

# Innovatis

Ernest C. Manning Awards Foundation

2010 National Awards Issue

Volume 11, Issue 3, September 2010

## Congratulations

To Dr. Ken Standing,  
Dr. Werner Ens,  
Dr. Donald S. Mavinic,  
Geoff Gosling, and Ray  
Roussy: our 2010 Award  
Winners!

They join our Young  
Canadian Innovators  
(featured last issue) as  
honorees at the  
National Manning  
Innovation Awards Gala  
September 17 in Ottawa!



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**Executive Assistant**  
Marilyn Golding

**Canadian Charitable Organization:**  
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## 2010 Award Winners

The Ernest C. Manning Awards Foundation is proud to  
welcome these winners to a distinguished group of Canadians

### Dr. Ken Standing & Dr. Werner Ens

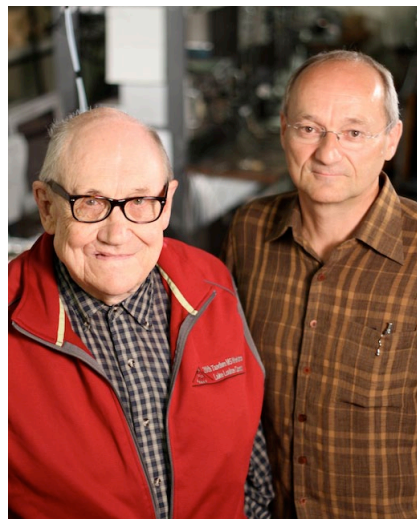
Time-of-Flight Mass Spectrometry Laboratory



Winnipeg, Manitoba

The Principal Award will go to Drs. Ken Standing and Werner Ens, whose improved spectrometer design revolutionized mass spectrometry instrumentation for protein analysis. Their innovative work has not only been a boon to Canadian industry, but will continue to have an untold human impact in the years to come.

Proteomics is the study of proteins, the biomolecules that form the building blocks of the body and carry out the chemical reactions that sustain life. The technologies developed by Drs. Standing and Ens have opened up proteomics, making mass spectrometry a sensitive and reliable tool to identify proteins, analyze gene expression, trace how drugs are broken down in the body and analyze protein structure. The technology was used, for example, to characterize the SARS virus even before its genome was sequenced.



An NSERC Collaborative Project Grant (1994–1997) allowed research and development of the transformative technology to take flight. Other supporters have included the University of Manitoba, the Canadian Institutes of Health Research, Genome Canada, the US National Institutes of Health and Canadian company MDS Sciex (now owned by AB Sciex).

Drs. Standing and Ens' series of internationally patented innovations are embodied as the QSTAR® Elite mass spectrometry systems; the technology is currently used around the world.

**Encana  
Principal Award  
\$100,000**  
**encana™**  
natural gas

**SEE INSIDE for more extraordinary award winners...**



## Dr. Donald S. Mavinic

### Crystal Green: A Process to Recover Soluble Phosphorus from Wastewater



*Vancouver, British Columbia*

Engineer, educator, entrepreneur and world expert in wastewater treatment, Dr. Donald S. Mavinic is the creative force behind a unique technology to recover pipe-clogging phosphorous compounds from wastewater and recycle them into fertilizer. The innovation turns a costly problem into a valuable product while addressing major environmental concerns of our time.

The dead zone-inducing phosphorous pollution of natural waters is one of the most significant environmental challenges facing the planet. Yet phosphorus is also a dwindling resource that food crops can't grow without. The PEARL™ reactor rescues phosphorus from sewage sludge, recycling the would-be pollutant into the environmentally friendly fertilizer, Crystal Green®.

The idea for the patented technology began to crystallize in the late '90s when Mavinic was working on methods to prevent mineral buildup in wastewater treatment equipment. The nuisance mineral contained a precious commodity: phosphorus. Together with his research associate and graduate students at the University of British Columbia, Mavinic worked out the chemistry and engineering for phosphorous recovery.

Mavinic also helped found Ostara Nutrient Recovery Technologies, Inc., the University of British Columbia spin-off company that markets the PEARL™ reactor and CrystalGreen™ around the world. A single reactor can produce over a half tonne of fertilizer per day.

Commercial scale PEARL™ reactors are in operation at wastewater treatment facilities serving the City of Edmonton, Alberta; several cities near Portland, Oregon; as well as York, Pennsylvania and the region of Suffolk, Virginia, both near the ecologically-sensitive Chesapeake Bay Watershed.



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

Sponsored by  
**Friends and Laureates  
of the Foundation**

T H A N K S T O O U R A W A R D S P O N S O R S & I N - K I N D P A R T N E R S :



Arthur J.E. Child Foundation  
The Jim McEwen Family  
The Dave Mitchell Family  
Friends & Laureates of  
the Foundation



# Geoff Gosling

## DIRTT Modular Wall System

Calgary, Alberta



Geoff Gosling will receive an Innovation Award for developing the DIRTT Modular Wall System, which lives up to the current market demand for sustainability and universality in construction, while providing aesthetically pleasing and functional office spaces.



