

# Professional Engineer



## Manitoba Mourns the Passing of Major John Leslie Charles, O.C., D.S.O., LL.D., P. Eng.

By: E.A. Speers, P. Eng.

If ever a role model existed for Professional Engineers, the late Major Charles provided that model. During the Special Convocation held at the University of Nova Scotia to celebrate the Engineering Centennial in Canada, Major Charles was acclaimed as our "most worthy person who has made significant contributions to the field of engineering".

Major Charles showed outstanding pioneer spirit during his engineering career. He was born in Weybridge, Surrey, England and emigrated to Canada in 1910. He served with Canadian National Railways for 55 years. He attained the rank of Major while on overseas duty during World War I. He recruited and commanded the 20th Field Company of the Royal Canadian Engineers during World War II, before doing special duty with the United States Army, surveying and supervising construction of a military railway connecting Canada with Alaska.

As Chief Engineer for the Western Region of the Canadian National Railways, Major Charles was engaged in the surveying for and construction of the company's branch lines. These lines furthered the economic development of northern Manitoba and the Prairie Provinces. Major Charles is credited with the studies for, and the development of, the Great Slave Lake Railway. After retiring, he was retained by CNR in a full-time capacity on special projects for a further eight years.

John Leslie Charles played a leading role in the development of northern Canada; contributed to the advancement of the engineering profession, both at home and abroad; and maintained an interest in his profession and in the growth and development of his country. In 1981, Professional Engineers across Canada recognized his accomplishments by honouring him with the Canadian Engineers' Gold Medal Award, the highest award given by the profession.

Major Charles, at the age of 73, was in charge of surveys to locate a proposed railway to connect the Rhodesian System in Zambia to the East African System in Tanzania. Earlier, he was in charge of railway surveys in Liberia, West Africa.



As a guest of Gas/Arctic Northwestern, Major Charles, in 1973, at the age of 81, undertook an inspection trip from Calgary through Yellowknife, down the Mackenzie Delta to Prudhoe Bay. In the early 1970's he participated in studies with the Canadian Institute of Guided

Ground Transport, working on a feasibility study to propose a railway as an alternative method of transportation to pipelines. In 1975, at the age of 83, Major Charles spent 13 months in Brazil on assignment for CANAC, CN's consulting arm, helping to chart a 600-mile railway through the jungles of the Amazon Valley.

Major Charles' autobiography, *Westward Go Young Man*, was published in 1978 and it reveals his gentle and kind, yet firm, nature and the gruelling conditions overcome in developing Western Canada. He also wrote for the Engineering Institute of Canada Journal and the Canadian Geographic Journal. With the Professional Engineers of the Province of Manitoba and his late wife, Helena, Major Charles established the Canada Northlands Development Award for engineering students entering fourth year, in memory of his son, Flight Sergeant John Hamilton Charles, who was killed in action in World War II.

Major Charles was a member of APEM from 1921, President in 1953 and an Honorary Life Member until he died on January 10 this year.

During World War I, Major Charles was twice mentioned in dispatches and was made a Companion of the Distinguished Service Order. In 1968, he received the Julian C. Smith Award from the Engineering Institute of Canada, and in 1973 he received the honorary degree of Doctor of Law at the University of Manitoba. He was made an Officer of the Order of Canada in 1974. In 1976, Major Charles was recognized by APEM for his long and unique contributions to engineering with the Merit Award.

Major Charles was truly a man whose personal and professional demeanour and whose professional achievements advanced this association and enhanced his profession. □

## THE MANITOBA Professional Engineer

June, 1992

Published by the Association of Professional Engineers of the Province of Manitoba  
530-330 St. Mary Avenue  
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## Canada/Russia Engineering Opportunities

By: E.A. Speers, P. Eng.

**T**he APEM Breakfast Meeting of the Research and Development Committee on April 10th, 1992, at the Viscount Gort Hotel, featured Dr. Ludmila Nikolaena Ilyina, eminent scholar and scientist, member of the Supreme Economic Council of Russia, Senior Geographer, and now liaison person for the Russian side of the Manitoba-Russia Agreement on Economic, Environmental and Cultural Cooperation, signed last September.

Dr. Ilyina spoke on the subjects she knows best: the opportunities in mineral wealth and trade awaiting development in her native country; the opportunities for the west to join in joint ventures; and the opportunities for increased trade through the Port of Churchill with the northern ports of Russia.

She spoke of the various opportunities being sought by others, particularly of Japanese economic presence in the western region of Khabarovsk, the closest area to Japan and described the areas of political unease, and those of political stability. Dr. Ilyina mentioned the

number of Canadian companies now in Russia, and the need for engineering development in mining, pollution control, and civil engineering.

She did not wish to speak on the Ukrainian/Russia political dispute, or the Muslim problem in the territories near the Iran borders, as these political and religious subjects were not her area of expertise. As a geographer and cartographer she knew the country, its treasures, and the possibilities for development. She stressed the importance of the Murmansk seaport on the north-east coast of Russia and its proximity to Churchill. Murmansk has a population of 900,000 people, with important deposits of nickel and phosphates close by.

