



INNOVATIS

Thermal Sensor Wins \$100,000 Principal Award

**Atlantic Canada Sweeps 2003 Manning Awards
First Principal Award Winner from New Brunswick**

“The seeds of great discoveries are constantly floating around, but they only take root in minds well prepared to receive them.”

— Joseph Henry

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Dr. Nancy Mathis of Fredericton, New Brunswick, is this year’s \$100,000 Manning Principal Award winner for her innovative development of non-destructive thermal effusivity sensors.

Dr. Mathis’ sensor technology was first theorized in her engineering PhD thesis and subsequently developed and commercialized by her company Mathis Instruments Ltd. which was formed in 1995 with her husband Chris (also an engineer).

Unlike other techniques and devices, Mathis’ innovative approach to measuring the thermal effusivity of materials is rapid, non-invasive and flexible.



Dr. Nancy Mathis of Mathis Instruments Ltd. demonstrates her award winning thermal effusivity technology.

Extremely portable and adaptable with no moving parts, Mathis’ sensors enable testing in the laboratory, on the production line and off-site in the field.

Already, an interna-

tional spectrum of companies have utilized Mathis instruments. These include clients in the pharmaceutical, aerospace, automotive, petroleum and electronic industries.

Thermal analysis and the resulting data can provide invaluable information to researchers and manufacturers to ensure consistent product quality.

Dr. Mathis’ sensor technology works by detecting subtle differences in heat flow much like the human hand does.

“It’s almost like a stethoscope in how it measures,” she says.

As a result, Mathis’ sensors can differentiate

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Innovation Makes Sweet Music, Revolutionizes Guitar Industry

Guitar builder captures \$25,000 Manning Award of Distinction First Winner From Newfoundland

Proud sponsor of the \$25,000 Manning Award of Distinction



CanWest Global Communications Corp.

Chris Griffiths of St. John's, Newfoundland, has won the 2003 Award of Distinction for his unique approach to building the inner structure of acoustic guitars.

The patented Griffiths Active Bracing System and the Griffiths Interlocking Blocking System, incorporated into Garrison Guitars, has revolutionized an industry that has remained unchanged for more than a hundred years.

Griffiths' winning innovation is a single-piece glass fiber unit that replaces dozens of wooden support pieces inside the

body of a guitar.

"It took me six minutes to come up with the idea and six years to make it work," Griffiths says.

Despite being on the brink of bankruptcy from investing in his new technology, Griffiths fortunately was able to raise enough seed capital.

Following a successful trade show, Garrison Guitars was formed, and a 20,000 square foot factory was opened.

Today, this factory produces 12,000 guitars per year and, demand still exceeds supply.

Thanks to its superior



Chris Griffiths displays the concept behind his award winning guitar innovation.

strength, quality and intonation, Garrison Guitars has been endorsed by many professional musicians and is in demand worldwide.



Proud sponsors of the Young Canadian Innovation Award winners.

Mathis Instruments Wins Principal Award

Story continued from page one.

materials in solid, liquid or powder form, in a matter of seconds versus hours using other technologies.

The pharmaceutical industry is deploying the sensors in quality control to continuously monitor batch production of powders for tablet-form medications.

"It's an emerging market," Mathis notes.

"The pharmaceutical industry has never before done this type of quality control."

There are an estimated 10,000 primary blenders and 50,000 bin blenders (used for storage and handling) in the worldwide

pharmaceutical industry.

This represents a market opportunity of over \$3 billion for Mathis Instruments.



Dr. Nancy Mathis

Saluting Canadian Innovation

Innovative Molding Form Wins \$10,000 Manning Award

Kirk Swinimer of Mahone Bay, Nova Scotia, has always been a problem-solver. Now, his latest solution, Bigfoot Systems, an engineered construction footing form, has won a \$10,000 Manning Innovation Award.

In 1996, with a background in carpentry and custom home building, Swinimer became frustrated with the traditional two-stage, time-consuming job of pouring a concrete footing prior to setting a construction tube in place to pour a concrete piling.

