

Iron ring gets stamp of approval

Canada Post to honour 75-year-old ceremony

The iron ring symbol is about to receive a stamp of approval—literally. On April 25, 2000, Canada Post will issue a postage stamp to honour the 75th anniversary of the Ritual of the Calling of an Engineer—the obligation ceremony in which graduating engineers participate.

“It is our hope that the commemorative stamp project will strengthen the bonds among Canadian engineers through enhancement of their public image, while highlighting Canadian engineering achievements,” says Rémy Dussault, ing., chief warden of the Seven Wardens Inc., the group that administers and maintains the ritual across the country.

Canada Post rarely recognizes 75th anniversaries, but will make an exception thanks to the vigorous four-year letter-writing campaign set in motion by Don Turner, P.Eng., a warden of Camp 1 and the chair of the Seven Wardens’ Commemorative Stamp Committee. Thanks to his efforts, Canadian engineering associations, engineering deans and students, individual engineers and political dignitaries like Jane Stewart, David Collenette and deputy prime minister Herb Gray all wrote Canada Post chair André Ouellet asking that the commemorative stamp be issued this year.

The Ritual of the Calling of an Engineer, or the Iron Ring Ceremony, originates from 1922, when seven past presidents of the Engineering Institute of Canada attended a meeting in Montreal. At that meeting, Herbert Haultain, P.Eng., a mining engineering professor at the University of Toronto, voiced his request for an organization to link engineers in Canada more closely together. Haultain then wrote to English poet Rudyard Kipling, who in turn responded with an obligation and a ceremony called, “The Ritual of the

Calling of an Engineer.” The first Iron Ring Ceremony took place on April 25, 1925 at the University of Toronto.

At the ceremony, engineering graduates receive an iron ring, symbolizing both the pride and humility of the profession, which is meant to remind engineers of their obligations to maintain high professional standards.

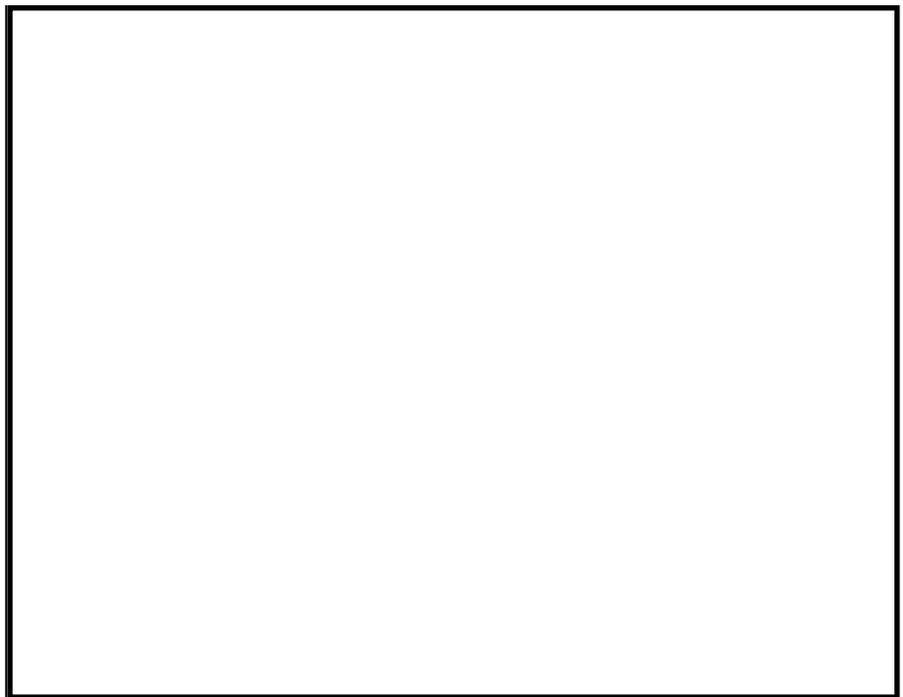
Canada Post will print seven million stamps. The average print run is five or six million for a

commemorative stamp. But unlike the definitive stamps of Queen Elizabeth or the Canadian flag, the iron ring stamp will only be available for one year. This is Canada Post’s first tête bêche stamp: a two-piece, peel-and-stick stamp that you assemble into a ring on the envelope.

Stamps will be available at any post office in Canada, or through the National Philatelic Centre by calling (800) 565-4362 or (902) 863-6550.



Still being finalized, the new iron ring stamp is one of many engineering-related stamps Canada Post has issued. Engineering feats celebrated in postage stamps include (from top left) the Athabasca tar sands, the Canadian space program and the Bombardier skidoo.



Panel to resolve software engineering debate at Canadian universities

by Karen Hawthorne

In the wake of the debate over use of the term "software engineering" at Canadian universities, a new panel has been struck to tackle the issue and make recommendations on resolving it.

