) have been receiving yearly budget increases to cope with the growing needs and requirements of airports to ensure the safety of passengers in light of the 9/11 attacks and subsequent airline-based threats.

Located with the incubator facilities of the Biomedical Commercialization Canada (BCC) in Winnipeg, Fermion is a small start-up company developing a technology that detects the unique electromagnetic fingerprint of explosives as well as chemical and biological agents. Founded by Frank LaBella, Fermion turned to NRC-CISTI and their Competitive Technical Intelligence (CTI) program for help with understanding what they needed to do to take their ideas from the drawing board to market.

CTI analysts studied the market and were able to focus and define market opportunities growing TSA and DHS budgets, a widening market share for North American airport security equipment (close to 24.5 percent in 2004) and worldwide sales of chemical and biological detectors possibly reaching close to US\$3 billion in 2009.

As well, CTI analysts were able to determine what the trends were in research and development of competitive technologies, which is something that a small company such as Fermion would not be able to undertake on their own. Continued assistance from the CTI program, during the development of the firm, has led to Fermion being able to secure investment and commercialization grants from the Province of Manitoba via their Technology Commercialization Program, NSERC with their I2I program, NRC-Industrial Research Assistance Program as well as working in concert with BCC and Western Economic Diversification Canada. Fermion's partnership with these stakeholders recently resulted in a once-in-a-lifetime opportunity to take part in the annual World's Best Technology Showcase in Arlington, Texas.

Since NRC-CISTI completed their CTI brief, Fermion has been able to add a full-time PhD as well as a part-time technologist. They have also managed to raise more than \$200,000 to further develop and market their technology. According to Philip Unger, Vice President of Science and Product Development for Fermion, "the insight gained from the NRC-CISTI brief has directly translated into better, cheaper and faster product development. Of the few things that a small company with a limited budget can do to advance a research agenda, working with NRC-CISTI has been a very prudent use of our resources."

## CISTI News

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1200 Montreal Road, Bldg M-55,  
Ottawa ON K1A 0R6

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Tel: 613-949-9689  
Fax: 613-941-1569  
E-mail: [info.cisti@nrc-cnrc.gc.ca](mailto:info.cisti@nrc-cnrc.gc.ca)  
Website: [cisti.nrc.gc.ca](http://cisti.nrc.gc.ca)

Editor: Tracie Taylor-Labonté  
Layout: Judy Letourneau  
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## NRC-CNRC

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# CISTI News

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### From Pam's Desk

I hope that everyone had a relaxing and enjoyable summer – after spending some time in the beautiful Saguenay region of Quebec, I must say that I feel renewed!

I wanted to take this opportunity to highlight some of what NRC-CISTI accomplished over the summer as well as some of the initiatives that will be keeping us busy through the fall:

- **WorldWideScience.org:** In June, it was my pleasure to sign the founding document that created and governs WorldWideScience.org, an initiative that provides access to the world's scientific literature. This initiative was launched in Seoul, Korea, in June, and has widespread coverage.
- **ICSTI 2009 Conference:** We are proud to announce that NRC-CISTI has been chosen to host the International Council for Scientific and Technical Information (ICSTI) conference, scheduled to take place June 9 and 10 at Library and Archives Canada. The conference will be followed by a two-day General Assembly.
- **Places and Spaces:** This ground-breaking exhibit, hosted in the foyer and lobby of NRC-CISTI's headquarters in Ottawa throughout the spring and summer, was successful – it was the centrepiece of our participation in this year's edition of Doors Open Ottawa as we welcomed more than 250 visitors over 2 days.

ICSTI 2009

Save the date

June 9-10, 2009  
Ottawa ON



## Opening new pathways to Canadian research data

The research process generates huge amounts of data that are an important part of Canada's scholarly record and hold enormous potential as an additional discovery and problem-solving tool for researchers. Unfortunately, Canada has no nationally adopted standards or policies governing how this data is collected, catalogued, or preserved.

A new collaborative effort is now underway to address the challenges surrounding the access and preservation of this data. The Research Data Strategy (RDS) Working Group is a multi-disciplinary group of universities, institutes, libraries, granting agencies, and individual researchers with a shared recognition of the pressing need to deal with Canadian data management issues.

Together, this group is focusing on the necessary actions, next steps and leadership roles that researchers and institutions can take to ensure Canada's research data is accessible and usable for current and future generations of researchers.

Pam Bjornson, NRC-CISTI's Director General, is the Chair of the RDS Working Group. "These issues can't be solved in isolation. They must be addressed from a national perspective with the participation of all parts of the research community, including researchers who create and use this data."