The breakfast meeting was well attended, with questions and discussions continuing past 9:00 a.m. A video will be available shortly. □



Dr. Ilyina explains opportunities in Russia.

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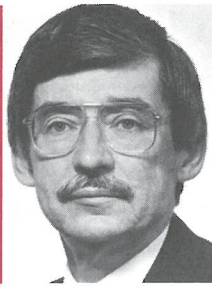
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### WE HAVE LOST CONTACT. MAY WE HAVE AN ADDRESS?

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## President's Message

N.P. Feschuk,  
P.Eng.



**T**he Report of The Working Group on Immigrant Credentials (WGIC) was released by the Province of Manitoba at the end of March. It contains a large number of recommendations with respect to the accreditation of immigrant credentials in the professions and trades.

Immigrants coming to Canada normally arrive here with the expectation that they will be able to carry on in their professions or trades, not recognizing that an accreditation process is in place in Canada. The report suggests there are many systemic and attitudinal problems barring immigrants from being certified or recognized in their area of specialty.

The report concludes, among other things, that the language requirement set by registering bodies or associations is too rigid, and recommends

that it should be relaxed. Unfortunately, it is far too common to receive written reports or hear verbal presentations that are difficult to comprehend and understand. The Report of the WGIC is a good example of a report that is both difficult to read and comprehend, and for these reasons begs the reader to discard it. In engineering, as in other professions, communication is a major key to success. It appears that the authors of the report are selling both the public and the immigrant short in not recognizing this.

Of all the recommendations, the most disturbing recommends that a government body, using both the immigrants' educational credentials and prior work experience, determine for the professions and trades who is academically qualified. Canadian Council of Professional Engineers (CCPE) has negotiated reciprocal agreements with respect to accreditation with the USA, Ireland, Australia, some societies in England, and soon with New Zealand while talks will hopefully soon be underway with Mexico. In addition, the accreditation of engineering programs in Canadian Universities by CCPE and the steps being taken by all Canadian Associations toward the adoption of standard registration criteria will make transfer between associations across Canada almost automatic. If the Province of Manitoba (or another province) were to determine who is eligible academically for registration

based on its own criteria, the result would surely be the withdrawal of reciprocal accreditation with foreign countries or with other provinces. This would lead to individual Provincial standards - exactly what the reports suggest hinders immigrant credential recognition in Canada.

On the positive side, it is clear that the Association should not lie back and say "I am all right, Jack", but should take a positive, pro-active position and look at the registration process and requirements for immigrant credentials. I would welcome any suggestions or recommendations from the membership - particularly from members with foreign credentials who have experienced the registration process which the Report of the WGIC suggests is unfair and unreasonably demanding both in requirements, fees and process, and is viewed as degrading by immigrants. □

## Notice Something Different Under The Masthead?



**It's our new logo!  
Be proud of it!**

By: B.G. Lawlor, P. Eng.

**E**ffective June 1, 1992, APEM has a new logo. This logo, shown above in its official colours, replaces the somewhat antiquated seal, to more accurately reflect the progress of the Association and our profession into the 90's and beyond.

The 30% black parallel lines denote continued ACTION by all of the MEMBERS into the 1990'S and the FUTURE.

The stylized burgundy APEM letters depict STRENGTHS of our ASSOCIATION with continued ENSURED SAFE PROTECTION for the GENERAL PUBLIC.

This Logo:

- will replace our professional seal on most formal letters and envelopes; and
- will be displayed on identification banners, podium signs, and other means of drawing attention and communication, all to make society aware of our ASSOCIATION and its purpose.

Now, some background into the development of the Logo. It was suggested, some time ago, by a member, that our Association should have a logo. This suggestion was followed-up by the Public Relations Committee which conducted a logo contest among our members, three or four years ago. Response was minimal. A winner was

selected, but was not pursued as it tended to relate to one specific engineering discipline. Then, in the earlier part of 1991, the logo subject was placed on the table again. After further discussion, it was decided to "bite-the-bullet", put a request for funds in the budget and solicit proposals from graphic artists versed in designing logos. Three firms were requested to participate, with their proposals to include samples of their work and estimated costs. Upon review of the proposals, Advertising Design and Associates, headed by Mr. Robert Brown, a graduate of the School of Fine Arts, University of Manitoba, with more than 20 years' experience, was selected. Bob was requested to attend a Public Relations Committee meeting to gain background from the members as to the purpose of our Association, how it relates to society, the strengths of our membership, etc. plus restrictions on the design in that it was not to be complicated, should include a minimum of colours, should be easy to remember, and should be generic to all engineering disciplines.

With the above in mind, Bob presented three closely related designs with various colour combinations. From this presentation, two designs were formed into the Logo as depicted above, accepted by the Public Relations Committee, with further approval by Council.

Mr. Brown is to be congratulated. □

## APEM Takes Enforcement Action

By: D.A. Ennis, P. Eng.

**A**s was reported in the February issue of the Manitoba Professional Engineer, Lilian McMahon pleaded guilty, in Provincial Court, to a charge of engaging in the practice of Professional Engineering contrary to Section 28 of the Engineering Profession Act, by providing engineering services to Mr. and Mrs. Bruno Burnichon, relative to 6261 Southboine Drive, Winnipeg, Manitoba, in the period April to July of 1990.

