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INNOVATION NOW

A MONTHLY SHOWCASE OF CANADIAN RESEARCH THAT IS TRANSFORMING LIVES

At work for the economy

Medical imaging on a small scale

An ultrasound device designed to provide non-invasive real-time images with near-microscopic resolution will soon be adapted for use on human patients. Developed by Stuart Foster at Toronto's **Sunnybrook Research Institute**, approximately 800 units of the micro-ultrasound have been sold by VisualSonics, a company Foster created to commercialize the technology. The company employs more than 100 people with manufacturing in Toronto and Markham, Ont. READ MORE

Protecting mining and the environment

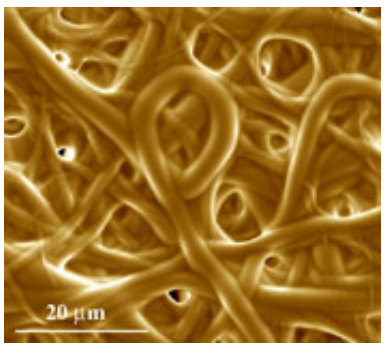
AREVA Resources Canada Inc. operates the world's most technologically advanced uranium processing and tailings management facilities at McClean Lake in northern Saskatchewan. Researchers at the CFI-funded Canadian Light Source (CLS) — Canada's national synchrotron facility at the **University of Saskatchewan** — have played an important role in keeping the mine in operation. They worked with AREVA on a process to stabilize arsenic in mine tailings, to prevent groundwater contamination and help AREVA prove it can control the long-term effects of mine tailings. READ MORE

Successful spin-off keeps food safe

A partnership between Griffith Laboratories, a global food product manufacturer that employs over 300 in Toronto, and CanBiocin Inc., a **University of Alberta** spin-off company, is helping make our food safer. Researchers at CanBiocin use CFI-funded labs at the University of Alberta to validate the efficacy of Micocin 2, a natural biopreservative that inhibits the growth of listeria during the prolonged shelf-life of deli meats. READ MORE

PICTURE THIS

INSPIRED BY NATURE



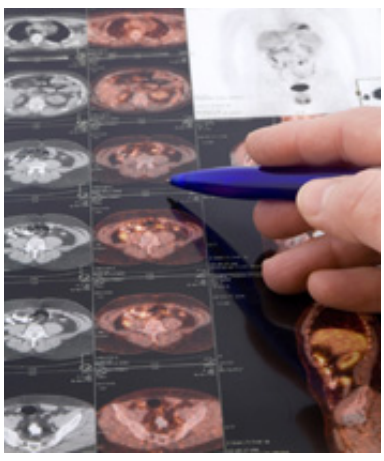
It may look like a bowl of spaghetti, but it is really a magnified view of a nanomaterial created to protect infrastructure. Researcher Masoud Farzaneh and his team at the **Université du Québec à Chicoutimi** have applied the water-repellant characteristics of butterfly wings and lotus leaves to a polymer nano-coating they have created to protect power lines and other outdoor infrastructure from ice damage. Working at the CFI-funded research centre on atmospheric icing, where researchers are working to improve the reliability of networks affected by ice damage, Farzaneh and his team hope their hydrophobic coating will help prevent the kind of destruction to power lines and hydro towers that occurred during the ice storm that hit eastern Ontario and western Quebec in 1998.

(Image courtesy of Masoud Farzaneh)

Spotlight on research

Getting to the heart

It took foresight and ingenuity, but today, the University of Ottawa Heart Institute is making the most of a radioactive moment



Experts at the **University of Ottawa** Heart Institute need only a minute of heartbeats to compose an intricate picture of the human heart. The resulting image can reveal detailed measures of blood flow, the performance of the heart's muscles and valves, and even the effectiveness of prescribed drugs.

It's all thanks to an injection of short-lived radioactive dye that rushes to the heart and makes it possible to capture a wealth of information in a matter of seconds. Using just a few picograms — one millionth of a microgram — the bulk of the radioactivity is gone in just a few minutes, and after a few hours, it becomes another inert compound the body will flush away.

DraxImage, a Quebec-based firm that has been dealing with radioactive drug products for more than 50 years, began collaborating with the Heart Institute to develop Ruby-Fill, the agent that makes it possible to survey a patient's heart in less than 75 seconds. Based on an isotope of the metallic element rubidium, Ruby-Fill received Health Canada approval for clinical use across the country in 2011. READ MORE

CFI-funded research in the news

MICROBIOLOGY — Finding cure for HIV a balancing act *(Star Phoenix, November 13, 2012)*
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INFRASTRUCTURE DE RECHERCHE — Trois laboratoires de calibre mondial à l'Université Bishop's *(La Presse, le 13 novembre 2012)*
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NOUVEAUX LABORATOIRES — De nouveaux équipements à la fine pointe à l'INRS *(La Presse, le 13 novembre 2012)*
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HEALTH — Probiotics ward off C. difficile, Hamilton study shows *(CBC.ca, November 12, 2012)*
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