



INNOVATIS

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Volume 2 Issue 3
November 2000

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Dr. Pierre Côté proudly holds a glass of purified water in celebration of winning.

Revolutionary Water System Earns \$100,000 Principal Award

ZeeWeed is a revolutionary technology using membranes like those in the human body to treat and purify any kind of water source.

Now the leader of the team that developed ZeeWeed, **Dr. Pierre Côté** of Zenon Environmental Inc. in Oakville, Ont., has received this year's \$100,000 Manning Principal Award.

ZeeWeed's thin, hollow, membrane strands act as a physical barrier filtering out particles, contaminants, parasites and microbes, including deadly *E.coli* bacteria.

As a result, this technology has just been selected as an interim ultra-filtration system to treat well water in Walkerton, Ontario.

"We want to see ZeeWeed used in every plant in the world, both for drinking water production and for wastewater treatment," says Côté, 47, chief technology officer for Zenon Environmental.

ZeeWeed modules consist of vertical frames fitted with numerous membrane fiber strands. The open modules are immersed directly into the water source, where a slight suction draws pure water through each porous-walled fiber.

The system, which automatically cleanses itself, significantly reduces the amount of chemicals and associated equipment required with conventional water treatment.

The town of Collingwood, Ont., installed a ZeeWeed treatment system after

identifying isolated cases of microbe-caused cryptosporidiosis in water supplies in 1996.

"The Collingwood ZeeWeed plant has run very smoothly since start-up, producing the best drinking water in Ontario," says Ed Houghton, director of engineering and operations for the Collingwood Public Utilities Commission.

Zenon's membrane technology is also being used or installed in more than 100 treatment plants in 20 countries, from small towns like Walkerton to cities of two million people.

ZeeWeed also is employed in North America's largest ultra-filtration plant, being built in Olivenhain, California.

Congratulations to Dr. Côté and his winning team!

“I’m 65, but I’m the oldest rookie that got into the NHL”

- Fred Marsh, winner of the Bennett Jones \$5,000 Manning Innovation Award.



Hockey Invention Scores Big with NHL

Marsh Flexible Goal Pegs are playing a starring role in the National Hockey League, eliminating serious injuries for players who used to collide with nets anchored by steel posts.

Now the inventor of the system, **Fred Marsh** of Kamloops, B.C., has received the Bennett Jones \$5000 Manning Innovation Award.

Marsh developed his patented goal post pegs after watching talented players sustain career-threatening injuries.

It took him several years of determined letter writing and telephone calling to convince NHL officials to adopt his innovation but, in the end, he was successful.

“I’m 65, but I’m the oldest rookie that got into the NHL,” Marsh jokes.

“I made it when I was 56,” he adds.

The unique rubber-and-plastic Marsh pegs work by bending and returning to their original position, allowing the net to stay in place when jostled.

But when the net is hit hard, it pops off the pegs, preventing serious injury.

“This simple but effective device has saved many an injury that was always associated with driving hard to the net,” says



Fred Marsh proudly demonstrates his NHL-approved goal pegs.

Mike Gartner, former forward with the Washington Capitals hockey team.

The pegs, marketed by Marsh Pegs and Nets Ltd., a family business run by Marsh and his wife, Sheila, have been used in the 1998 Winter Olympics and have also been sold in Scotland, England, Japan and Finland.

Marsh Flexible Goal Pegs are now used by all NHL teams, the Western Hockey League, many collegiate and junior leagues, and are endorsed by the International Ice Hockey Federation.

Marsh, born in Moose Jaw, Sask., grew up playing hockey on icy streets and outdoor rinks. Trained in ice-making, he went on to operate

two arenas in Kitimat, BC. for a period of 25 years.

“Hockey and ice-making have been my life,” he says.

Congratulations to Fred for making hockey a safer game for all!

The Manning Innovation Awards, named in honor 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.

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Innovation Makes Home Ownership Affordable

“People sometimes buy more home than they need.”