What was not reported is that the Association, in agreeing to stay three other charges of contraventions of the Act, thereby minimizing costs, obtained written acknowledgement and undertaking from Ms. McMahon that she would not represent in future to members of the public that she is an Engineer entitled to practice within the Province of Manitoba.

Ms. McMahon, as the principal of "Looking Good Team", an enterprise in the business of building and foundation repair, had engaged in the practice of engineering, by designing underpinning foundation piling for a portion of a building belonging to Mr. and Mrs. Burnichon. They had advised the Association that Ms. McMahon had stated that she was an Engineer, and that their choice of engaging her to perform work on their residence was influenced by their understanding that she was an Engineer.

Significantly, their residence had been assessed by a Professional Engineer, a few years prior to their engaging Ms. McMahon, who had recommended underpinning repairs.

In conducting an investigation of the matter and assessing whether there was sufficient evidence to justify the laying of the charge, the Association received a strong indication that, on at least two other occasions, Ms. McMahon had represented herself to home-owners as an Engineer, authorized to practice in this Province.

Continued on page 12

# Engineers In Health Care – Where do they belong?

By: B.G. Trenholm, P. Eng.

The engineer in health care—as in every other engineering discipline—may find it constructive to belong to one or more related professional societies in addition to his or her provincial Association.

In the health care field, an engineer or technologist may be involved in such areas as research and design, electro-medical or patient care equipment management, information systems management, building systems maintenance, or rehabilitation engineering...to name only a few.

For those active in or entering the field, there are a number of Canadian and trans-national organizations which can serve as excellent

**Two key Canadian bodies in the health care field are the Canadian Medical and Biological Engineering Society and the Canadian Hospital Engineering Society.**

sources of knowledge and experience, and as venues for professional contact and activity. Individual personal interests—for instance, as researcher, specialist or generalist—often influence decisions on membership in the various professional associations.

## Canadian Organizations

Two key Canadian bodies in the health care field are the Canadian Medical and Biological Engineering Society and the Canadian Hospital Engineering Society.

The Canadian Medical and Biological Engineering Society (CMBES) was formed 26 years ago. At that time, it was primarily organized around engineering-in-medicine-research-and-development professionals. It subsequently came to reflect, too, the clinical engineering role which later evolved into hospital electro-medical equipment management, and in other sub-specialties such as rehabilitation engineering. Today, with roughly 300 members nationwide, CMBES retains a cross-professional flavour, which was well demonstrated last year when Manitoba hosted, in Winnipeg, the CMBES 25th Anniversary Meeting and Conference.

Important CMBES contributions to the field are the two certification programs which it conducts for Certified Clinical Engineers (CCE) and Biomedical Engineering Technologists (BMET).

In addition, CMBES serves as the Canadian arm of a much larger entity, the International Federation of Medical and Biological Engineering (IFMBE), which is a worldwide umbrella group for national societies in this field.

By contrast, with respect to the major interest groups served, the Canadian Hospital Engineering

Society (CHES) is largely composed of Professional Engineers and managers responsible for building and building systems design and maintenance. As reflected in its Quarterly Journal, major areas of interest include electrical systems design for patient care areas, hazardous waste management, and energy management. The CHES Annual Convention took place in Winnipeg last June.

## The International Picture

A fair number of international organizations, in addition to IFMBE, serve the health care field both in broad and in more specialized categories of interest. From the general viewpoint, those most linked to the engineer in health care are the Association for the Advancement of Medical Instrumentation (AAMI), and the Engineering in Medicine and Biology Society (EMBS) which is a component of the Institute of Electrical and Electronics

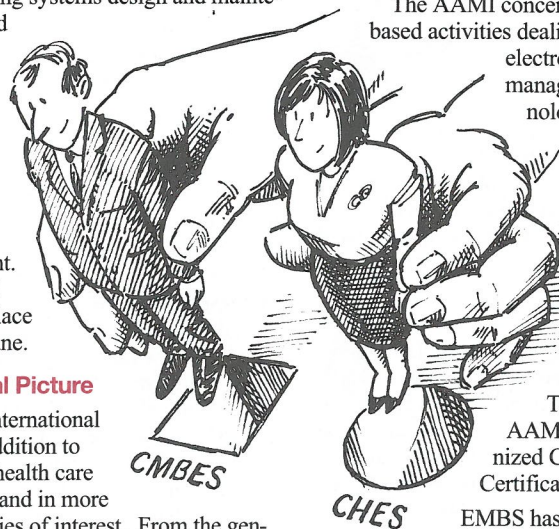
Engineers (IEEE). Both are headquartered in the U.S.

The AAMI concentrates on the hospital-based activities dealing with such matters as electro-medical equipment management, including technology assessment, maintenance and repair, and risk management.

These topics, as well as R & D and underlying principles, are covered in its journal, *Biomedical Instrumentation & Technology*. In addition, AAMI has a widely recognized Clinical Engineering Certification Program.

EMBS has a broad range of interests in research and in the overall engineering aspects of patient care. This is exemplified in its fifteen Technical Interest Profile committees, which span the range from Biomedical Data Acquisition Systems to

*Continued on page*



## New Members' Reception

By: J.W. Bogan, P. Eng.