Making the hole wide enough for a worker to set the form in the footing was one of the main difficulties as well as setting and securing the construc-

tion tube. In addition, irregularities in the substrate often made it difficult to build a level form.

Swinimer solved the problem by designing a cone-shaped plastic footing form that could be attached to the end of the construction tube.

Made of lightweight, recycled, high-density polyethylene plastic, Swinimer's molding form allows the footing and construction tube to be poured as a single unit that is shaped to shed water away from the footing.

Swinimer's Bigfoot Systems eliminate the time-consuming and awkward work of building and positioning individual wooden footing forms, making it an industry



Kirk Swinimer pictured with his winning invention, an engineered plastic construction footing form.

leader. By enabling footings to be placed by one person instead of two, Bigfoot Systems has been proven to reduce labour costs by as much as 90 percent, and contractors have reported savings of \$150 to \$200 per footing.

Today, Bigfoot Systems are used at many construction sites from industrial to residential.

*Proud sponsor
of a \$10,000
Manning
Innovation
Award*

**The Edper
Foundation**

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.

We're On The Web
www.manningawards.ca

The annual program continues today with a \$100,000 Principal Award, a \$25,000 Award of Distinction, two \$10,000 Innovation Awards and the \$20,000 Young Canadian Innovation Awards program, shared among eight exhibits selected from entries in the senior division of the Canada-Wide Science Fair.

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\$10,000 Manning Award For Air Chamber Crab Processing Unit

The Air Chamber Crab Processor represents a “sea change” in technology that has helped Canada’s crab processing industry more than double in size. Tim Edmonds of Dartmouth, Nova Scotia, has won a prestigious \$10,000 Manning Innovation Award for his machine, which provides a cost-effective, safe and healthy method of removing meat from hard-shell segments of crabs.

Even though numerous attempts to automate the industry had failed before, Edmonds was able to successfully develop his Air Chamber Crab Processor (ACCP).

The ACCP machine extracts the meat from crab legs after the legs are manually removed from the crab and individually placed in rubber pockets on a conveyor belt.

Once on the conveyor belt, the leg tip is sawed off and a unique lip seal is formed over the crab leg and then compressed air is used to force the meat out.

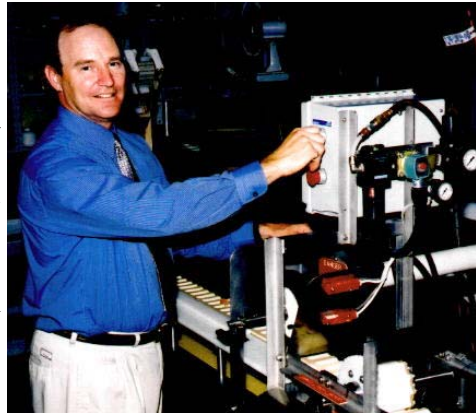
Edmonds’ innovation lies in the sealing system used to form an air chamber over each crab leg — an innovation that results in a labour saving of 66 percent and an 8 percent higher meat yield.

The ACCP revolutionized an antiquated process. To date, 47 machines have been sold in Canada, the United States, Norway, Ireland and Scotland.

Edmonds’ machines have had a significant impact on the growth and viability of the crab industry.

More boats are now crab fishing, more low-value crab is now being processed and a health risk associated with manual processing has been resolved.

One New Brunswick company, for example, tripled production with the same work force after installing two machines. Thanks to its ACCP machines, that company now processes 15,000 pounds of Rock Crab per day.



Tim Edmonds demonstrates his award-winning air chamber crab processing unit, an innovation that has significantly impacted the crab industry.

“...it is curiosity, initiative, originality, and the ruthless application of honesty that counts in research — much more than feats of logic and memory alone.”

— Julian Huxley



Proud sponsors of the Manning Innovation Awards annual dinner to be held in Halifax, Nova Scotia, October 2003.