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December 1991

Volume 9, No. 3

Communications Canada

COMMUNICATIONS
EXPRESS

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Canada

Telecom "Olympics"
Canadian companies shine in Geneva

by Michel Vachon

The Department-led delegation to Telecom 91 reports that the event — the world's largest international showcase of telecommunications products and services — was a success for Canadian firms, despite growing competition from other nations.

"This was our largest, most successful effort ever — sales for Canadian firms resulting from contacts made at the show could amount to $300 million," says Randy Zadra, Manager, Latin American Marketing. Canadian participation at the event, held in Geneva, Switzerland from October 7-15, was planned and co-ordinated by the Department in co-operation with External Affairs and International Trade Canada.

Organized every four years by the International Telecommunication Union, Telecom brings together the world's largest producers and purchasers of telecommunications technology and services. "It is the Olympics of the telecommunications world — the place where reputations can be made or lost," says Zadra.

It is also a valuable policy forum and source of technical information for the Department, says Zadra. This year, 1,000 chief executive officers and ministers from 67 countries were among the 130,000 who attended the show.

The Department is involved because many smaller Canadian firms need assistance to launch themselves internationally, says Zadra. "This is a truly global market — companies can't export their products from the safety of a protected domestic market. They are competing against the whole world from the very beginning."

Communications Minister Perrin Beatty, Senior Assistant Deputy Minister Ken Hepburn, and Keith Chang, Patrick Julien, Roger Wainwright and Randy Zadra of the Technical Marketing and Economic Development Directorate, were at the show participating in policy discussions, contacting potential foreign government purchasers and supplying crucial market intelligence to Canadian companies. Beatty also held bilateral meetings with counterparts from around the world

Maintaining Canada's reputation as a leader in the telecommunications field may be more difficult in the future because other countries have been putting more effort into international marketing, says Zadra. "For example, Germany spent about 40 times what we did on this show."

Tests of the IRMA (Integrated Remote Monitoring Apparatus) system are occurring in regions across the country. Here, Wayne Janzen and Dave Taschuk check the system's UHF and VHF direction-finding antennas for a test at the Edmonton District Office. See "Regions and Headquarters co-operate on IRMA tests" on page 5.

1996 move: Planning under way for new Headquarters

Planning has already begun to determine the best concept for a new Headquarters building in which Communications Canada will be the prime tenant.

As negotiations continue on the location, the major portion of the planning remains to be done in preparation for the 1996 move, says Ron Simko, Director Facilities Management and Accommodation Planning. "Our challenge is to influence the design of an 'intelligent building,' which will allow us to benefit from as much technological innovation as possible while staying within our means."

In order to determine the basic needs for the new building, a questionnaire was sent to every directorate in the Department. During the summer, the results were collected, summarized and then refined by focus group testing.

Results of this first phase of planning are being submitted to Public Works Canada for its use in developing the basic concept design. "That concept should emphasize some of the priorities we have identified, such as maximum use of natural light, regular exchange of fresh air and the most efficient elevator system available."

"Consultation with employees will continue throughout the planning process," says Simko. "The planning of individual floor layouts will be a particularly lengthy process. Although five years is a distant horizon in political or economic terms, in construction planning it is hardly any time at all."

Reading, writing and ISDN
Education meets technology

by Rhonda Holtz

The sounds of a classroom fill the air. A geography lesson is under way. The teacher asks someone to identify the Salmon Capital of the world. Surveying the map in front of her, a student points to Vancouver Island. "That's right, Jennifer. Campbell River, B.C." The student smiles as her classmates write the answer in their notebooks.

Sound familiar? Perhaps, but Jennifer isn't in a classroom, and her classmates don't fill desks around her. This lesson is being provided via ISDN.

ISDN, or Integrated Services Digital network, provides a full range of voice, data and image communications services through a single integrated access point. The technology isn't new, but this application has revolutionary potential.

In a pioneering project sponsored by Communications Canada and the British Columbia Ministry of Advanced Education, Training and Technology, participants are testing a new ISDN service linking four adult learning centres in the Vancouver School Board. Deputy Minister Alain Gourd spoke via satellite at the project's inauguration on October 22.

The project allows students to be fully interactive in lessons and classroom discussion. The results will be used to evaluate the benefits of ISDN communication services to students in both urban and remote areas.

With extra telephone capacity made possible by ISDN and new multi-media workstations provided by MPR Teltech,
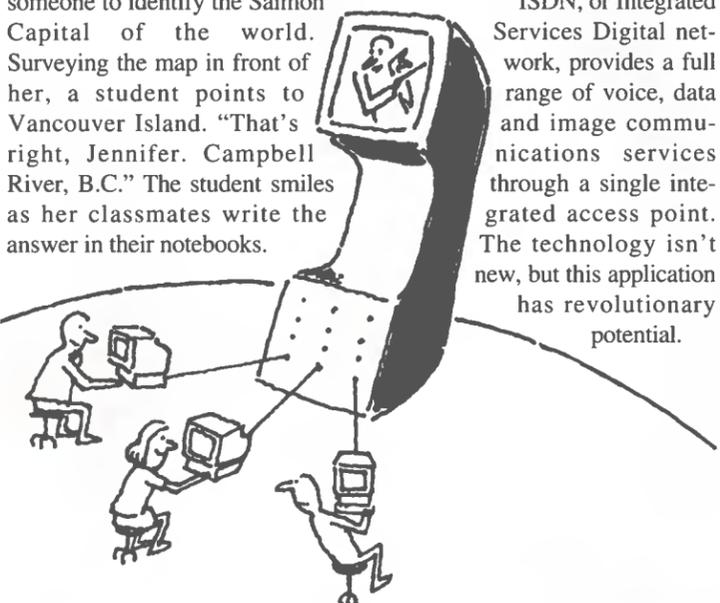
Canada proposes spectrum for Digital Audio Broadcasting

Radio stations all over the world may use the frequencies proposed by Canada for Digital Audio Broadcasting (DAB).

The Canadian delegation to the World Administrative Radio Conference in Spain in early 1992 will propose that DAB — which produces radio transmissions with the sound quality of compact discs — use the 1441 to 1515 megahertz (MHz) frequency range, in what is referred to as the L-band of the spectrum.

Communications Canada's research shows this range is the best compromise between the requirements for earth-based communications and satellite communications, says Royce Trenholm, Manager, Planning, New Technology.

"The lower frequencies work better for ground stations, whereas satellites work best using higher frequencies. Our tests showed that between 800 and 1500 MHz both systems worked sufficiently well. After that, it was a case of finding enough empty space to accommodate our needs," says Trenholm.

The L-band testing was a project of the Department, CBC Radio, and the Canadian Association of Broadcasters.

Security Tips

Security is an important part of every employee's daily routine. In this issue, Communications Express *continues to examine departmental security practices. This issue also incorporates a new logo representing Personnel Security, Physical Security and Information Technology Security (Infosec and Comsec).*

When not in use, Protected information must be kept in a secure container to prevent access by unauthorized persons.

In all cases, the securable container must be accessible only by persons having a need to see the information. Minimum standards are: Protected "A" — lockable desk, cabinet or room; Protected "B" and "C" — approved security container such as a filing cabinet equipped with an approved key lock or Sargent and Greenleaf combination lock, an approved dial lock safe or approved Secure Room type D.

For further information, see Section 8 "Protection of Sensitive Assets" of the *DOC Security Manual* or contact Larry Ormsbee, DSCS, Chief, Security and Safety Operations at (613) 990-4429.

