

Innovatis

Ernest C. Manning Awards Foundation

2009 National Awards Issue

Volume 10, Issue 4, October 2009

The Foundation is proud to welcome four new members to the distinguished group of Canadians who have received a national Manning Innovation Award: **Dr. Robert E. Burrell, Cameron Piron, Jeffrey Quail, and Brent King.**

Their innovations in the fields of medical science and police training & safety are truly exciting. Read on to find out more about each winner's accomplishments and join us in congratulating these extraordinary Canadians.



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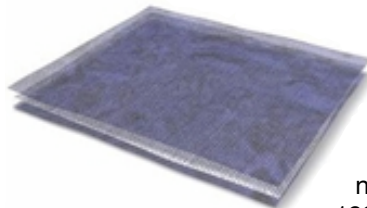
Dr. Robert E. Burrell

Acticoat™ Silver-Coated Antimicrobial Dressing

Edmonton, Alberta

Dr. Robert Burrell is the inventor of Acticoat™ antimicrobial wound dressings. The nanocrystalline silver coated dressings are used in clinical practice in over 40 countries around the world to prevent life threatening infections and promote wound healing.

Acticoat™ is a nanocrystalline silver coating that both effectively kills microbes and helps wounds heal. The sustained release of silver from the Acticoat™ dressings mean that they can be left in place for days, thus saving the patient the pain and trauma of frequent dressing changes. The unique coatings also have potent anti-inflammatory activity. The dressings have saved limbs and lives, allowed paediatric burn patients to safely recover at home, and healed decades-old debilitating wounds in weeks.



Acticoat™ is the world's first commercial therapeutic application of nanotechnology. Since 1997, the nanotech dressings have become the

treatment of choice in settings such as burn units, diabetic foot clinics, chronic wound clinics and nursing homes. Over 17 million units of Acticoat™ dressings have been sold to date; in 2008 alone, sales of Acticoat™ products were \$60 million.

"...the biggest breakthrough in wound care in the last 40 years,"

Dr. Mayer Tenenhaus, Associate Professor of Plastic and Reconstructive Surgery, University of California at San Diego Medical Center.

Principal Award Winner
\$100,000



Sponsored by



Dr. Burrell is a microbiologist by training, but has become a renowned expert in burn and chronic wound healing since beginning this work in the 1990s. Today he holds a Canada Research Chair (Tier 1) in Nanostructured Materials and is a Professor in both the Faculty of Engineering and the Faculty of Medicine and Dentistry at the University of Alberta.

**Dave Mitchell
Award of
Distinction
\$25,000**



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of the Foundation**

Cameron Piron

Sentinelle Vanguard® Breast MR Auxiliary Table with Variable Coil Geometry

Toronto, Ontario



Breast cancer affects more women worldwide than any other cancer. In Canada, about one in nine women is diagnosed, and an estimated 5400 women will die from it this year. Fortunately, with early detection survival rates can improve from 21 to 96 percent. Biomedical engineer Cameron Piron has developed a dedicated system for breast magnetic resonance imaging (MRI) to assist in early tumour detection and intervention.

MRI does not emit ionizing radiation during testing (as does mammography), and in some studies has shown to be three times more sensitive than physical exams, standard X-rays, CT scans, or even ultrasound for high-risk populations. With MRI, radiologists can clearly distinguish among water, muscle, fatty deposits, nerve tissue, and other soft tissues - even discriminating between *types* of tumours.

Developed by Cameron Piron, the Sentinelle Vanguard® Breast MR Auxiliary Table with Variable Coil Geometry system incorporates several innovations to make breast MRI and biopsy highly sensitive, patient-friendly, efficient, and cost-effective.

First, there is the custom-designed table, resembling a massage table, to increase

patient comfort through the 20 minute procedure. The system also includes adjustable radiofrequency (RF) coils which can be positioned close to the breast tissue, regardless of body type. Piron and his team even developed the software required to convert the RF signals into three dimensional images for analysis.



**"unparalleled in terms of
image quality, patient comfort
and interventional access,"**

*Dr. Nola Hylton, Professor of Radiology &
Biomedical Imaging; University of California (SF)*

Breast MRIs initially cost too much compared to mammograms to be used for general screening. This cost has since been cut by half, and as Sentinelle and its research partners continue to improve its efficiency, the cost will soon be comparable to that of digital mammography.

Laureate Appointed to the Senate of Canada



Manning Innovation Award Laureate **Dr. Kelvin Ogilvie** of Nova Scotia, has been named to the Canadian senate. Dr. Ogilvie, a past president of Acadia University, won the Principal Award in 1992 for his development of the "gene machine", a ubiquitous and essential tool used by both frontier researchers and undergraduate students to study natural and modified DNA and RNA. He furthermore developed the drug glanciclovir, crucially used in organ transplant surgeries to prevent organ rejection.

Congratulations to Dr. Ogilvie as he joins the Senate. One of his new colleagues, the Honourable Pamela Wallin, was this year's Awards Gala Chair; it bodes well for the Foundation, the Awards program, and the Laureates to have these respected and knowledgeable champions in Parliament!

