



INNOVATIS

Proud Sponsors of the
Manning Young Canadian
Innovation Awards



Volume 2 Issue 2
September 2000

Inside this issue:

- Avert the Hurt** Page 2
- The Effects of Anesthetic** Page 2
- The Art of Neuro-Modulating** Page 3
- Wireless E-Mail** Page 3
- \$500 Science Fair Winners** Page 4

Science Fair Applauds Bright Young Minds



Young Canadian Award Winners are congratulated by Farhad Seif (far left) Petro-Canada, John Watson (back row) Alberta Energy Company, and Donald Park (far right) Manning Innovation Awards.

The Canada-Wide Science Fair is a project of the Youth Science Foundation of Canada and is hosted by such as this year's winner, the eastern city of London, Ontario.

This year, which featured 341 science pro-

jects involving 450 students, was the culmination of scientific exploration that involved approximately 500,000 participants from across Canada.

The annual fair will be held next in Kingston (2001), Saskatoon (2002) and Calgary (2003).

Overall, a total of 50 senior high school students were judged in four categories for the Manning Innovation Awards.

The winners share \$20,000 in prize money, co-sponsored by the Alberta Energy Company and Petro-Canada.

Marilyn Golding Ten Years With The Manning Innovation Awards

Congratulations to Marilyn Golding on achieving ten years of service with the Manning Awards Foundation.

Marilyn joined the Foundation as Executive Assistant in September of 1990 following a lengthy career with the Alberta Energy Company.

The move was prompted by the oppor-

tunity to continue working but at a reduced schedule following the birth of her first daughter McKenna. The birth of her second daughter, Landis, followed in 1992. Marilyn was born and grew up in Calgary and resides in the city with husband Ross and their two daughters.

Marilyn's pleasing personality and manner is



admired by the many hundreds of contacts established across Canada in her work with the Foundation.

Thanks to Marilyn the many activities associated with the Manning Innovation Awards have and continue to run smoothly.

Avert the Hurt: Erin Stewart's New Kneepad



☑ **\$4,500 Winner**
ERIN STEWART,
for her project,
Avert the Hurt of
Patellofemoral
Syndrome.

Attention all sports enthusiasts who use kneepads for protection!

Erin Stewart, a Grade 12 student at Chatham-Kent Secondary School, in Ontario, is researching a knee pad that helps to prevent the occurrence of patellofemoral syndrome, a condition which is the cause of more than 50 per cent of all knee injuries.

"My purpose is to develop the ultimate knee pad to protect people involved in high impact sports," says

Stewart.

Stewart measured impacts and tested different characteristics of pad fillers to see which ones best prevented the transfer of pressure between bones.

The characteristics tested included particle size, density of materials and different types of materials.

Stewart also checked the performance of these materials under angled impacts such as deep knee bends in volleyball.

Her conclusion was that optimum stability would be provided through a combination of high-density sponge interspersed with air.

Stewart's research won a \$4,500 Manning Young Canadian Innovation Award during this year's annual Canada-Wide Science Fair.



☑ **\$4,500 Winners**
MILNE and
BEAMISH,
for their project,
the Anesthetic
Effects on Channel
Systems in Plants.

The Effects of Anesthetic: Milne and Beamish

Avaleigh Milne and Travis Beamish, both 18 and OAC students at Kingston Collegiate and Vocational Institute, in Ontario, wanted to contribute to a greater understanding of anesthesia.

Together, they developed their award-winning project to determine the effects on channel systems within a soybean plant.

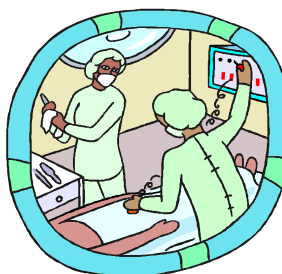
"We selected the soybean plant because of its particular properties that could demonstrate the impact of anesthesia on stomatal aperture and photosynthetic rates. We have been able to support the current theory that

anesthetics act on ion channels, which transmit the effects of the anesthetic," say the two researchers.

"Very little is known about how anesthetics work. This project helps contribute to the better understanding of the impacts of anesthetics on the human body," explained the Milne-Beamish team.

In addition to their \$4,500 Manning Award, the team's past work has also been published in a Canadian scientific journal.

Next year, the two students plan to head to Harvard.



The Manning Innovation Awards, named in honour of the late Ernest C. Manning, former Alberta premier and Canadian senator, was incorporated as a not-for-profit society in 1980 to stimulate, encourage and reward deserving Canadian innovators for their personal accomplishments that have widespread social and economic benefit to Canada.

The annual program continues today with a \$100,000 Principal Award, a \$25,000 Award of Distinction, two \$5,000 Innovation Awards and the \$20,000 Young Canadian Innovation Awards program, shared among eight exhibits selected from entries in the senior division of the national Canada-Wide Science Fair.

3900, 421-7 AVE SW, CALGARY, AB T2P 4K9 Phone: 403-266-7571 Fax: 403-266-8320

We're On The Web
www.manningawards.ca

The Art of Neuromodulating: David Laflamme

David Laflamme, a 17 year-old student in his final year at Ecole Secondaire Montcalm in Sherbrooke, Quebec, recently received one of four \$4,500 prizes from the Manning Awards Foundation.