The New Members' Reception was held Wednesday, April 27 at the Wildwood Club. As usual, there was a good turnout to welcome those recently introduced to our Association. The event was attended by our President Pat Feschuk, Executive Director Dave Ennis, committee chairpersons, Association staff, as well as many new members. It allowed everyone an opportunity to see the areas other members were involved in, where they went to school and where they may have re-located from. Hopefully, each new member was also able to glean some idea of the workings of each committee while committee chairmen encouraged the

idea of how rewarding volunteering for committee service would be.

President Feschuk addressed the group about the functions of the committees and introduced chairpersons and Association staff.

As usual, the service and food at the Wildwood Club was excellent.

During one of many conversations, this reporter overheard an interesting comment from one of the other committee chairmen. It was sug-



Ken Jardine with new members Derek Belsham and Andrea Zeeb

gested that certificates and seals be presented only at the reception. This would ensure that the objectives and ethics required by the profession, which the Association strives to achieve, could be impressed upon all new members.

Not all present agreed with the suggestion. Perhaps some of the new members who didn't attend will find the time to reflect on the idea and offer suggestions. □



Committee Chairman Terry Holden (second from left) entertains (left to right) Elan Swatek, Dennis Lemke, David Jacobsen, and Dean Solmundson

## Professional Development

### Hazardous Waste Legislation - An Engineering Problem?

By: W.B. Mackenzie, P. Eng.

The recent disaster in Guadalajara rivetted the public's attention on the problems relating to hazardous materials. Closer to home, the groundwater pollution in the Stonewall area provided the public with compelling reasons for demanding government action, protection and control over the production, transportation and disposal of potentially damaging and hazardous substances.

Apparently, the Manitoba Government is well aware of the problems and the public concern. Enabling legislation is already in place. The Environment Act, the Public Health Act and the Dangerous Goods Handling and Transportation



Arnold Permut thanks speaker Dave Wotton

Act all relate to the production, transportation and disposal of hazardous substances. Regulations, which are concomitant to the legislation, are in place so that the requirements can be implemented. Many of these regulations (which have the force of law) are of recent vintage, and may be unfamiliar to the many engineers involved with hazardous substances. Certainly, the number of engineers that attended a recent breakfast meeting indicates a very strong interest in the "Recent Changes to Environmental Legislation" which was the topic addressed by the speaker, Dave Wotton, Director of the Winnipeg Region, Manitoba Environment. Manitoba Environment has an Environment Management Division which addresses air, water and land standards and approvals of various sorts, and decides when an environmental review is necessary on a proposed new project. Another division, Operations, addresses enforcement procedures.

Hazardous waste disposal and an emergency response mechanism are covered in the Dangerous Goods Handling and Transportation Act, an Act which has, according to Mr. Wotton, lots of teeth.

New regulations require the registration of generators of dangerous substances and hazardous waste. The object of these regulations is to provide "cradle to the grave" control of the substances. Currently, some 1400 generators are

registered. Next year, as the regulations are enforced, the number will swell to 5000.

An indication that the Manitoba Government is serious is the scale of penalties for violators - up to \$50,000 for individuals and \$1,000,000 for corporations. Mr. Wotton indicated that, although the enforcement and penalties seem severe, they are in line with similar penalties and legislation in other provinces, and should not be a deterrent to firms considering setting up in Manitoba.

Hazardous materials include explosives, compressed gases, flammable liquids, corrosives, poisons, radioactive materials (a federal responsibility), asbestos products, waste oil, etc. Anyone involved in any way with such materials should contact Manitoba Environment at 945-7100 for information on pertinent regulations. Ignorance of regulations is not an acceptable reason for non-compliance. Engineers, take note!

A video of the breakfast meeting presentation is available in the Association office. □

### Festival of Engineering '92

By: B.A. Dobran, P. Eng.

The first-ever National Engineering Week, Festival of Engineering '92, was held across Canada April 6-11, 1992. The theme for the Festival was "Engineering Our Future."

In Winnipeg, a booth was set up at Portage Place to observe Festival of Engineering '92. Proclamations from Winnipeg's Mayor Norrie and Manitoba's Premier Filmon were proudly



APEM and Mini-U promote profession

displayed. There was always a Professional Engineer on hand to talk about engineering and answer questions. Various pamphlets about engineering were available for the public to peruse and take home. The booth was shared with people representing Mini-U. There were two personal computers and a camcorder available to challenge and entertain.

Hopefully, next year's National Engineering Week will coincide with Manitoba school children's Spring Break. Then, perhaps, we can foster more interest in engineering with the children who still have time to make their career decisions. In addition, it is hoped that a more suitable location can be reserved for Festival of Engineering '93. □

### Female Inventors Wanted!

By: C.S. Roberts, P. Eng.

For the last couple of months I have been trying to recruit Engineers for the "Women of Invention" exhibit from April 23 to June 21, 1992 at the Museum of Man and Nature. Alas, another example of our reluctance to promote our achievements - only one woman Engineer/inventor was found. Dr. Eva Rosinger has a patent for a sintered PVC china mould which is being used widely in Europe.