DIRTT (Doing It Right This Time) movable walls are floor-to-ceiling partition walls that can be repositioned time after time without creating construction dust or material waste. Gosling was inspired by the nature of LEGO™, in particular how the various blocks fit together regardless of the object being constructed.

The DIRTT modular wall components support infinite variability: walls, cabinetry, office furniture, or virtually anything can

be hung from the horizontal support in the walls. Expandable and flexible connections adapt to different building angles and curves, making for fewer parts and pieces and a more efficient use of interior environments. The walls support power, data and security cabling allowing for LCD screens, digital whiteboards or other media panels to be seamlessly integrated.

As part of its environmental mandate, DIRTT uses exclusively non-toxic, water-based finishes, which are UV cured. The walls improve interior air quality and are good for the wider environment.

DIRTT Environmental Solutions Ltd. currently employs over 500 people in Canada and the United States. Annual revenue rose from \$20.5 million in 2006 to \$93 million in 2009.



### Innovation Award

**\$10,000**

Sponsored by  
**Arthur J.E. Child  
Foundation**

T H A N K S T O O U R E V E N T P A R T N E R S :

Gold



Silver



Bronze



GlaxoSmithKline



Canada Foundation for Innovation  
Fondation canadienne pour l'innovation

**Table Purchasers:**

Western Clinical Holdings Ltd.

StrategyCorp Inc.

NSERC/MITACS

David B. Mitchell

Fort Garry Hotel

Summa

CIHR

TransAlta

NRC

Amgen

CEIM

CWTA

Polytechnics

SDTC

Cisco

Rx&D

National Public Relations

University of Alberta

University of Manitoba

BIOTECanada

## Ray Roussy

### Sonic Drill Technology

*Surrey, British Columbia*



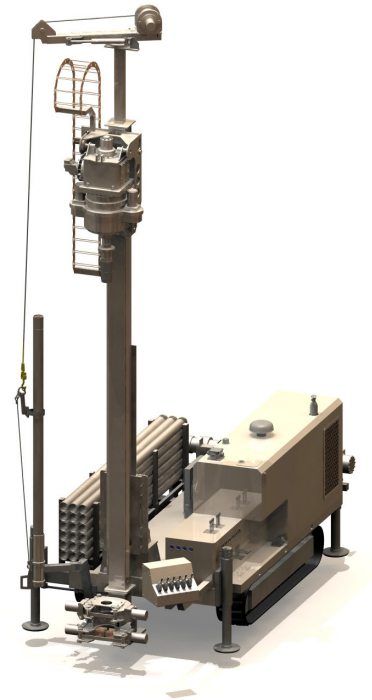
When mechanical engineer Ray Roussy couldn't find funding to develop a sonic drill, he built one in his own back yard. More than 26 years and numerous patents later, Roussy has developed one of the fastest drilling systems in the world. Unlike a traditional drill, which simply uses direct physical force to bore into the ground, the sonic drill also uses high-frequency mechanical vibrations to cut through overburden and bedrock.

Not only is the sonic drill at least three to five times faster than a conventional drill, it also efficiently bores through tough terrain without jamming or disturbing the surrounding environment. As a result, it is often used as a "rescue rig" where traditional drill rigs have failed.

Roussy's sonic drilling technology, in use on five continents, continues to gain recognition, especially as an environmentally-friendly alternative. Twice as efficient as conventional drill rigs, the sonic rig also produces up to 70 percent less mess on site. It is commonly used to quickly install geothermal energy loops, perform seismic explorations in ecologically-sensitive areas and obtain core samples for environmental investigations.



Roussy is president of the contracting company, Sonic Drilling Ltd., and the manufacturing company, Sonic Drill Systems, which, combined together, employ more than 50 people in Chilliwack and Surrey, BC. Overall company revenues are \$8-10 million annually.



### Innovation Award

**\$10,000**

Sponsored by



## Our Founder, David E. Mitchell

With the passing of Dave Mitchell on Sunday, August 15, the Foundation has lost a great friend, colleague and a truly great Canadian.

Dave was the catalyst and key founder of the Ernest C. Manning Awards Foundation, established to promote and celebrate Canadian innovation by recognizing Canadian innovation heroes. He led the Foundation as volunteer President and Chair of the Board of Trustees for 27 years.

Visit [www.manningawards.ca](http://www.manningawards.ca) to read the special Legacy edition of Innovatis, honouring the life of this extraordinary Canadian.



## Foundation News

Executive Director Bruce Fenwick is stepping down from his position this fall; planning is in progress to ensure continuity into the exciting 30th Award year.