The independent panel, which met for the first time in early February, comprises representatives from the engineering and information processing professions, and science and engineering academe. It's the result of an agreement reached last September by the Canadian Council of Professional Engineers (CCPE), the Association of Universities and Colleges of Canada (AUCC) and Memorial University of Newfoundland. Under the terms of the agreement, CCPE halted its lawsuit against Memorial University over the university's use of the term "software engineering" for a computer science program. Memorial

agreed to abandon its official mark on the term "software engineering."

CCPE had taken legal action against Memorial to protect trademark rights to the engineering title that it owns on behalf of provincial member associations.

The panel is now seeking written submissions on the software engineering issue from engineers and other interested parties. Once the panel delivers its report and non-binding recommendations next September, AUCC and CCPE will use their best efforts to draft a mutually acceptable protocol, based on the recommendations.

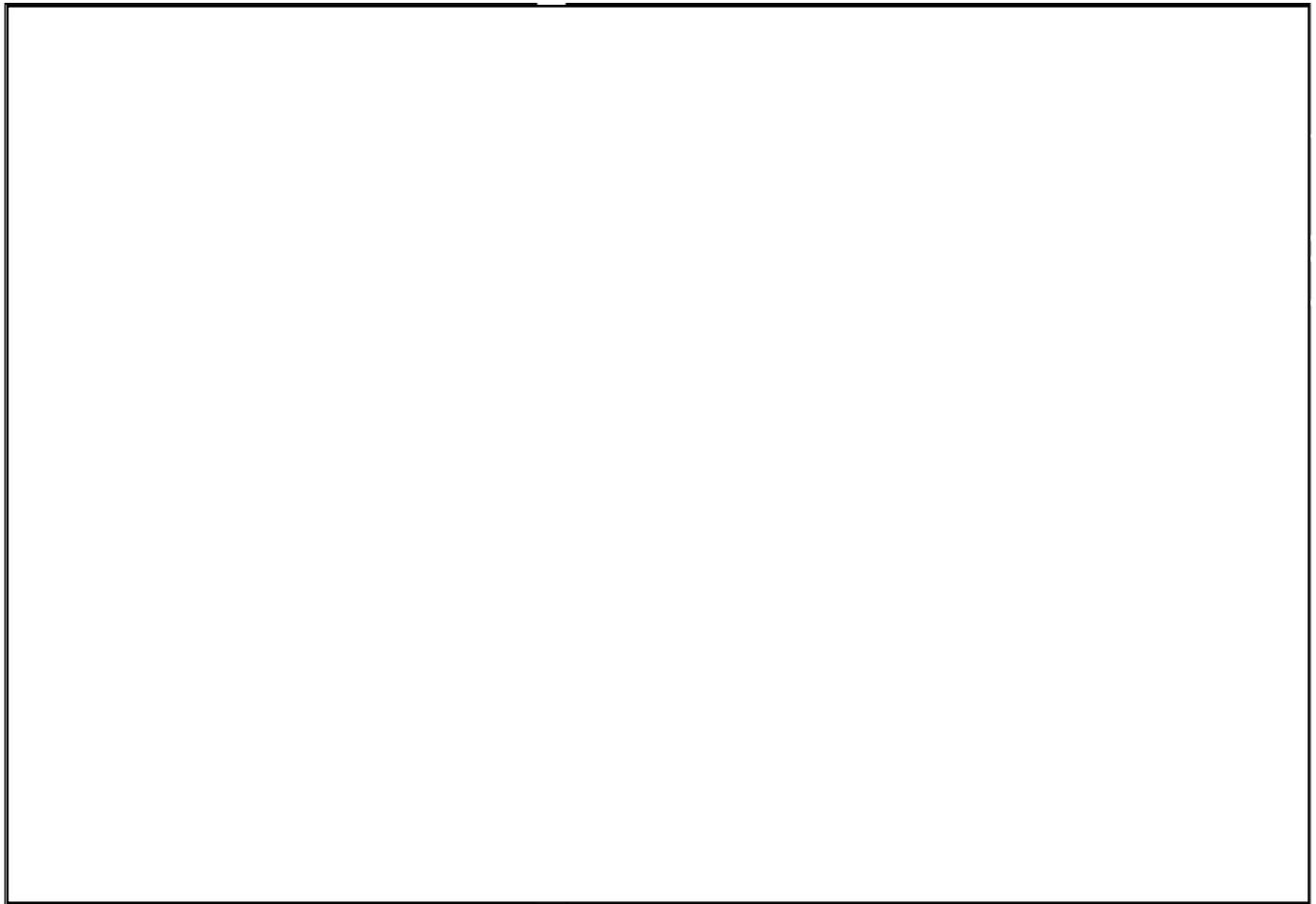
The panel is also expected to establish a precedent that will influence how other key terms related to emerging engineering technologies, such as "genetic engineering," are ultimately used in the undergraduate university community.