David Laflamme's project tested the ability of an extract of Ginkgo Biloba to serve as a neuromodulator, affecting the ability of the brain's neurons to retain memory and demonstrate its potential value in the treatment of Alzheimer's disease.

Alzheimer's disease is caused by the accumulation of a strange substance around the neurons of the hippocampus, and seemingly targets the neurons of the memory zone.

The substance decreases up to 90 per cent of the quantity of acetylcholine that the body itself produces, causing memory disorders.

Laflamme's science project used rats in three groupings to test the merits of Ginkgo Biloba.

Two test groups were administered scopolamine,

which temporarily blocks synaptic transmission of acetylcholine, much like the effect of Alzheimer's disease.

The second group was also given an injection of Ginkgo Biloba to test its capacity to reverse the amnesic effect of scopolamine.

A third group received a saline injection and acted as a control group.

None of the rats which were administered the Ginkgo showed any amnesic deficits which suggests to Laflamme that Ginkgo could be the first neuromodulator that is also a neuroprotector, acting on the two main problems associated with Alzheimer's disease.

In addition to the \$4,500 Manning Young Canadian Innovation



Award, Laflamme also received the Canada-Wide Science Fair's silver medal in the Life Sciences category for his research.

Laflamme's future educational plans include pursuing medicine at McGill University.



ALEX McKELVEY's Wireless Email System

Alex McKelvey, a Grade 11 student at Northern Secondary School in Toronto, was recently recognized with a \$4,500 award for his work in developing a wireless and comprehensive email solution for individual or corporate use.

"This project is an entire email wireless solution including everything that an individual or company needs to set up a comprehensive and integrated email system," says McKelvey.

The Canine suite includes a PC email client, a Windows NT-based server package, and a wireless handheld pager-like device for accessing emails remotely," McKelvey told project judges.

His system has already been used to facilitate the email needs of delegates at a recent convention in the United States.



☑ \$4,500 Winner
DAVID LAFLAMME,
for his science fair
project, the Art of
Neuromodulating.

☑ \$4,500 Winner
ALEX McKELVEY,
for his science fair
project, the Canine
Wireless Email
System.



\$500 Manning Young Canadian Innovation Award Winners

Welcome to a New Trustee

The Honourable Donald S. Macdonald, P.C., C.C., B.A., LL.B., brings a distinguished background in both law and politics.

Donald Macdonald was an M.P. from 1962-1978, with a portfolio as Minister of Industry, National Defense, and Finance. While an MP, Donald Macdonald also became President of the Privy Council and Government House Leader.

Currently, Mr. Macdonald is a director of several companies including Alberta Energy Company, TransCanada PipeLines, and Sun Life Assurance. His wealth of experience and many interests will be of great value to the Manning Innovation Awards Foundation.

Jeremie Labbe, in his first year at Lionel Giroulx, in Quebec, received one of four \$500 Manning Awards.

Labbe's engineering work was aimed at further improving the design and development of an electromagnetic braking system for large trucks.

While the fundamentals of the system are already applied in other fields, this application was innovative to large transport vehicles for increased safety.

In past experiments, Labbe's development demonstrated a highly-efficient and quiet braking capability, but the system was costly and a high energy user.

The revised Dynamic design is lighter, maintains optimum efficiency and reuses energy. Labbe also received the bronze medal in the Engineering category.

Aaron Small, a Grade 12 Fredericton, New Brunswick, high school student also won a \$500 Manning Award and the gold medal in the computer technology category.

"I wrote a computer program capable of accepting input and processing sound," Aaron told judges.

"This program establishes the note being played and the harmonic series. By matching the frequency of the original sound input to an ideal frequency and the harmonic series of a good musician, the tone and tuning can be improved."

Peter Mayer, a Grade 12 Western Canada High School student in Calgary, received his second Manning Award.

The Mayer Hot Start III is a superior design on an earlier development achieved with his sister.

"To eliminate the harmful effects of cold starts in vehicles, we developed Hot Start III, which reuses engine heat to pre-warm the motor," said Mayer.

"We increased the heat transfer and recovery rates by 100 per cent over prototype II, by incorporating dual thermostat and baffle systems and drastically reducing reservoir size. This made the prototype III a far superior design," Mayer explained to judges at the science fair.

Stephan Pawloski (Grade 11) and **Ryan Stanley** (Grade 10), two students at D.W. Poppy Secondary School, Langley, BC, have developed MODD, a Mobile Ordnance Detection Device.

"We developed this project to aid humanitarian initiatives to reduce human casualties through the safe removal of unexploded ordnances and landmines," said the two innovators.

"Our vehicle detects and marks the location of these dangerous devices from a safe distance," the Pawloski-Stanley team explained to judges.

Their work also resulted in a \$500 Manning Award at the science fair.

Surfing the Net?

We're under revision but, thanks to the Webmaster at the Alberta Energy Company, we'll soon have a new look!

www.manningawards.ca