Innovation Award \$10,000



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**Arthur J.E. Child
Foundation**

Jeffrey Quail

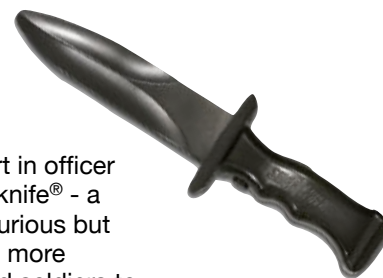
Shocknife®

Winnipeg, Manitoba



Rubber, plastic or wood replica knives quite literally dull the effectiveness of defence training because they do not elicit acute stress as a real knife would.

Jeff Quail, veteran police officer and court-declared expert in officer survival, sought to remedy this problem by creating Shocknife® - a knife-shaped electric device designed to deliver a non-injurious but excruciating electric shock to trainees. This tool creates a more realistic training environment to better prepare officers and soldiers to survive any future edged-weapon attack.



Shocknife® delivers an electric impulse to a narrow band of pain receptors in the skin, emulating a true sensation of a knife injury. Trainees are no longer tempted simply to grab the blade of the rubber replica knife - whether the adjustable Shocknife® is set on "low" (like a paper-cut) or "extreme" (like a cut to the bone), it delivers a sensation that officers won't soon forget.

The realism of the Shocknife® not only re-creates the stress of a real-life attack; repeated training with the simulated blade serves as stress inoculation, helping trainees to gradually adapt to highly stressful situations. Knives and improvised edged weapons can be found in every single North American home - far more ubiquitous than other dangerous weapons. Canadian police officers are 3.5 times more likely to be attacked with an edged weapon than a firearm, so it serves our police force well to be trained for these situations.

"Shocknife® is a revolutionary product and it definitely adds a level of realism that cannot be replicated with traditional weapons training devices."

*William R. Daniell II,
Major, US Army*

Quail and his business partner, Rory Bochinski, developed and commercialized the Shocknife® and now produce it entirely in Winnipeg, Manitoba. Today over 500 agencies in 15 countries use Shocknife® to train police officers, correctional officers, and soldiers in life-saving defensive tactics. Shocknife® users include the Canadian Forces, Royal Canadian Mounted Police, US FBI Training Academy, Hong Kong Police Academy, and the police services for many Canadian cities (Calgary, Edmonton, Winnipeg, and Ottawa).

More Foundation News...

The Manning Innovation Awards Foundation welcomes a new Trustee to our board, **Mr. Thomas F. Amgwerd**. Mr. Amgwerd began his career in finance with Credit Suisse, first as an apprentice in Lucerne, followed by stints in Montreal, Hong Kong, and Zurich before his appointment to Credit Suisse Canada as Head of Private Banking in Western Canada (first in Calgary, then in Vancouver).

In 1988, he resigned and set up the Canadian Representative Office of Bank Vontobel AG in Vancouver which is one of Switzerland's largest publicly listed Banks. As Vontobel's Chief Representative in the position of Senior Vice President in charge of Canada and parts of Asia, Mr. Amgwerd has been successfully servicing clients in Canada, as well as investors from Asia and Europe for the past twenty-one years.



**Innovation Award
\$10,000**



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Brent King

SPIDER Limb Positioner

Calgary, Alberta

Calgary biomedical engineer Brent King developed the SPIDER Limb Positioner – a unique device to accurately and securely position a surgical patient's limb during surgery. The SPIDER is built on a pneumatic-hydraulics system, allowing the surgeon to reposition the limb for the optimum operating position, simply by stepping on a foot pedal. The device is connected to the hospital's compressed air supply, rather than electricity, so there is never danger of it collapsing in the event of a power outage.

Not only does the SPIDER improve the surgeon's ability to do delicate work, it reduces costs in the operating room. Staff who would otherwise need to hold the limb during the surgery are free to perform other tasks.



"an indispensable positioning tool used around the world by thousands of surgeons on hundreds of thousands of patients,"

*Dr. Cyril Frank, Professor & Surgeon,
McCaig Institute for Bone and Joint
Health, University of Calgary*

Surgeries can be faster and less cumbersome due to the increase in efficiency and ease. And the SPIDER is incredible versatile; accessories make it suitable for use in various hip, knee, ankle, wrist, elbow, and shoulder surgeries.

Today, the SPIDER Limb Positioner has been distributed to over 50 countries at facilities such as the Boston, Massachusetts General Hospital, the Clinique Générale of Annecy, France, and all of Calgary's hospitals.

THANKS TO OUR PARTNERS:



Arthur J.E. Child Foundation

The Jim McEwen Family

The Dave Mitchell Family

Friends & Laureates of
the Foundation

Imagination to Innovate: Stamina to Succeed

For nearly 30 years, the Manning Innovation Awards have celebrated Canadians with the imagination to innovate and the stamina to succeed. If that sounds like you, or someone you know, we want to hear from you. Awards range from \$10,000 to \$100,000.

2010 Nominations close December 1st.

The National Awards Gala was held on September 18th in Vancouver, BC. Please watch for our next issue of Innovatis in November, featuring photos from the event of all our winners, including our Young Canadians!