CCPE has formed an advisory group of professional engineers across the country to provide input to CCPE-appointed panelist David Lynch, PhD, P.Eng., engineer-

ing dean at the University of Alberta. The group, which held its first meeting this February, has also been asked to prepare a "position paper" on the issue for the engineering profession. PEO President-elect Peter DeVita, P.Eng., who runs his own computer engineering company in Richmond Hill, sits on this advisory group.

"This is a campus conflict between the faculties of engineering and the faculties of computer science," says DeVita. "Engineers have created a lot of good will in the words 'engineer' and 'engineering.' The computer science people find that the use of this word attracts students. As engineers, we are trying to protect the words that describe who and what we are. If everyone can call themselves a physician, what good is the word anymore? The same applies to the words 'engineer' and 'engineering.'"

The advisory group plans to meet on a regular basis as the panel negotiations unfold.



Lakehead University team wins American steel bridge competition

by Karen Hawthorne

Call it the Olympics of bridge construction. Steel-nerfed civil engineering students from Lakehead University beat out seven American teams in a race to build the best bridge in record time.

For the second year in a row, a Lakehead contingent won the mid-west regional American Institute of Steel Construction Student Bridge Competition, held February 10-12 at the University of North Dakota in Grand Forks. The victory qualifies the team to compete against 40 top American teams at a national event set for Texas A&M University in late May.

The sole Canadian competitors, the team comprises fifth-year students Brian Maver, Govinder Dhesi, James Jollymore, Brian Dietrich, Glen Furtado and Bill Becker. The students began designing their truss girder bridge on January 4 and came up with a final design on January 20, spending up to 16 hours a day in and outside of classes. By



Up against the clock: Lakehead University engineering students show off their winning bridge construction during a recent demonstration at the university. From left to right are: Glen Furtado, Brian Maver, Brian Dietrich, James Jollymore and Bill Becker.

January 22, they were constructing the bridge, painting it and practising putting it up against the stopwatch.

“It was a valuable learning experience in that it was more than just a design project,” says team co-captain Brian Maver. “We had to come up with a design that we were capable of fabricating and constructing, as opposed to a textbook solution. We also had to keep within a strict time line and work within our limited budget, just like a typical engineering project.”

To enter the competition, the students had to submit a design taking into account such factors as the bridge’s weight-bearing capacity, design and weight, stiffness and construction speed. The bridge had to span a 4.2-metre river and fit into a 1.2-metre-long by 15-centimetre-deep box. During the competition, the Lakehead team built their blue and yellow bridge in 12.25 minutes.

Although the design won’t be used in any actual bridge construction, the students’ design concepts are often applied in future projects after graduation.

“Designing the bridge is a wonderful blend of learning conception, analysis, construction and load test,” says Tony Gillies, PhD, P.Eng., chair of civil engineering at Lakehead. Gillies and civil engineering professor Claude Johnson, PhD, P.Eng., are the faculty advisors for the project. The students also did all their own welding, cutting and other fabrication for the bridge.

The team is asking for financial support for their trip to the Texas national competition. Contact Tony Gillies for details at (807) 343-8755.

Girl Guides introduce engineering, science badges

by Susanne Frame



Engineer



Scientist

Anyone searching for the next generation of Canadian scientists and engineers may look no further than their local troop of Girl Guides.

Last September, Girl Guides of Canada introduced two new badges, one to promote engineering and the other for innovation in science, accompanying its roster of accomplishments that ranges from baking bread to campfire safety and orienteering. The organization hopes the badges will encourage girls aged nine to 12 to develop an interest in science and technology.

"In reviewing the guide program, we wanted to ensure it was up-to-date and had information pertinent to girls today," says Anne McRuer, coordinator of delivery and service for Girl Guides of Canada. "So far the program has been well-received. We regularly get calls asking about it."

To earn the engineering badge, girls must complete the following challenges:

- ◆ What is an engineer? Name four different types of engineers and tell what they do.
- ◆ Bring an example of some of the following: lever, pulley, scales, wedge, roller, piston, gear, wheel and axle, circuit, circuit board, magnetism, chemical reaction, battery, volt meter, pop bottle rocket, model or paper airplanes, blue prints, synthetic fabrics or other examples that show the work of an engineer.
- ◆ What are some common uses of the above? Look in playgrounds, your garden, your kitchen, your home, at school.
- ◆ Construct a bridge, a mousetrap or a simple machine that shows some engineering principles.
- ◆ Name some devices and materials that engineers have made to make life better for people.

Chretien applauds Ontario Engineers



Engineers at MD Robotics in Brampton had a visit from Prime Minister Jean Chretien in February. At the podium, senior systems design engineer Ross Gillett, P.Eng., offered welcoming remarks after the prime minister's tour of the high-tech facility, best known for the Canadarm and now under contract by the federal government to produce equipment for the International Space Station. Seated at left is Chretien with Magued Iskander, vice president and general manager of MD Robotics.