CWARC and CHTI forge research and development partnership

The Canadian Workplace Automation Research Centre (CWARC) of Laval, Quebec and Canadian Healthcare Telematics Inc. (CHTI) in Winnipeg have joined forces to improve the quality and cost-effectiveness of healthcare delivery.

The partnership is the result of a Memorandum of Understanding (MOU) between CHTI and CWARC signed on October 4.

"This new alliance will help fulfill the goals of both CWARC and the Telematics Centre," says Nancy Desormeau, Manager, Technology Applications, with the Department's Central Region. "CWARC is increasingly looking for opportunities to promote its services in western Canada and CHTI was the perfect partner to get things going."

Working with Canadian industry, healthcare systems, universities and government research organizations, CHTI supports the development and application of products and services for healthcare based on telematics — the provision of information services through telecommunications networks.

Communications Canada relies on CHTI for management of specific projects it funds in healthcare and telematics. In 1988, the Department contributed $600,000 and professional services to help CHTI become established.

Prior to signing the MOU, CWARC had already begun to help CHTI reach international markets for its services, notes Desormeau. For example, officials of the two organizations travelled with staff from DTI Telecom of Quebec to Chile where they discussed the application of telematics for healthcare with representatives of the Chilean government.

Over the next three years — the term of the MOU — both CWARC and CHTI will continue to assist each other find ways each group can benefit from the resources and expertise of the other, says Desormeau. Among activities planned, the partners are organizing a roundtable on research in new information and communications technologies for healthcare.

Farcus

by David Waisglass
Gordon Coulthart

PRODUCT TESTING

© 1992 Farcus Cartoons
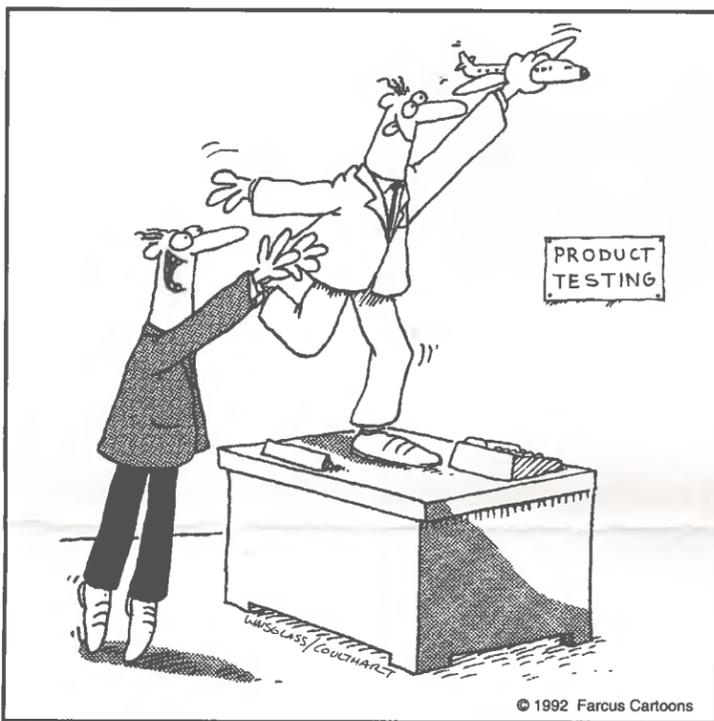
Okay, okay. But it's my turn next.

Planning is key to videoconferences

by Stephen Rouse

The key to an effective videoconference is preparation, says Don Paskovich, Operations and Methods Analyst in the Research and Spectrum Sector, who recently participated in his first videoconference.

Before deciding on a videoconference, Paskovich and Paul Vaccani, chairman of the Department's National Equipment Working Group (NEWG), evaluated the best way to pass on the key points of a two-inch-thick report.

"We felt this was a crucial stage in a large program where we had to pass information on to the regions. Using video was more illustrative than teleconferencing and far cheaper than having everyone fly to a specific city," says Paskovich.

Thirty people from six regions across Canada took part in the videoconference. Running slightly longer than an hour, the meeting cost about $2,500.

> **"You have to keep the camera moving, and not focus strictly on a slide or even a speaker, otherwise you risk losing the participants' attention."**

Denis Pagé, Chief of Telecommunications Services at Headquarters arranged several practice sessions in one of two videoconferencing rooms.

"With teleconferencing you are talking to a box, which can be kind of eery. With video, you see the person's reactions, and that often makes for better communication," says Pagé, who showed Vaccani and his colleagues how to use the video controls to present participants and illustrations effectively.

"You have to realize the limitations and capabilities of the facility," says Vaccani. "You have to keep the camera moving, and not focus strictly on a slide or even a speaker, otherwise you risk losing the participants' attention."

Vaccani says he was pleased with his video meeting. "We presented a lot of technical information in a short period, and in a way that allowed our colleagues to get a feel for the report."

Headquarters holds 10 videoconferences a month, says Pagé, mostly between the Deputy Minister and regional executive directors. He says as people become more familiar with videoconferencing, it will become more popular. "It's the next best thing to being there."

Booklet helps you write clearly

Three out of five people answering a survey in 1990 said they had trouble understanding government forms. More than three-quarters of Canadians think all government documents need to be written more clearly.

Many public servants agree as they struggle to decipher wordy, obscure reports, memos and manuals.

A new Government of Canada publication, *Plain Language: Clear and Simple*, offers practical advice to improve your writing. The 55-page booklet shows how you can make complicated subjects easier to understand by using simple language. It helps at each step, from organizing your ideas to choosing an effective format. There are many useful hints on sentence structure and word choice. A handy two-page checklist helps you gauge your success in writing clearly.

The booklet is published by Multiculturalism and Citizenship Canada's National Literacy Secretariat and costs $6.95, plus GST.

How to order

Plain Language: Clear and Simple (catalogue No. Ci53-3/3-1991E) can be ordered from:

Canada Communications Group, Publishing Supply and Services Canada Ottawa K1A 0S9

ISDN continues from page 1

a subsidiary of B.C. Tel, students can dial into classes across town. Once connected, the instructor and students form an "electronic class" where students at any of the centres can share text and images while talking to each other.

ISDN and multi-media workstations give school boards across the country the potential to increase course offerings and share expertise, especially through correspondence and distance learning programs. For example, if a course is not offered at one centre, students could still participate in the course via an ISDN workstation connected with a centre that offers it. Students working on independent study material could use the workstation to work with a subject specialist at another centre.

The concept of classrooms without walls is becoming a reality, bringing with it a world of choice to students, no matter where they live.

Satellite technology reaching out to Africa

by James Greer

Africa may be a market for technology developed for Canada's Mobile Satellite (MSAT) system.

Countries in Africa with large, sparsely populated areas have telecommunications needs similar to Canada's, says David Halayko, MSAT Trials Manager. "Mobile equipment like ours can be used in remote areas where no phone or radio communications exist, whether they're in the middle of the Arctic or the Sahara," says Halayko.

Twenty-two African public servants attended a presentation outlining MSAT's history and capabilities in October at the Communications Research Centre. The delegation from countries in the sub-Saharan region then tried a test system.

The officials were in Canada on a six-week course — sponsored by Statistics Canada and the United Nations — on using data processing in census-taking. "A census-taker with our portable briefcase terminal can go to a village in the middle of the desert and fax the results back immediately by satellite," explains Halayko.

The demonstrations were also an opportunity to market Canadian telecommunications technology. "The delegates now know where they can buy the equipment they would need to implement a similar mobile satellite system. They won't be able to use the actual MSAT system — it's designed to cover North America — but our equipment can be used with the systems that serve Africa," says Halayko.