NRC-CISTI will contribute to this larger initiative by providing metadata expertise and developing a gateway web site that will provide access to Canadian scientific data sets and other important data repositories.

Three task groups have been formed to explore issues related to policies, funding and research; infrastructure and services; and capacity (skills, training, and reward systems). In the coming year, the RDS Working Group will be convening a consultation around these issues to gather input and develop an action plan.

## Extending the reach and increasing the impact of NRC research

A new single gateway to NRC research is on the way. Following an NRC-CISTI pilot project with seven NRC institutes, NRC has given the go-ahead to create an NRC Publications Archive (NPArc) that will provide access to NRC's record of science and demonstrate the many ways NRC researchers translate science and technology into value for Canada.

This searchable, web-based repository will increase the access to NRC-authored publications, guarantee long-term access to NRC's research output, and serve as a valuable resource for NRC researchers, collaborators and the public. NRC-CISTI will manage and maintain NPArc.

As part of this initiative, NRC has established a policy making it mandatory, starting in January 2009, for NRC institutes to deposit copies of all peer-reviewed, NRC-authored publications and technical reports in NPArc.

Wherever possible, NPArc will provide access to the full text of these publications. NRC's Licence to Publish (Crown Copyright) will be updated to declare its intent to deposit the full-text of NRC-authored publications in NPArc. However, the nature, timing and extent of access to individual publications depends on a variety of factors, including agreements with publishers, or in the case of technical reports the sensitivity or confidentiality of content.

More information about the NRC Publications Archive will be available closer to the launch date in December 2008.

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*Discover* is available from our website at [www.cisti.nrc.gc.ca](http://www.cisti.nrc.gc.ca)

## LogKOW© and Mycotox datasets now freely available online

If online access to data collections of water-octanol partition coefficients for over 20,000 organic compounds or a plethora of mycotoxins produced from fungi piques your interest—take note!

LogKOW© and Mycotox, two very significant and reputable CISTI-mounted datasets, are now freely available online thanks to the dual efforts of NRC-CISTI and the Canadian National Committee for CODATA (CNC/CODATA).

Supported by NRC-CISTI, CNC/CODATA regularly searches for valuable Canadian datasets to preserve, especially Canadian data sets that are also considered to be the best in the world. By making these important datasets widely available, accessible and known to many scientific researchers, CNC/CODATA aspires to reduce the risk of them falling into oblivion and being lost or forgotten altogether.

The LogKOW© databank, widely regarded as the world's best collection of water-octanol partition coefficients, contains experimental data retrieved from literature on over 20,000 organic compounds such as drugs and pharmaceuticals (steroidal and non-steroidal), herbicides and dyes, just to name a few. This work from Dr. James Sangster is available at <http://logkow.cisti.nrc.ca>.

The Mycotox dataset holds a list of fungi, the mycotoxins (toxic metabolites; or metabolites closely related chemically to such toxins) they produce, and citations to the articles describing the findings. Updated annually, this dataset has been made available since 2007 by Dr. Alan Taylor at [www.codata.org/canada/mycotox/](http://www.codata.org/canada/mycotox/). It is intended for mycologists and chemists with a working knowledge of mycology and natural product chemistry.

This online access breakthrough marks a key step forward in NRC-CISTI's strategic activities; to develop a gateway web site giving access to Canadian scientific data sets and other important data repositories.

Both of these data sets are retrievable by a search on NRC-CISTI's online catalogue, available at <http://cat.cisti-icist.nrc-cnrc.gc.ca/search>

## New partnership offers access to over 300,000 industry standards and codes

When the going gets tough, the tough go shopping—at the new NRC-CISTI Online Standards Store! Now, online searching and shopping for current industry standards and codes just became a whole lot faster and easier for NRC-CISTI clients as a result of NRC-CISTI's partnership with Techstreet (a division of Thomson Scientific).

This virtual warehouse-style database at [http://cisti-icist.nrc-cnrc.gc.ca/techstreet\\_e](http://cisti-icist.nrc-cnrc.gc.ca/techstreet_e) contains over 300,000 industry codes and standards from 350 of the world's leading Standards Developing Organizations, including the Canadian Standards Association (CSA). Users may search for standards and codes by industry or the name of the standards publisher and also subscribe to have the latest standards documents, specific to their industry, delivered to their desktop. With industrial standards for everything from dairy sanitation to liquefied natural gas handling, this quick online access to up-to-date standards helps companies to build better, safer products, stay competitive at home and internationally and reduce the time needed to bring their products or services to market.

Note: If you are unable to find the standards you need at Techstreet, you may also use the NRC-CISTI's blank order form to place an Extended Supply Service order. First time users will need to register with NRC-CISTI.