I know that we do not usually think of ourselves as inventors, primarily because innovation is a part of our everyday work. The things we do every day are no less unique than most of the inventions being featured in the exhibit. The types of inventions featured in the exhibit range from household and recreational items to computer programs and engines. So don't be shy; toot your horn a little for your achievements! Instead of using the words "designed" or "devel-

oped", try saying "invented".

Hopefully, I have inspired the eight volunteers who will be at the APEM display each Sunday afternoon through the course of the exhibit. These women (seven Professional Engineers and one EIT) will be demonstrating the "A World in Motion" programme, and acting as role models for future Engineers. Our theme is "If you want to invent for a career, then you should become an Engineer!". □



Carol Roberts explains engineering at Museum Women of Invention display

## Where is Shad Valley?

By: R.B. Pinkney, P. Eng.

People who encounter Shad Survivors garbed in T-shirts emblazoned with the name Shad Valley almost always overcome their fear of appearing ignorant long enough to ask that question. Even those who know find it difficult to answer. Shad Valley comes to life, Brigadoon-like, during the month of July each year. To the extent that it is a place, it is found on eight university campuses from UBC in Vancouver to the University of Manitoba to Acadia in Halifax. But Shad Valley cannot be described as a geographical location; rather, it is a once-in-a-lifetime experience for some 400 high school students each year who have demonstrated not only their academic prowess, but also their leadership potential, creativity and drive.

Shad Valley is a four-week summer program emphasizing engineering and entrepreneurship for gifted high school students in Canada. Established in 1980, the program has enjoyed nearly 50% annual growth since its inception. Each participating campus accepts 50 or more students who live in residence together with six graduate or senior university students and four university professors— a mathematician, an engineer, a computer scientist, and a business professor. About half of the students are sponsored by various companies; for these students, the four-week campus experience is followed by

a five-week work term with the sponsoring organization.

The Shad Valley Centre for Creative Technology, now the Canadian Centre for Creative Technology, was incorporated in September, 1980, with the following goals:

- to create an environment in which young people will find incentive, facilities, and direction to develop fully their talents in the scientific and engineering disciplines;
- to sow the seeds of future entrepreneurial success by promoting innovation, leadership, and business skills; and
- to foster cooperation between industry and education.

To this end, the Shad Valley Program is designed to help participants come to a full realization of their potential, to give them a hands-on experience of technology, and to foster their entrepreneurial spirit.

A typical day at Shad Valley might include three hours of lectures in mathematics, engineering, computer science or business, an afternoon spent in a small group in a laboratory, and an organized physical or recreational activity in the evening. During the month, each of four or five houses comprising ten to 13 students conceives a marketable product (preferably with an engi-

neered content), creates a prototype, and produces a complete business plan.

Weekends are spent in recreational excursions, including, at the Manitoba program, a three-day outdoor experience at Scouts Canada's Camp Alloway in the Whiteshell.

It is safe to say that the students have never been exposed to such sustained high-intensity mental and physical activity.

Shad Valley could not exist without industrial and business sponsorships. The Canadian Centre for Creative Technology in Waterloo, with its provincial Shad committees, continuously seeks sponsors among companies which stand to benefit from enhancement of their competitive position in world commerce through technological innovation and an entrepreneurial spirit. Among such potential sponsors must surely be firms whose enterprises involve the engineering profession.

Many Shad Valley students have already started new and successful companies in Canada. They are technologically based. They are competitive. They are also synergistic. Each becomes a client or supplier of the others and a member of the network of Shad companies, Shad Survivors, and sponsoring companies.

Oh yes— where does the name Shad Valley come from? It seems that there is a Shad Creek running through the original Shad campus, St. Andrew's College in Aurora, Ontario. Shad long has it that, in casting about for a suitable appellation for the program, the charter group of students discarded the word "Creek" in favour of one which was then in vogue in the names of paperback novels and movies, thus giving birth to the name Shad Valley.

Whatever the name, if the program is successful in achieving its goals, its impact on the Canadian economy and on the quality of life will be truly dramatic. □

## Gail Fyfe: Appointed Councillor

By: B.A. Dobran, P. Eng.

Last October, Gail Fyfe, a non-engineer, was appointed a lay member of our APEM Council for a two-year term. Gail hails from Manitoba. She initially became a school teacher of physical education and academic courses in Grades I to X, and taught school in Manitoba and Alberta for four years. Later, over a seven-year period, she accompanied her husband on diplomatic assignments in Italy, England and Switzerland.

In September, 1975, Gail's career took a dramatic turn when she entered the transportation industry and participated in the development of Zipper Courier in Winnipeg. After dispatching and supervising 75 drivers and office staff, she became responsible for Sales and Customer Service. After five years in this capacity, Gail moved over to Canpar, where her territory included half of the City of Winnipeg, the Province of Manitoba and Northwestern Ontario. One year later, she was promoted to Sales Supervisor. Her new territory included the Province of Saskatchewan, as well as the responsibility for hiring and training Sales Representatives in Alberta.

Today, Gail Fyfe is the Sales Manager for Quik X Transportation, a less-than-truckload expedited trucking company located in Winnipeg.