Some of the representatives from sub-Saharan African countries who took part in a demonstration of the Mobile Satellite test system at the Communications Research Centre. Presiding over the test were David Halayko, MSAT Trials Manager (second from the right) and Statistics Canada's Carol Boily (fifth from the left).

Preparing for war or earthquake is all in a day's work for the Department's Emergency Telecommunications Planning group. It comprises (left to right): emergency telecommunications officers Ron Taggart, Ontario Region; Joseph Rosso, Quebec Region; Alfred Northam, Central Region; and Jim Wade, Atlantic Region; Michel Milot, Manager, Emergency Telecommunications Planning; Robert Casavant, Chief, Emergency Telecommunications Planning; and Frank Tusko, Pacific Region Emergency Telecommunications Officer. Missing from the picture is Joe MacPherson, International Emergency Telecommunications.

Emergency telecommunications
Preparing for floods, fires and earthquakes

by Michel Vachon

The Department's Emergency Telecommunications Planning group does everything it can to make sure Canadian telecommunications systems not only survive a crisis but are also effective tools in responding to a crisis.

Communications Canada's responsibility under the *Emergency Preparedness Act* is mainly preparation, says Michel Milot, Manager, Emergency Telecommunications Planning. "We identify possible civil emergencies and develop civil emergency plans for them."

The group's nine members, four at headquarters and five representing the regions, prepare national and regional plans for telecommunications services in emergencies.

Emergency planning includes working out agreements with many government and private organizations to determine responsibilities and ensure that all possible needs can be met. "The

worst thing is to have the resources but not be able to use them during an emergency because of a lack of co-ordination or planning," says Milot.

Canadian corporations are more than willing to help and the Department simplifies their role as much as possible, says Milot. For example, in collaboration with the provinces and territories, the Department maintains a list of vital telephone connections, such as mayors' offices, hospitals, and police, so that telecommunications companies can ensure they remain operational during a disaster. "If we didn't do the co-ordination work the carrier companies would have an almost impossible task dealing with hundreds of groups and agencies across Canada," says Milot.

"Without good and secure telecommunications the federal, provincial and municipal forces who respond in case of emergency would rapidly become disorganized and ineffective," says Milot. Fortunately, Canada

has one of the most extensive and dependable telecommunications systems in the world."

The group is preparing plans for dealing with a catastrophe like an earthquake on the west coast. "Earthquakes are unlike any other kind of disaster because everything stops — electricity, transportation and telecommunications," explains Milot. "In order to set up vital communications links, the people who set up emergency communications would have to work in isolation immediately after an earthquake."

A national test exercise of the earthquake plan is scheduled for 1993. The last test exercise, held in 1990, was a drill for management plans for an international crisis requiring mobilization of military and civil resources. "At the time, no one thought Canada would be involved in an international crisis like the Gulf war just a few months later," says Milot. "The lessons we learned were valuable for that period."

Research partnership benefits university and CRC

Partners in a research program to develop terrestrial phased array antennas, Communications Canada and the University of Manitoba are equipping students with expertise that will be in demand in the years to come.

Under a Memorandum of Understanding between the Department and the university, the Communications Research Centre (CRC) in Ottawa gets first choice of the university's graduate students and the university receives equipment needed for this specialized research.

Phased array antennas are grouped — or arrayed — to scan the beam of a signal. They can pick up and transmit a wide variety of signals, such as those used by the telephone, television and radio industries. Current research is aimed at determining antenna configurations that send and receive the clearest signals.

René Douville, Director of Components and Subsystems at CRC, says Dr. Lot Shafai, Head of Electrical Engineering at the University of Manitoba, is the CRC's closest academic partner. "We count on his expertise and commitment. His students are top-notch."

Dr. Shafai is also pleased by the arrangement. "At the university we have the students, the

facilities and the capability. The CRC has the expertise and a very good laboratory. Working together, we are developing technology that will help us compete in global markets and training people in a vital communications technology."

> ### "Current research is aimed at determining antenna configurations that send and receive the clearest signals."

One of Dr. Shafai's students, Dave Roscoe, a graduate in electrical engineering, is at CRC doing research for a Ph.D. "Since starting in the program, I have been able to publish five papers. In addition, the Department and the university have filed for a patent on an active, integrated antenna that I helped develop."

Douville sees a bright future for such partnerships.

"We're considering extending the arrangement to have one or two companies in the industry join us on a project. Winnipeg could become the Canadian centre of excellence for this type of research."
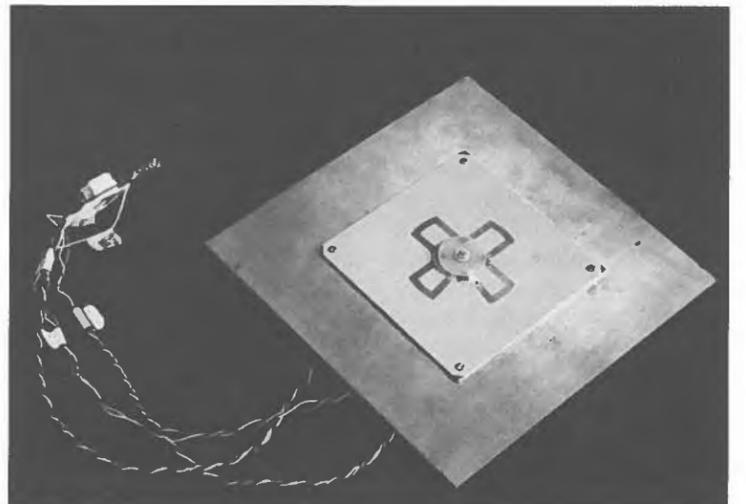
Dave Roscoe's active integrated antenna is one of several inventions developed through research partnerships between Canadian universities and the Communications Research Centre.

Radio inspector featured in Labour Canada video

Watching her father demonstrate his skill as a mechanic, Line Perron realized early on that she was fascinated by how things are put together and what makes them work. So whatever the rest of the world may think, the fact she is now doing "man's work" as a Radio Inspector with the Department's Ottawa District comes as no surprise to her.

> **"Some people think that if you're a woman in this job you must be a workaholic. But we're not; we're just like anyone else. When the work is finished we like to go out and have some fun."**

However the Women's Bureau at Labour Canada has a different view. Earlier this year it profiled Perron in a video about women who work in non-traditional roles. She's proud to have been included, conceding that her position probably made her an ideal candidate for the video.

"I've always been interested in mechanical things, though I knew that being a mechanic like my father would be too dirty and heavy for me," she says. "So after high school I went to college in Hull and studied electronics for three years. I had some friends who were studying electronics there and it sounded interesting."

Perron joined the Department in June 1987 as an Electronics Technologist and moved to her current position in March 1988. "I like my job, it's a challenge, though sometimes it's not that easy, especially when I have to lug heavy equipment around."

Perron is quick to point out that she is not Communications Canada's only female Radio Inspector. "There are maybe 10 of us across the country. I have two friends who work in Montreal. I think there's one in Halifax, and the rest are in the West and Toronto. It's not really a network, we're just colleagues."

Perron notices changes in society's views about women in non-traditional roles, but she still gets a mixed reaction about hers. "People who know me can easily accept me in this job; others sometimes first react with a kind of 'oh no, not a woman' expression. So you have to prove yourself, and once you do, I find there's always good acceptance. Some people think that if you're a woman in this job you must be a workaholic. But we're not; we're just like anyone else. When the work is finished we like to go out and have some fun."

Line Perron, one of ten female radio inspectors stationed throughout the country, was recently featured in a Labour Canada video about women in non-traditional jobs.

Asian assignment rewarding for spectrum employee

by Verne Sparks

Starting the second year of a two-year assignment in Kuala Lumpur, Malaysia, Serge Bertuzzo is seeing the fulfillment of a long-standing personal goal.