- Dr. Friedman, winner of the Southam \$25,000 Manning Award of Distinction.



The **Grow Home** is an energy-efficient, narrow-front row house that has enabled more than 10,000 Canadian families to afford home ownership.

Now the **Grow Home**’s designer, **Dr. Avi Friedman** of Montreal, has received this year’s Southam \$25,000 Manning Award of Distinction.

Dr. Friedman, associate professor at the McGill University School of Architecture, developed the **Grow Home** so that families with a minimum annual income of \$25,000 could buy an attractive, well-built home for half the construction costs of a conventional house.

“People sometimes buy more home than they need,” says Friedman, 48.

“And they commit themselves to a huge mortgage for many years.”

Dr. Friedman’s **Grow Home**, a 14-foot wide by 36-foot long, two-story

house on a narrow lot, reduces land and infrastructure costs as well as the time required to build it.

It can be built for \$40,000 construction costs and in as little as two days.



*Dr. Avi Friedman displays a model of his **Grow Home**.*

To further cut costs, the basement or the second floor is left as unfinished space.

New homeowners can complete it the way they want – hence the name **Grow Home**.

Dr. Friedman’s row house design also reduces energy costs and conserves building materials.

“One can easily say that the **Grow Home** has revolutionized Quebec’s and perhaps Canada’s homebuilding industry,” says Danny Cleary, president of Habitation St.-Laurent.

Generating a \$1-billion investment in homebuilding in Canada, the **Grow Home**, in a prefabricated package design, has been exported to the United States, Europe and Latin America.

The first demonstration **Grow Home**, a project coordinated by research assistant Susan Ross, was built on the McGill School of Architecture campus in 1990.

As a result, the unique home attracted international attention and praise for its design.

Congratulations Dr. Friedman, on making home ownership more affordable!



*is proud to sponsor
the Manning Innovation Awards dinner.*

“My goal is to make sure this technology is on every rig in the world.”

- Quinn Holtby, winner of the Westaim \$5,000 Manning Innovation Award.



Oil Well Invention Enhances Safety

The **Kelly/Katch Kan**, a comprehensive oil well fluid containment system, enhances worker safety and protects the environment on more than 400 drilling and service rigs around the world.

As a result, its inventor, former driller **Quinn Holtby** of Edmonton, has received a Westaim \$5,000 Manning Innovation Award.

Working from his garage, Holtby spent four years perfecting the lightweight, portable Kelly/Katch Kan.

He also sold real estate for seven years to learn how to market his invention.

Holtby, who worked eight years on the rigs, knows the dangers of being blasted by high-pressure drilling mud or slipping around the drill floor on frozen drilling fluids.

The Kelly/Katch Kan replaces the heavy steel inefficient mud cans that

made a rig worker's job uncomfortable and often hazardous.



Quinn Holtby with his revolutionary fluid containment system.

“My goal is to make sure this technology is on every rig in the world,” says Holtby, 40.

The Kelly/Katch Kan is now a standard for the petroleum industry's biggest drilling companies, including Akita Drilling, Nabors Canada Drilling Ltd. and Precision Drilling Corporation.

“The Kelly/Katch Kan effectively eliminated slip hazards on the drill floor,” says William George, drilling safety supervisor with Akita.

“It is an excellent example of the improvement possible on a work site when modern technologies are applied.”

Holtby's two-part system includes a sealed can (the Kelly Kan) enclosing the drill pipe.

The Kelly Kan directs discharged fluid through a rotary table into a collection tray (the Katch Kan) for recycling or reuse.

The technology keeps workers dry and safe, saves money on drilling fluids and prevents environmental damage at the well site.

The system, marketed by Holtby's company, Katch Kan Limited, can be used on drilling and service rigs for all applications.

Congratulations to Quinn on a job well done!

Thank You **The Manning Foundation appreciates the recent generous support of the following donor companies and individuals:**

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