Still a very active participant in the male-dominated transportation industry, Gail also finds time to perform her APEM Council-related duties. Gail believes that Council represents engineers, and protects the public. As the months of her term progress, we should be hearing more from Gail. □



APEM Councillor Gail Fyfe

## Engineers in the News

**Dr. Attahiru Alfa, P. Eng.**, Associate Professor, Faculty of Engineering, University of Manitoba, received a 1991 University of Manitoba Rh Award in recognition of his research work.

Dr. Alfa's research has focused on traffic congestion, networks and queuing, and is currently being extended to manufacturing, communications and computer systems.

**Dr. Eva Rosinger, P. Eng.**, was one of five winners among 34 outstanding Manitoba women nominated for the YM-YWCA 1992 Women of Distinction Awards.

While Dr. Rosinger's nomination was, in itself, an honour, her receipt of the award was recognition of her contribution to society as a truly outstanding Woman of Distinction.

Dr. Rosinger is Director-General of the Canadian Council of Ministers of the Environment. □

## Letters to the Editor Should We Be Green?

Dear Editor:

Should We Be Green?

The three R's of conservation are reduce, reuse and recycle. First, efforts should focus on reducing consumption. Reusing is one method of reducing consumption. Reducing and reusing both rate greener than recycling.

Modern offices use about 200 kg per person per year of paper, usually printed one side only. Ultimately, it is all waste paper. In our office, we turn the waste page over and use the other side for hand notes or for use in the photocopier for internal documents, before we recycle it.

The value of the time required to do this is orders of magnitude greater than the cost of paper saved; however, we feel the efforts of all individuals are essential to resolving environmental issues.

To be greener, the APEM could use less paper by using small print in the Bulletin, copying notices on both sides (several of the notices in the last mailout were sparsely printed, one side only) and/or using lower grade and/or lighter weight paper. These measures will save money, while using recycled paper or using only paper from "clean" mills, etc. will increase costs.

I trust everyone with strong "green" attitudes about the one kilogram of Bulletin paper they receive each year:

- has taken measures to reduce the 200 kilograms of paper they personally generate in their office and the huge volume of newspaper and junk mail they receive at home;
- keeps their thermostats turned down;
- walks, rides the bus or bicycles rather than drives;
- reuses their grocery bags;
- has a compost heap to fertilize their garden;
- doesn't use chemicals on their lawn;
- uses cloth diapers ...

Bert Phillips  
UNIES Ltd.

P.S. To reduce junk mail, post a "no flyers" sign on your mailbox, and let it be known that you don't support merchants that regularly issue flyers.

Dear Sir:

In regard to "Should We Be Green" I would say yes. We must be sure that it is truly being green and we are helping the environment and not being fooled. In this case it can truly help and show that there is a demand. I would be willing to pay the extra cost of supporting our future.

Rod Soviak

Dear Ms. Zbigniewicz:

I just read your very interesting article in the April, 1992 APEM publication, "Should We Be Green?"

I have the following questions.

- 1) Why is there a 10% limit of recycled paper (post consumer waste) in new recycled paper?
- 2) Can recycled paper be recycled once again as post consumer waste into new recycled paper? Or is there a limit? I heard a paper executive state there is a limit. Why is this so? Does this mean we can only ever use 10% or so of new paper as recycled input and even less of recycled paper?
- 3) Why does Canada import most of post consumer waste paper for input into recycled paper? Is it cost or availability?
- 4) Would you please clarify your calculation on 1/10 cent/copy for the APEM issue (\$350.00).

Yours truly  
Norm Dashevsky, P. Eng.

Dear Mr. Dashevsky,

*I was very pleased to receive your letter. I hope the following paragraphs will answer all your questions.*

*Every time a piece of paper is recycled its fibres become shorter. Eventually they become so short that they will not bond together correctly to form paper. On average the same piece of paper can be recycled six times before its fibres become too short. Since paper mills have no way of telling how many times a piece of paper has been recycled, only 10% post-consumer waste is used in recycled paper. This insures that that paper will bond properly. The 10% maximum content of post-consumer waste may increase when a method is devised to determine how often a piece of paper has been recycled.*

*The reason that recycled paper predominantly comes from outside Canada is that there are only a few mills within the country that use post-consumer waste in their paper production. As for the post-consumer waste used at these mills, it comes from sources both close to the mill and further afield, subject to availability and shipping costs.*

*Finally, the reference to the cost of using recycled paper for our publication should have read 1/10 cent per copy and \$3.50 per issue.*

*Thank you for your interest in my article. It is nice to know that our readership is concerned with the environment and is actually reading our publication!*

Sincerely,  
Halina Zbigniewicz, P. Eng.

## Our Man in Ottawa

By: D.A. Ennis, P. Eng.

Ontario Engineers held their annual meeting in Ottawa to coincide with the culmination of the week-long 1992 Festival of Engineering. A significant participant in the Festival was the Ottawa-Carleton Chapter of APEO, which organized and carried out a number of activities over the week.