The Director of Spectrum Authorization for the Department's Ontario Region is in charge of a Communications Canada project to help the Malaysian government bring that country's communications capacity up to standard.

"I've always wanted to do international work with the Department and to become involved with administration of telecommunications issues," says Bertuzzo. "More importantly, I'm using the experience I've gathered since 1975 to build a spectrum management system from the ground up.

"The Malaysian government has undertaken to purchase our Automated Spectrum Management System. They now rely on inefficient manual systems for just about everything — frequency management, issuing licences, technical analysis — and they can't keep up with demand. As well, Malaysia's 1950s-vintage regulations are completely outdated."

Serge's wife, Anne, readily agreed to make the move to Malaysia. The experience has proven to be a rich one for her and the three Bertuzzo children.

"It's taken a while to get used to things," says Bertuzzo. It's such a different lifestyle. A poor country, a lot of hardship, and you have to learn to accept the slower pace of doing things. The language was the first difficulty, although surprisingly everybody seems to know a little English, and we're picking up some Bahasa-Malaysian — please, thank you, counting, swear words, stuff like that.

"The Malaysian people are slow to open up to you, but once that initial trust has been established, they are very warm and friendly. We have Malaysian friends now who visit our home. There's also a large expatriate community in Kuala Lumpur.

"The children have adjusted very well. I was worried about how the poverty would affect them — the sight of Malaysian kids their age who have to work, selling things by the side of the road. But they've come through it well and I think they appreciate their own situation much more."

After he's finished modernizing spectrum management in Malaysia, Bertuzzo would like to work on the transfer of technologies from the Department to global markets.

Marc Bédard, at the start line of the Napierville Dragway, prepares to live up to his co-workers' opinion of him as a "Wild Animal – Endangered Species."

Heritage Branch employee finds fun at 150 mph

by James Greer

Marc Bédard knows what his co-workers in the Heritage Policy Branch think of his second career as a drag car racer. They put a sign on his office door.

It said "Wild Animal – Endangered Species."

Bédard, Exhibitions Co-ordinator for the Museums Assistance Program, has been driving dragsters since he moved from Quebec City to Ottawa 10 years ago. "One of the first people I met was a local racer who got me involved in the sport. We entered into a partnership which enabled me to buy my first car," he says.

In his second season racing his current car, HyperActive, Bédard competes every other weekend, on average, in the "Super-Competition" class. This calls for competitors to drive the quarter-mile dragstrip in a time as close to 8.90 seconds as possible. The car's average speed can reach 150 miles per hour (drag racing is not a metric sport).

"Racing is quite a rush," explains Bédard. "There's so much going on so quickly, you have to be really sharp to stay on top of it. My ultimate goal is to go 200 miles per hour."

> **"Most other racers have day jobs in automotive fields, whereas my wife Suzanne is a teacher and I'm with the Heritage Policy Branch. No wonder they call us the Canadian oddballs."**

Although there are some races near Ottawa – he won a local competition in June – Bédard usually has to travel across the United States. He has raced in New Hampshire, Pennsylvania and New Jersey. The farthest he has ever gone for a race is Kelowna, British Columbia.

Last year Bédard reached the quarter-finals of the Grand Nationals before losing to a close friend. His pit crew, led by his wife Suzanne, won the Best Appearing Crew award of the National Hot-Rod Association, the sanctioning body for drag racing.

Bédard plans to take a year off five years from now to compete in all the U.S. national races. "The majority of racers are part-timers, but it's a full-time job just finding the sponsorship to let you race full-time. Right now, it costs tens of thousands of dollars for me to race each year," says Bédard.

Not surprisingly, Bédard's first career is as foreign to his drag racing rivals. "Most other racers have day jobs in automotive fields, whereas Suzanne's a teacher and I'm with the Heritage Policy Branch. No wonder they call us the Canadian oddballs."

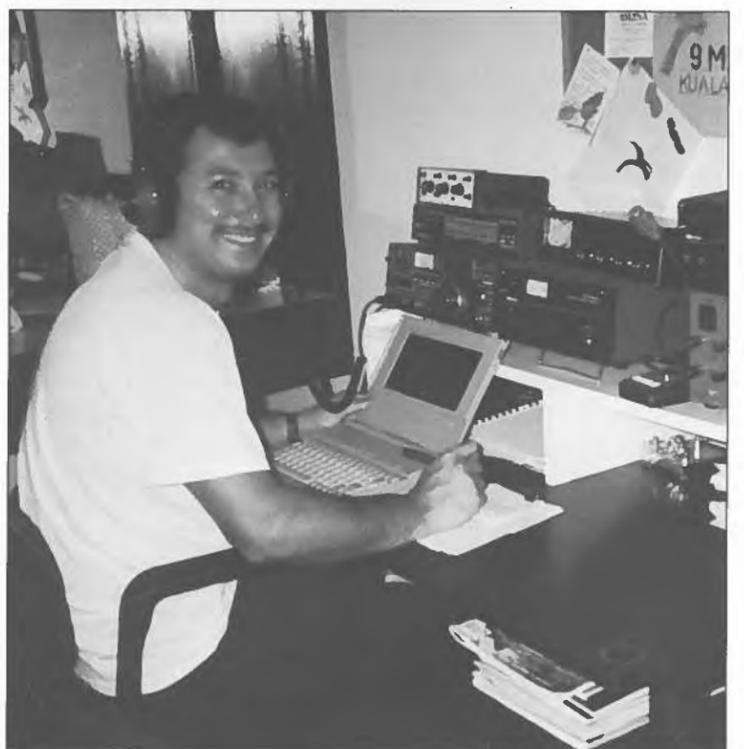Serge Bertuzzo, on a two-year assignment in Kuala Lumpur, Malaysia, still finds time to operate his amateur ham radio.

Certificates and licences to go

by Tamara Gates

To improve client service, the Atlantic Region is considering the issuing of radio operator certificates and radio licences at public events.

Last summer, the Halifax District Office completed a successful trial run of the required software and issued restricted voluntary marine radio operator certificates and radio station licences at an exhibition in Dartmouth.

"While there are still a couple of little bugs in the system left to work out, this seems to be a popular and efficient means of administering the exams and processing licence applications," says Halifax district radio inspector Bob O'Leary

Three computer terminals were available to people interested in taking the 26-question, multiple-choice exam, while another computer was used to complete licence applications.

Thirty-four candidates took the exam during the exhibition, and 18 of them received their certificate right away. Several mariners who were "just trying" the exam picked up the study handbook, vowing to return for another shot. "You can't ignore the number of clients these exhibitions later bring to us," notes Peter Hill, Authorization Supervisor and creator of the software.

Licence applicants could pay their fee on the spot and get a temporary licence and call number, all in conformity with the computerized licence-issuing system.

According to Bob O'Leary, the advantages are obvious: "The computerized exam takes about 20 minutes, instead of the usual hour, and radio owners receive licences in five minutes, instead of having to wait for weeks."

> "While there are still a couple of little bugs in the system to work out, this seems to be a popular and efficient means of administering the exams and processing licence applications."

For several years, the B.C./Yukon Region has provided computerized exams at fairs and exhibitions. However, candidates complete the oral portion of the test at the office, where successful candidates then receive their certificates.

Earl Hoeg, another Halifax district radio inspector, says that to encourage public compliance with radio regulations, it has to be convenient for clients to take the exam or get licences. Exams are now offered only on the first and third Mondays of every month, he notes.

The Halifax office hopes that it will eventually save time and energy by using the software for all exams, not just at exhibitions, but also at the office.