"MacDonald Dettwiler [MD Robotics] serves as a prime example that Canada has become a world leader in high-technology engineering and manufacturing," Chretien said at the event. "Companies such as MD Robotics invest and establish their companies in Canada, because they recognize the resource Canada has in terms of young, bright, hard working Canadians."

Engineer-in-Residence program builds momentum

by Karen Hawthorne (with files from Janet Sandor of the Impact Group)

Doctors and lawyers are well represented on television, but to many people, what engineers do is a bit of a mystery—a cross between Star Trek and the CN Tower. But thanks to a new PEO program that places engineers in schools, perceptions are changing, and interest in the program is catching on.

Piloted in September 1998 in five schools, the Engineer-in-Residence (EIR) program is poised for expansion. Now, with the support of industry and government partners (the Ontario Ministry of Energy, Science and Technology announced renewed funding of \$45,000 on March 3 during National Engineering Week), there are a total of 14 elementary and secondary schools enrolled throughout the province. Tools have been developed, including an *Orientation Guide* outlining the program and its administration, and the first edition of the *EIR Activity Guide*, a booklet of helpful hints and activities. This year, there are plans to launch a fundraising campaign and to create a website.

"EIR is an innovative education outreach program that helps educators bring the science, math and technology curriculum to life and, at the same time, works to promote engineering as a profession to young people," says program manager Tom Chessell.

Through the EIR program, volunteer engineers are matched with a school in their area. Working with teachers, administrators and students over an entire school year, the engineers become part of the community as they help bridge the gap that often exists between the real-world



Engineer-in-resident Debbie Soanes, PEng., (back left) poses with budding engineers at Enniskillen Public School, one of the 14 schools currently participating in the program.

and classroom theory. Seeing the practical applications of what they are taught, students gain a better understanding of why they are learning certain subjects. At the same time, the engineers promote their profession by serving as positive role models, motivating students to pursue education and careers in science, technology and math.

"I think the program is valuable because of the reaction from students as I watch



Students put their skills to the test to build a sound structure.

them create their own designs, build with their own hands, amaze themselves and take pride in their accomplishments," says Annette Bergeron, PEng., who volunteers

Recruitment call

Consider sharing your knowledge and experience with a school in your community by becoming an engineer-in-residence.

Donate a few hours of your time every month for the school year, and help nurture the next generation of engineers. For more information, contact Tom Chessell at PEO: (416) 224-1100 or the EIR Program Office at The Impact Group: (416) 481-7070.

at St. Antoine Daniel School in Victoria Harbour. "They are our innovative scientists of tomorrow." In a typical week, she'll spend two afternoons with students from junior kindergarten to grade 8.

Most recently, she helped a grade 3 teacher explain simple machines, such as levers, teaching the students how to identify the fulcrum, the effort applied and the load. The students then designed their own levers, tested them and presented them to the class.

Sheila Huang, P.Eng., an integration and test engineer at MD Robotics in Brampton, is equally enthusiastic. She's the engineer-in-residence at St. Gregory Elementary School in Mississauga, now in her second year in the program. "My objective is to combine theory with practical applications and show kids that science and learning can be fun," she says. "Science theory by itself can be dry, but demonstrating how to apply science to make challenging activities can hopefully pique their interest and curiosity."

The EIR program is also seen as a partial remedy for the anticipated shortage of skilled high-tech professionals in the years to come. Although the program is in its infancy, over 100 schools in Ontario are waiting to join as soon as more engineers get on board.

New research chair to study pollution solutions

by Susanne Frame

Environmental engineers at the University of Western Ontario (UWO) will soon have the opportunity to research pollution solutions in the face of an exploding world population. The Salamander Foundation has donated \$750,000 to support the creation of a Chair in Environmental Engineering in the university's engineering science faculty.

"We can do more in this country to monitor, regulate and remedy what we're doing with the environment," says Nan Shuttleworth, president of the Salamander Foundation.

With the world's population expected to rise to 12 billion by 2025, the human race will place unprecedented demands on the Earth's resources. The chair holder will spearhead research expected to

impact on air, water and soil pollution problems worldwide. Research for the new department will focus specifically on such areas as the development of better gasoline, clean energy alternatives, improved air filtration systems, reduction of greenhouse gas emissions, improved waste disposal and better storm water management systems.

The research chair will also teach courses and provide training for the upcoming gen-

eration of environmental engineering researchers.

Ted Garrard, vice president, external, of UWO, is excited about this development. "Environmental engineering is an area of great interest from both a research and teaching perspective," he says.

The chair stands as a five-year posting for the successful candidate, to be appointed by July 2000.