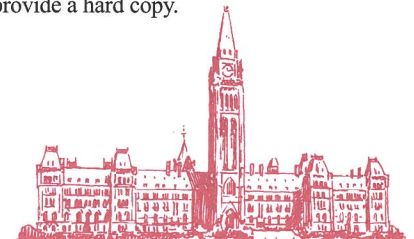
The Manitoba Association has only begun to organize chapters. APEO, on the other hand, which this year saw its membership top the 60,000 mark, is organized into 42 chapters which are grouped into five regions of the province. The Ottawa-Carleton Chapter, alone, has 6,000 members (almost double the membership of APEM!).

The meeting was attended by eight other Provinces. The President of the PEI Association, in surveying the approximately 150 people in attendance, and bringing greetings from all of the 178 Engineers in Prince Edward Island, observed that APEO might have a dilemma if it were to emulate PEI's 60% attendance rate at annual meetings.

The topics dealt with and the issues discussed are very similar to those that are before the Manitoba Association and reported in the MPE. The similarity ends when it comes to financial matters: the membership equity is \$6,500,000! Two matters that are before APEO and which the Manitoba Association has not had to deal with are: that the Attorney General of Ontario has asked APEO to review and report to him on the role and functioning of the office of the Registrar within APEO; and the membership's interest in a self-interest group.

The keynote speaker at the luncheon was the President of Wildlife Fund Canada. His message was that Endangered Species = Endangered Species, and that Engineers can have a significant role in jostling governments out of their "dynamic inaction" in preserving endangered spaces. His argument was that this is all part of our moral responsibility to the other passengers on this planet.

Other aspects of the day's events included forums on Environmental Protection and the Role of the Engineer, and School Outreach - Promotion of Maths and Science. There was also a demonstration of Skills Link, a series of on-line databases containing the comprehensive listings of current training resources available in Ontario. They can be accessed by an individual using a personal computer and a modem or by contacting the Skills Link staff who will do the search and provide a hard copy. □



## Council Reports

**March 9, 1992**

By: *W.B. Mackenzie, P. Eng.*

### AT WHICH COUNCIL SANCTIONS THE ILLEGAL PRACTICE OF ENGINEERING

On March 9th, 1992, Council discussed a "problem" which has been addressed by many previous Councils. The problem relates to the Association's position when a new graduate, who has not become a Registered P. Eng., takes an engineering position and provides engineering services to his employer when there is no Professional Engineer to take professional responsibility for the work. This practice constitutes an offence under The Engineering Profession Act.

One of the Association's – and hence, Council's – premier mandates is to ensure that non-Professional Engineers do not practice engineering. In implementing this mandate, the Association recently prosecuted a non-Professional Engineer for practising engineering illegally. However, at this Council meeting, by a formal motion, Council sanctioned the illegal practice of engineering by new graduates. Further, in the process of doing so, Council voted to institute a procedure which is in violation of the Association's By-Laws. It is virtually a certainty that Council does not have

the authority to negate the Association's By-Laws by formal motion, or by any other means. (It should be noted that councillors Carl Anderson and Doug Chapman voted against the motion).

This action by Council leads this reporter to conclude that Council considers it to be more important that new graduates obtain employment (notwithstanding that they are not qualified and are working in violation of the law) than it is for the Association to protect the public against what may very well be bad, faulty or unsafe engineering work by unqualified people. The apparent double standard being used – prosecute some and sanction others – might very well lead the government to conclude that self-governance of and by the profession is not in the public interest.

This particular meeting of Council convened after an all-morning session on "Long-Range Planning" for the Association. However, long-range planning was not on the meeting agenda so there is nothing to report at this time. Routine agenda items dealing with applications, finance and the receipt and ratification of the Executive Committee's minutes and actions were all dealt with summarily.

A more lengthy discussion took place relative to the Association policy on the use of the newly-approved Association logo. Can it be used by members on business cards? Can it be used in any manner other than on Association stationery? When and how will an officially sanctioned launch of the new logo take place? The only decision made was to require the staff to prepare a procedural launching plan for consideration by Council at its next meeting. Council indicated that information on this matter will be included in the June mailing to all members. □

**April 13, 1992**

By: *B.A. Dobran, P. Eng.*

### AT WHICH COUNCIL APPROVES A REVISED PROFESSIONAL ENGINEERS CODE OF ETHICS AND CONSIDERS ITS RESPONSIBILITIES AT AN APPEAL HEARING

The Council meeting of April 13, 1992 was chaired by President Pat Feschuk, and attended by all but two councillors. The preliminary items were handled expeditiously. It was noted that there were some resignations due to unemployment.

#### Appeal Hearing

Considerable time was spent as Council seriously considered its responsibilities and obligations in holding a Hearing. The Hearing, which is required by the Engineering Profession Act, is to review a decision to reject an application for registration. It was noted that the procedure could take two days to complete, which is a considerable time commitment for the committee of councillors, and others experienced in the engineering profession, to make.

#### Reinstatement Charges and Pro-Rating of Dues

One of the By-Laws deals with a number of requirements for fees and dues. Council considered proposals to increase the cost of reinstatement to membership and to reduce the cost of membership for those who join part way through the year.

The proposal was referred to the Legislation Committee with a request that it consider changes that reflect the comments made in the proposal.