Bob O'Leary (right) prepares a temporary licence for a participant at the Boston Whaler Dartmouth Sea Derby Exhibition.

Bones, beer cans and plastics
Symposium focuses on 20th century artifacts

by James Greer

Everything from discarded chicken bones and beer cans to the deterioration of plastics proved to be stimulating topics for conservators at the Canadian Conservation Institute's (CCI) Symposium '91.

The symposium, *Saving the Twentieth Century: The Degradation and Conservation of Modern Materials*, was held September 16-20 in Ottawa. Two hundred participants from 14 countries attended.

Scientific research papers and case studies on the restoration of particular artifacts focused on the problems caused by the inherent properties of the materials used in modern artifacts. "We're not dealing with problems caused by neglect, but with decay starting inside the artifacts themselves," says David Grattan, Senior Conservation Scientist at CCI, and a member of the symposium organizing committee.
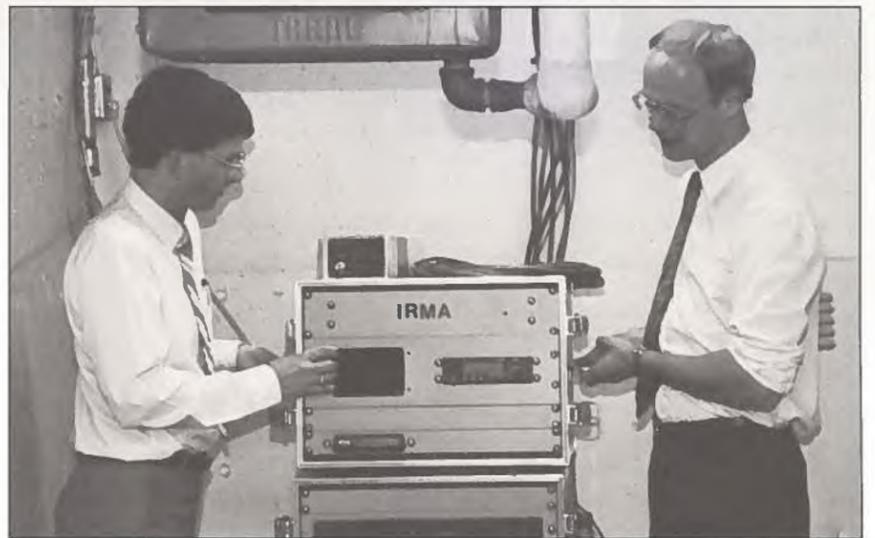
One of the best-received seminars explained why plastics and rubber deteriorate, says Grattan. "David Wiles, who gave the seminar, presented the complex scientific issues in everyday language. He didn't dress up the science in difficult jargon."

Another interesting seminar was a case study of efforts to conserve Eugene Von Bruenchenhein's art. Von Bruenchenhein, a self-trained American artist, used objects found around his home in his works. His media included chicken bones, concrete, cardboard, Christmas tree ornaments, and airplane glue. "It was a nightmare for conservators who had to find out what materials he had used and how to save them," explains Grattan.

A key goal of the symposium, CCI's third since 1986, was to establish a field of study that bridges science and art, says Grattan. "The symposium allowed us to get the people with practical experience and the people with knowledge of scientific theory together and establish links between them."

By doing this, says Grattan, the conservator learns the science that explains what is occurring inside the artifact and the scientist is aware of the practical problems involved and can help develop innovative solutions. Symposium organizers also hoped to alert museums to the depth of the problem of deteriorating artifacts and the need to act now to save them, says Grattan. "Modern materials that artists are using now deteriorate far more rapidly than previous media. A lot of beautiful work is being lost needlessly."

Regions and Headquarters co-operate on IRMA tests

Tests on automated equipment, being conducted jointly by the regions and Headquarters, will aid development of better tools for use in spectrum control and authorization by district offices.

The equipment, known as IRMA (Integrated Remote Monitoring Apparatus), was developed by the Ontario Region. It is the third generation of automated spectrum monitoring equipment developed by the regions.

IRMA is being tested to determine the next step in developing remotely controlled spectrum monitoring tools to meet district office needs, says Don Paskovich, of Automated Spectrum Management.

The regional offices have put a lot of effort into the development of automated equipment because it will allow the Department to monitor spectrum more effectively, says Paskovich.

Each IRMA unit contains a receiver, tape recorder, transceiver and direction finder, explains Paskovich. A radio inspector can control IRMA from a remote location over the telephone and it can be used to automatically measure occupancy of channels, determine the direction of a transmitter, and record the audio of a specified channel. "If necessary, the radio inspector can use the transceiver in IRMA to speak to people who are using a channel improperly," Paskovich adds.

Regional co-ordinators,

working with radio inspectors from district offices, have overseen the set up of test sites in each of the five regions. A sixth site was set in the National Capital Region by Headquarters for the use by the Hull and Ottawa district offices.

Encouraging test results have come from work done by Wayne Janzen and Dave Taschuk of the Edmonton District Office, and Dan Lemoine of the regional office, says Bill Klymochko of the Central Region Engineering section, who co-ordinated the test. "It is clear from our work that IRMA is a very useful tool for spectrum management — especially when you consider that

the total cost of IRMA, including installation, compares favourably with the purchase price of other equipment we use, for example a spectrum analyzer.

"The IRMA unit will continue to be used in Edmonton District Office operations," adds Klymochko. "In addition to the tests, the unit was used in several interference investigations."

Dave Taschuk and Wayne Janzen install the hardware for an IRMA system being tested by inspectors from the Edmonton District Office.

IRMA poised for international success

IRMA, the system invented and built by the Department to automate spectrum monitoring and control, is poised for commercial success in other fields, too.

IRMA is the Integrated Remote Monitoring Apparatus. It's an array of monitoring, measuring and communications devices that allow staff to handle many spectrum functions remotely, without on-site inspections.

Ontario Region's Spectrum Services Centre in Acton has designed and built IRMA systems for five years. The Department has installed them at a dozen sites throughout the country.

The Department has already made a deal to license the technology to a manufacturer who plans to sell the system to the Mexican government. It has also signed non-disclosure agreements with four other companies.

"These agreements give them a close-up, hands-on look at IRMA," explains Mitch St. Jacques, Ontario Region's Manager, Telecommunications and Technology. "This allows them to determine what would be required for manufacture, without sharing the information with anybody else."

Mexico is among several

countries interested in buying the spectrum monitoring system.

What's more, there are other potential customers besides spectrum managers. "IRMA's remote-control features can be applied to many other tasks, for example, measuring water levels or pollution," says St. Jacques.

Remote monitoring systems aren't new. IRMA has an edge, though. "It has a dual-control feature that's unique," says St. Jacques. "You can communicate with it either by computer or by a touchtone phone, at very low cost."

In addition to helping Canadian companies compete in

world markets, the Department will itself gain from the technology transfers.

"First of all, we won't have to build the systems ourselves any more," notes St. Jacques. "It takes time, and manufacturing is not a business we want to be in. With a private manufacturer we'll be able to buy what we need, and we'll get the benefits of improvements they make."

"Second," he adds, "royalties will be coming back to the government. In fact, for the first time, in this region anyway, even the inventors at Acton will receive a financial return."

What's Up DOC?
Central Region in spotlight at science and technology showcase

by Rachelle Smith

When Central Region recently asked "What's up DOC?", it wasn't auditioning for the cartoons. It was the region's way of capturing attention at Winnipeg's Science and Technology Days in October.

For the two-day showcase, the Regional Office put together What's Up Department of Communications (DOC)? to tell government and industry about the Department's programs and services, focusing on information and communications technology.

