

SUCH A COOL DEVELOPMENT! I'd like to see it go commercial...

In 2006, Dean of Science Martin Grant inaugurated the Research Innovation Office and gave it the mission of encouraging and facilitating the transfer of research innovations to the user community outside academia. To a large extent, this involves changing our collective mindset and furthering our understanding of what “choosing the market road” entails. Is this happening?

Beyond publishing

Commercialization! This may not come as your immediate next thought on realizing that you, an academic researcher, have generated an exciting and useful new development – but it is a mode of thinking being increasingly encouraged in Canadian universities. One of the key elements enabling the transfer from university lab to the marketplace is early identification of a promising invention. Science researchers continue to generate a steady and varied set of these! In McGill's Faculty of Science, in calendar 2007, innovations ranged from the discovery of a biological target for treating obesity (Biology), through nanoparticle encapsulation technology (Chemistry), to a parsing tool (software) applicable to virtually all language families (Mathematics & Statistics).

What does it take?

An interest in working with industry is an important prerequisite for success in taking an innovation to the marketplace. The interaction between inventor and commercialization partner can be slight or intense, depending on whether the latter is an established company or a new spin-off. In either case, the route to market will frequently include filing for patent protection and then licensing the intellectual property to a company. You may already possess a good grasp of the business realities involved in taking an invention and turning it into a product; but if

not, a deeper understanding of such aspects will be one of the enriching outcomes of the venture. Most of all, it takes time.

Why do it?

One of the most rewarding motivators for choosing to pursue commercialization is seeing one's research results generate societal and economic benefits. Another is the enthusiasm and excitement brought about by working on cutting edge research with real-world applications – both for you and your students. In the case of a spin-off company creation, there is the added lure of creating local employment opportunities and of retaining excellent former students and post-docs. In some cases, commercialization even brings a cash payback to both the inventors and the institution. Typically, universities use such income to fund scholarships and invest in further research support.

Does this actually happen at McGill?

You may already have chosen to disclose an invention – if so, you are among several McGill members whose state-of-the-art, cutting-edge research has resulted in developments which may well enhance our quality of life – not to mention the Canadian and local economy!

McGill's policy on intellectual property requires its employee-inventors to disclose an invention only if they intend to commercialize it. Professionals at the Office of Technology Transfer have experience with making this happen successfully and are a strong resource in helping you achieve this objective. Here are two stories of McGill inventors who chose to pursue commercialization and, in so doing, are directly impacting current technology trends – for the better.

**Inventions 02034: "Methods to fabricate thin film transistors and circuits"
05050: "Smart composite materials for plastic substrates"**

Silk Displays is the spin-off company which was incorporated in 2004 to commercialize these inventions by McGill University professors Mark Andrews (Chemistry) and Ishiang Shih (Electrical Engineering). Concurrent with the identification and enablement of a strong management team, initial seed funding was obtained through venture capital firm MSBi. The requisite license agreements between McGill and the company were negotiated and signed.

The company is pioneering a platform technology to provide embedded intelligence in flexible plastics. These all-plastic, robust, shapeable, and lightweight displays offer better colour performance at lower cost than the competition for the \$75 billion liquid crystal display (LCD) market. Replacing today's complex glass and gel LCD assemblies with a simple, plastic, solid state structure opens up markets once deemed inaccessible. These encompass a broad range of potential applications such as plastic electronics, high-contrast, high-definition displays, smart plastic materials and nano-devices and structures. A plastic LCD built using nanocomposite thin film transistors on polymers is described in a 2007 paper accessible via www.silkdisplays.com.

Based in Montreal, Silk Displays Inc. has been consistently pursuing the development of intelligent plastic displays offering a lighter and more robust alternative to the current glass displays used in electronic devices. In May 2007, Silk Displays Inc. won the Nano Science and Technology Institute (NSTI) prestigious Nanotech Ventures Award for Materials. The company recently strengthened its management team and is planning a series A financing round.

Invention 05072: "McGill Algorithm for Precipitation-nowcasting by Lagrangian Extrapolation-ensemble (MAPLE)"

McGill University professor Isztar Zawadski (Atmospheric and Ocean Sciences) invented software which tracks the evolution of radar-based precipitation patterns based on their recent past. The sophisticated algorithm provides a forecast of future precipitation for up to 6 hours. Over this time scale, the MAPLE-based forecast has proved consistently more accurate and reliable. The application of primary interest to date has been for the short term forecasting of severe weather and precipitation, a growing market need in the US which is currently being met by the meteorology private sector.

MAPLE was licensed to Weather Decision Technologies, Inc. (WDT). The company has since commercialized the application and offers it as part of its suite of services under the name Storm Predictor™. Chief technology officer J.T. Johnson acknowledged that "Storm Predictor™ takes forecasting beyond simple projection, giving clients additional time and insight as to how the weather will affect their business." McGill University is listed as a key partner of WDT in weather research at <http://www.wdtinc.com>.

You may be ready to choose the market road as well. You will not be alone. Success happens.