The session for federal and provincial government representatives offered presentations by Michael Binder, Assistant Deputy Minister, Research and Spectrum, who discussed national and international issues; René Guindon, President of the Government Telecommunications Agency (GTA), speaking on GTA and telecommunications; and Roger Collet, Executive Director, Central Region, who highlighted the region's partnerships with government, industry and academia.

The session for industry representatives featured presentations on Vision 2000 by Sandi McDonald, Government and Industry Liaison Manager, and on the Department's technology transfer program by Mike Desjardins of the Communications Research Centre (CRC).

Participants also saw displays of technology transferred to industry from departmental labs, met regional staff and officials from CRC, and met industry representatives whose companies benefited from the first generation of regional economic development agreements.

The second day of the event, sponsored by Industry, Science and Technology Canada (responsible for Science and Technology Days), the National Research Council and Communications Canada, covered communications technology, from R&D to commercialization.

The program featured Canadian futurist Richard Worzel's insights on technology in the year 2000, and Jacques Lyrette, Assistant Deputy Minister, Quebec, and staff from the Canadian Workplace Automation Research Centre (CWARC) in a presentation on CWARC's role in communications research. CWARC's Raymond Descout demonstrated CWARC's remarkable multi-media project, Medialog. The day closed with a presentation on marketing high-technology products — the process of getting ideas out of the lab and into the marketplace.

Attendance at Science and Technology Days surpassed forecasts, and Regional Office staff enjoyed the opportunity to work with colleagues from Manitoba district offices, Ontario and Quebec.

Technology Development Officer Melody Myers demonstrates CHAT (Conversational Hypertext Access by Telecommunications), a computer system which allows users to type natural language questions and receive written answers on screen, to Michael Binder, Assistant Deputy Minister, Research and Spectrum.

EnLISTing government perspective and business dynamics

by Rhonda Holtz

Susan Matasi, formerly the B.C./Yukon Region's Manager, Telecommunications and Technology, is the new Director of Business Development for the Legal Information Systems and Technologies (LIST) Foundation.

Seconded through the Department's Industrial and Scientific Exchange Program, she began a one-year term at LIST in September, with the option to renew for a year.

The LIST Foundation specializes in computer database management for the legal community. Since its inception in 1986, LIST has become an international leader in legal on-line database systems.

The Foundation began as a research project — to which the Department contributed $125,000 — by IBM Canada and the Law Faculty, University of British Columbia. LIST also collaborates with the Department's Canadian Workplace Automation Research Centre in assessing information technologies used by the legal profession.

Although involved with LIST since its first R&D project, Matasi had to adjust to work outside government. "For me, it's meant a totally new way of looking at the high-tech industry," she says. "The reality of a small company is different from that of a government department. There's more immediacy — clients' needs have to be met quickly. You have to adjust to the market dynamics today because you simply don't have a few months to study the problems before making decisions. By that time, the game may be over."
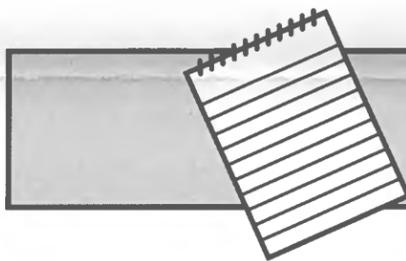
On the other hand, she brings LIST an ability to see things on a broader scale. "I've found that when you're in a business, you don't often stand back to see the big picture; you're too busy dealing with daily battles," she says. "With eight years experience in the Department, I've been able to follow trends in technology and I believe I can offer insight into issues such as user resistance to new technologies.

Among benefits from the secondment, Matasi has new insight on technology transfers.

"Government and industry have to work together to bridge the gap between technology developed in the labs and creating a successful commercial product. You can't take this process for granted."

Matasi expects to return to the Department a better understanding of small information technology companies. "I have a new appreciation of how we conduct business in government and in industry," she says. "I've got some new ideas about how we can take the best of both worlds to work together and improve the industry."

Diane Currie of the Vancouver's LIST Foundation (left) and Susan Matasi, of the Pacific Regional Office, who has joined the Foundation on a one-year secondment.

NOTEBOOK

New BBS joins Tackboard

The Corporate Policy Sector (SADM) is testing a new electronic bulletin board that may soon be available throughout the Department and possibly to the general public.

Called the *Vision 2000 BBS* (Bulletin Board System), in keeping with the Department's promotion of advanced personal communications, the service connects with 11,500 other BBSs around the world. It covers 15 subject areas, including branch and sector message services, worldwide labour and union developments, and international news from New York On-Line.

The new service joins *Tackboard*, the BBS provided by the Automated Spectrum Management Section of the Engineering Programs Branch, ADMRS. For information about accessing *Tackboard*, get in in touch with your LAN administrator.

Tackboard has many uses, the most common being software information and software support. Experienced *Tackboard* users also share information about LAN and WAN support, informatics standards and internal communications.

For more information on BBSs, e-mail Ray Ouellette at Admin1 Raymond Ouellette @admsr @admsr hq admsr, or call him at (613) 991-9308.

Gourd appointed head of IIC

Deputy Minister Alain Gourd has been elected President of the International Institute of Communications (IIC), a worldwide organization for communications research and policy analysis.

He was elected September 25 in Singapore during the Institute's annual conference.

The IIC has an important role to play in the development of the international telecommunications market as well as helping serve the needs of developing third world countries, says Gourd.

With headquarters in London, England, the IIC has more than 1,000 members in 70 countries. Canadian participation in the organization is long-standing, including 80 individual members, several institutional and corporate members, as well as trustees, Executive Committee members, and staff. The next IIC annual conference will be held in Montreal in 1992.

Art competition to canvass employee opinion

For the first time, Communications Canada employees will choose some of the winners in the Department's annual art competition.

This year's competition will be held the third week of February, when employees' entries will be displayed in the Headquarters foyer. Prizes based on employee balloting will be awarded in addition to prizes awarded by a panel of judges.

"We're trying to encourage participation and make the event fun for everyone," says Helen Kennedy, one of the competition's organizers. "The judges will award the majority of the prizes but, as the *Voice of Fire* controversy showed, everyone has an opinion about art. The balloting gets people involved who wouldn't think of competing."

The prizes, all non-monetary, will be awarded February 21, and Communications Minister Perrin Beatty is scheduled as presenter. The winning paintings will be displayed in the Minister's offices.

Quieter federal workplaces

Federal employees are better protected from the hazards of excessive noise, due to changes to regulations on noise levels in the workplace.

Amendments to Part VII of the *Canada Occupational Safety and Health Regulations* have reduced the maximum permissible levels of exposure to sound in most federal workplaces. The changes have also improved assessment and inspection procedures and will ensure that workers are better trained and informed about the dangers of exposure to high noise levels.

> **"Under the new regulations, employers are responsible for assessing the noise level employees are exposed to ... and reducing it if it exceeds prescribed limits."**

Under the new regulations, employers are responsible for assessing the noise level employees are exposed to in the workplace and reducing it if it exceeds prescribed limits. Departmental workplace safety and health committees will be involved each step of the way.

Until the recent amendments came into effect, employers were responsible for ensuring that the exposure of an employee to noise did not exceed 90 decibels (dBA) over an eight-hour period.

Under the revised regulations, the maximum noise level employees can be exposed to over an eight-hour period cannot exceed 87 dBA. If the noise level increases to 90 dBA, the exposure duration is halved. For each three decibel increase, the exposure duration has to be cut in half.

The changes offer significant protection to employees because sound levels are measured on a logarithmic scale. A noise of 87 decibels is only half as loud as one of 90 decibels.

If employees are exposed to sound that exceeds the prescribed limits, the employer has to attempt to reduce the exposure using engineering controls — enclosures on noisy machines, soundproof rooms for operators of noisy equipment, noise barriers, etc. If such measures are not possible, hearing protection may be used provided a report is submitted to Labour Canada and the department's safety and health committee explaining why engineering controls were not used.

When there is no alternative to the use of hearing protection, the employer has to provide adequate training for the workers who have to use such protection. The hearing protective device must meet the relevant CSA standard.

The employer is also required to post warning signs in the workplace where sound levels could exceed 87 dBA.
From Public Service Newsline, *Treasury Board.*

Continuous learning is key to the future, says new report

Canadians are demanding greater productivity in the government sector, and one of the best ways to meet that demand is with ongoing training to maintain a highly skilled corps of public servants, says a new report on federal workforce management.

The report, *Shaping the Future Public Service*, focuses on the need to hire and keep highly skilled employees and the need to retrain people in the existing work force so they can use rapidly changing technology and adapt to new forms of organization and types of work. It was prepared for the PS2000 Secretariat by economist Marie-Josée Drouin of the Hudson Institute, an international research body specializing in socio-economic forecasts.

Basic, higher, professional and vocational education should be combined in a broad process of continuous learning to provide all employees with the opportunity to improve their contribution to public service, says Drouin. "A lot of the training in the past has been done either for people identified as 'fast trackers' or for people who needed remedial training. The ongoing aspect of training has been neglected."

The shift in approach is essential because of an increasing demand to make the government sector more efficient, says Drouin. "Given budget restraints and so on, public servants have to be able to work smarter, and that means more teamwork, and a greater ability to communicate with co-workers, they also need to improve their ability to analyze problems and propose solutions, and that requires analytical and verbal skills that are often lacking."

> **"A lot of the training in the past has been done either for people identified as 'fast trackers' or for people who needed remedial training. The ongoing aspect of training has been neglected."**

Ongoing training is in the employees interest because it ensures greater satisfaction in changing times, says Drouin. "If you are highly trained you can respond to new dimensions that open up — instead of having just one job for 30 years, you might have two or three career changes."

The first step for employees to take towards skill enhancement is to assess the skills they have and seek ways to further develop these natural strengths, says Drouin. All employees should also improve their writing and communications skill, she adds.
From Public Service Newsline, *Treasury Board.*

People and Places

(from September 1 to October 31, 1991)

SADM

Carole Diotte has transferred from the Sault Ste. Marie District Office to the Regional Operations Branch as Financial Clerk.

Shelly Borys has accepted a secondment from the Program Evaluation Branch to Employment and Immigration Canada, Labour Market Studies, as a Policy Officer.

ADMCM

Robert Rowan has transferred from Health and Welfare Canada to Personnel Operations in DGHR as Sector Personnel Advisor for ADMCM.

Hans-Jurgen Von Donhoff has accepted a one-year secondment from External Affairs and International Trade Canada to the Financial Planning and Resource Utilization Division as Manager, Strategic Planning.

Victor Muscat has transferred from Supply and Services Canada to the position of Financial Analyst in the Financial Planning and Resource Utilization Division of DGFM.

Michael Maisonneuve was appointed on an indeterminate basis as Finance Clerk, DCAT at CRC.

Audrey Honeywell was appointed on an indeterminate basis as Administrative Support Clerk, DCAT at CRC.

Patrick Borbey has been appointed Director General, Financial Management.

ADMAH

Diane Trudeau has been appointed Secretary to the Director General, Heritage Policy and Programs.

Elizabeth Weber has been appointed Administrative Assistant, Canadian Conservation Institute (CCI).

ADMCP

Francine Lacelle has been appointed Secretary to the Director General, Telecommunications Policy (DGTP).

Guy Mason has been appointed Chief, Film and Video Policy, English Market, DGCI.

Ian Pomroy has been appointed Economic Policy Analyst in the Economic Policy and Planning Division, DGCI.

Gareth Samson has been appointed Policy Research Analyst with the New Media Strategies Division, DGNM.

ADMRS

Don Buchanan has been appointed Director, Mobile Satellite Communications, DGRC.

Robert Gervais has been appointed Vice-President, Operations, GTA.

Dan Byron was appointed on an indeterminate basis as Research Policy Analyst in the Communications Development and Planning Branch.

André Turcotte has transferred within GTA to the position of Marketing Analyst.

SMAQ

Jacques Marcotte, Senior Policy Analyst, has accepted a two-year secondment from the Canadian Workplace Automation Research Centre to the Canadian Space Agency, Policy and Communications.

Lise Holland, previously with the Patent Medicine Prices Review Board, has transferred to the Regional Development Branch as Administrative Assistant.

Nicole Bibeau has transferred from the Technological Development Division to the Cultural Development Division of the Regional Development Branch as Clerk, Communications and Culture.

Michel Beaudet has been appointed on an indeterminate basis as R&D, Informatics Analyst in the Integrated Systems Directorate.

EDO

Frederick Hawaleshka, previously with the private sector, has been appointed Engineering Technologist with the Engineering Section.

EDC

Gérard Fortier of the Regina District Office; **Ron Hamelin** of the Saskatoon District Office; and **Yvon Haché** of the Grande-Prairie District Office were promoted to Radio Inspectors through the EL Underfill Program.

Sean Renwick was appointed Radio Inspector in Training, Grande-Prairie District Office.

Lori O'Brennan has transferred from the Calgary District Office to the Grande-Prairie District Office as Radio Inspector.

Anthony Beck has transferred from the Grande-Prairie District Office to the Saskatoon District Office as Radio Inspector.

Michael Hurst and **Derreck Yorga**, formerly of the private sector, have joined the Manitoba District Office as Radio Inspectors in-training.

EDP

Eric Barker, has accepted a two-year assignment from Communications Development and Planning Branch of ADMRS to Communications and Culture in Vancouver as Manager/Telecommunications and Technologies.

> The name and telephone number of the Employee Assistance Program Counsellor for the National Capital Region was inadvertently left out of a November 6 COMMUNICINFO. He is Jean-Luc Leblanc and he can be reached at (613) 563-0139.

Retirements

Ernie Sohm, Inspector-In-Charge, North Bay Sub-Office, Ontario Region — 34 years.

Brian Williams, Radio Inspector, Ottawa District Office, Ontario Region — 35 years.

Robert Coxe, Radio Inspector, Ottawa District Office, Ontario Region — 33 years.

Michael Nawrocki, Inspector-In-Charge of the Thunder Bay Sub-office, Ontario Region — 34 years.

Donald Edwards, Radio Inspector, Toronto District Office, — 34 years.

Ronald Taggart, District Supervisor, London District Office, Ontario Region — 34 years.

Pat Owens, Radio Inspector, Kitchener District Office, Ontario Region has retired after 17 years of service with the Department and 20 years with the Canadian Armed Forces.

Bernadette Cernavez, Spectrum Control Technical Assistant, Ontario Region, Spectrum Control — 11 years.

Cathy Wadden, Engineering Assistant, Ontario Region Engineering — 15 years.

Ian Wilson, Director, Government Telecommunications, GTA, in the Atlantic Region — 15 years.

Gilles Migneault, Chief, Engineering, Spectrum Management and District Operations, SMAQ, Montreal — 32 years.

Joseph Lundrigan, Radio Inspector in the Edmonton District Office — 33 years.

Janet Ritchie (right), Circulation and Periodicals Librarian at CRC, celebrates her retirement with her daughter Nada, during a gathering at CRC in honour of the occasion.

Janet Ritchie (à droite), libraire au comptoir du prêt et des périodiques du CRC, lors d'une fête à l'occasion de sa retraite. Elle est ici en compagnie de sa fille Nada.

Yun-Foo Lum, Director, Broadcast Systems and Networks Research, models an Australian bush hat presented to him by his colleagues at his retirement party. The hat complements a fishing jacket he received the previous day as part of a Director General's Award. Lum (left) is congratulated by Bill Sawchuck, Director General, Broadcast Technologies Research (CRC).

Yun-Foo Lum, directeur de la recherche en systèmes et réseaux de radiodiffusion, portant le chapeau de brousse australien offert par ses collègues pour compléter la veste de pêcheur reçue plus tôt en même temps qu'une prime du directeur général. M. Lum (à gauche) est félicité ici par Bill Sawchuck, directeur général de la Recherche en technologies de radiodiffusion (CRC).

Ont pris leur retraite

Ernie Sohm, inspecteur en chef, bureau satellite de North Bay, région de l'Ontario — 34 années.

Brian Williams, inspecteur radio, bureau de district d'Ottawa, région de l'Ontario — 35 années.

Robert Coxe, inspecteur radio, bureau de district d'Ottawa, région de l'Ontario — 33 années.

Michael Nawrocki, inspecteur en chef, bureau satellite de Thunder Bay, région de l'Ontario — 34 années.

Donald Edwards, inspecteur radio, bureau de district de Toronto, région de l'Ontario — 34 années.

Ronald Taggart, superviseur de district, bureau de district de London, région de l'Ontario — 34 années.

Pat Owens, inspecteur radio, bureau de district de Kitchener, région de l'Ontario, a pris sa retraite après 17 années de service au Ministère et 20 années dans les Forces canadiennes.

Bernadette Cernavez, assistante technique au contrôle du spectre, région de l'Ontario, Contrôle du spectre — 11 années.

Cathy Wadden, adjointe, Services techniques, région de l'Ontario — 15 années.

Ian Wilson, directeur, Télécommunications gouvernementales, ATG, région de l'Atlantique — 15 années.

Gilles Migneault, chef, Ingénierie, Gestion du spectre et opérations de district, SMAQ — 32 années.

Joseph Lundrigan, inspecteur radio, bureau de district d'Edmonton — 33 années.

Don Matthews, Radio Regulations Inspector, St. John's District Office, retired this fall after more than 35 years of combined service with Communications Canada and Transport Canada. Matthews, right, is presented with a 35 year certificate by George Richard, Deputy Executive Director, Atlantic Region.

Don Matthews, inspecteur (Règlements sur la radio) au bureau de district de St. John's, a pris sa retraite cet automne, après 35 années de service à Communications Canada et Transports Canada. George Richard (à gauche), directeur exécutif adjoint de la région de l'Atlantique, lui remet son certificat.

Carmel Lawson

Carmel Lawson, who had recently retired from the Department, died in October after a sudden illness.

Joining the Department in 1974, she worked as a secretary and word-processing operator for eight years at the Communications Research Centre. She transferred to the Information Services Branch in 1982.

Carmel's dedication, team spirit and wry sense of humour won her many grateful friends throughout the Department.

We extend our sympathy to her husband Jim, daughter Lynn, and sons Mark and Scott.

Carmel Lawson, retraitée récente du Ministère, est décédée en octobre par suite d'une maladie soudaine.

Entrée au Ministère en 1974, elle a été pendant huit ans secrétaire, puis opératrice de traitement de texte au Centre de recherches sur les communications. En 1982, elle est passée à la Direction générale de l'information.

Son dévouement, son esprit d'équipe et son humour lui ont valu de nombreux amis partout au Ministère.

Nous offrons nos condoléances à son mari, Jim, à sa fille, Lynn et à ses deux fils, Mark et Scott.

Awards/Distinctions

A certificate and a monetary award were presented, under the Merit Award Program, by Deputy Minister Alain Gourd to the employees who contributed to the implementation of an automated travel system. From left to right: Linda Villeneuve, Nicole Allan, Chantal Potvin, Sue Brûlé, Alain Gourd, Sue Murtagh, JoAnn Laurin and Joanne Marois. (Missing from the picture is Joe Larocque.)

Un certificat et une prime monétaire ont été remis, dans le cadre du programme des Primes au mérite, aux membres du groupe de travail qui a contribué au projet d'automatisation du système de voyage. De gauche à droite : Linda Villeneuve, Nicole Allan, Chantal Potvin, Sue Brûlé, Alain Gourd, Sue Murtagh, JoAnn Laurin et Joanne Marois (absent : Joe Larocque).

Members of the working group responsible for the PS2000 Management Category Task Force were presented with a Deputy Minister Group Achievement Award by Alain Gourd who was the task force's chair. From left to right: Michael Binder, Patricia Jaton, Anne Marie Giannetti, Alain Gourd, Helen McDonald, Michel Séguin and Yvonne Barrette.

Le sous-ministre Alain Gourd a présenté un Prix du sous-ministre pour réalisation collective au groupe de travail responsable de la catégorie de la gestion de Fonction publique 2000. De gauche à droite : Michael Binder, Patricia Jaton, Anne Marie Giannetti, Alain Gourd qui présidait le groupe, Helen McDonald, Michel Séguin et Yvonne Barrette.

Long Service Awards

35 years

Colette Leblanc, Clerk, Planning and Forecasting, in the Government Telecommunications Branch of the Moncton Regional Office.

James (Bud) Bate, District Director of the Grande Prairie District Office, Central Region.

Roger Squires, District Director, St. John's District Office, Newfoundland.

Brian Williams, Radio Inspector with the Ottawa District Office.

Longs états de service

35 ans

Colette Leblanc, commis, Planification et prévisions, Direction des télécommunications gouvernementales, bureau régional de Moncton.

Roger Squires, directeur de district, bureau de district de St-John's.

James (Bud) Bate, directeur de district, bureau de district de Grande-Prairie, région du Centre.

Brian Williams, inspecteur radio, bureau de district d'Ottawa.

Deputy Minister Alain Gourd presents a Deputy Minister Group Achievement Award to the team who organized the "Women of DOC —today and tomorrow" conference. From left to right: Hélène Godreau, Barbara Bloor, Alain Gourd, Anne Marie Giannetti and Louise Lappa.

Le sous-ministre Alain Gourd a présenté un Prix du sous-ministre pour réalisation collective au groupe de travail qui a mis sur pied la conférence «Les femmes au MDC — aujourd'hui et demain». De gauche à droite : Hélène Godreau, Barbara Bloor, Alain Gourd, Anne Marie Giannetti et Louise Lappa.

A Deputy Minister Group Achievement Award was presented to Department employees responsible for the Second International Mobile Satellite Conference by Alain Gourd. Back row, from left to right: John Lodge, Robert Bowen, Donald Buchanan, Jack Rigley, Robert Huck, Joseph McNally and Allister Pedersen. Front row: Hugh Reekie, Violet Goyette, Sharon Auger, Sylvie D'Aoust, Alain Gourd, Lisa Henderson, Hisham Hassanein and Judith Froome.

Le sous-ministre Alain Gourd a présenté un Prix du sous-ministre pour réalisation collective au groupe de travail responsable de la deuxième Conférence internationale des services mobiles par satellite. De gauche à droite, deuxième rangée : John Lodge, Robert Bowen, Donald Buchanan, Jack Rigley, Robert Huck, Joseph McNally et Allister Pedersen; première rangée : Hugh Reekie, Violet Goyette, Sharon Auger, Sylvie D'Aoust, Alain Gourd, Lisa Henderson, Hisham Hassanein et Judith Froome.