#### 1989 Canadian Engineering Memorial Foundation

Shirley Matile was appointed to be the APEM representative on the Board

of Directors of this Foundation. This appointment is to be reviewed after the first year.

#### Revised Code of Ethics

A recommendation to adopt a revised Code of Ethics was presented by Charlie Bouskill, Chair of the Ad Hoc Committee on the Code of Ethics. The proposed Code was arrived at after consideration of comments from the membership on a draft circulated earlier. It was approved by Council, with only a minor revision. The membership will be advised as to distribution of the same.

#### Annual General Meeting

The 1992 Annual General Meeting will be held October 29 and 30. Council reviewed a proposal outlining the schedule of events for the meeting submitted by Terry Holden, Chair of the Annual General Meeting Committee. The proposal, in particular the intention to have a session on the "Euro-Engineer", was endorsed. Terry also submitted a proposal for a Social Evening (it is the "Social" and AGM Committee) in the format of a Barn Dance to be held in late September or early October.

#### New APEM Logo

After having adopted a logo at the last meeting, Council approved an implementation plan proposed by staff. The results of that plan should be apparent at various places in this issue of the MPE. Councillors had a keen interest in providing lapel pins bearing the logo to all members.

#### Late Payment Appeal

One of the issues that is "routine" at this time of the year is the consideration of requests by members to waive the late payment penalty. One such request, based on an error by Canada Post, was considered. The debate was short. The decision was to deny the request, but the vote was not unanimous. □

### Endowment Fund Award

*Continued from page 2*

**N. Godavari**, Engineering Library  
CD-ROM Workstation .....\$7,100  
**R. Han**, P. Eng., et al, Mechanical & Industrial  
Engineering  
1992 CSME National Student Design  
Competition .....\$1,350

**O. Hawaleshka**, P. Eng., Mechanical &  
Industrial Engineering  
Undergraduate Simulation Laboratory .....\$8,000

**B. McLeod**, Electrical & Computer Engineering  
Printed Circuit Board CAD Tools .....\$4,000

**J. Anderson** et al, Undergraduates  
Great Northern Concrete Toboggan Race.\$2,000

**R. Hoensen**, P. Eng., Institute for  
Technological Development  
Outreach Events: Portable Display Unit ..\$2,55

**D. Kuss**, et al, Mechanical & Industrial  
Engineering  
Technical Skills Enhancement.....\$1,200

**D. Polyzois**, P. Eng., Civil Engineering  
Enhancement of Instructional Resources:  
Material Course.....\$8,000  
□

## Mini-University: Made-in-Manitoba Innovation

By: V.L. Dutton, P. Eng.

It is always stimulating to be associated with new inventions – new developments – a new method of doing something. It is doubly satisfying if the innovation happens to be occurring in your own backyard. The University of Manitoba's summer programme, Mini-University, is right on the forefront of educational development and it may be just what you and your family have been seeking.

"But the Mini-U has been running for at least ten years," you protest, "so what's so new about that?"

You're right, of course. This summer will be the eleventh year for the U of M's Mini-University for children aged 10 to 15 years. Using a number of activities in Phys. Ed. as the common base, the children select one of the five sections for their two-week session. (There are four such sessions during July and August.) However, it is the Faculty of Engineering's new approach, run for the first time last summer, that is breaking new ground in summer-time education for school children.

I'm not well enough informed on the subject to estimate personnel needs in the various branches of engineering to make a rational comment on the generally-held opinion that Canada is going to be short of Professional Engineers in the near future. However, Northern Telecom is one company that is sufficiently convinced of the rightness of the estimates to "put its money where its mouth is". It was a grant from Northern Telecom that permitted Professor Rudy Schilling to assemble his teams for last summer's "experiment".

Planning started in early spring with the following objectives:

1. There should be a maximum of "hands-on" activities and a minimum of formal lecturing or teaching.
2. Students should have an opportunity to discover new methods, principles, and ideas for themselves.
3. Curiosity should be encouraged.
4. Self-confidence should be promoted by encouraging students to do things for themselves.
5. Students should be encouraged to analyze the source of problems if their projects don't perform as originally anticipated.
6. Students should be encouraged to learn the importance of proper maintenance.

Having settled upon their objectives, the four teams, representing Electrical/Computer Engineering, Mechanical/Industrial Engineering, Civil/Environmental Engineering, and Recreation, prepared the ten-day course outline/lesson plan for their activity. (Each Engineering team was composed of a staff member and an undergraduate student.) The Recreation team,

especially, had to develop what we Scouters call Plan B - the activities for rainy days.

It is difficult to see the world through the eyes of following generations. Fortunately, I was able to attempt this by talking to a number of young people during lunch-hour on the plaza between the Students' Union building and the Engineering building. They came from various parts of the



City and none had known each other prior to meeting at the University. All were very happy with their activities. I was impressed by one lad who lived with his mother in Vancouver but was spending part of the summer with his father in Winnipeg. Placing the boy in Mini-University seemed to be an admirable way of keeping him busy while the father was at work and the boy was certainly pleased with the arrangement. I met only one child who was participating for the second time. (In that case, he was not in the Engineering Module.)

It was difficult to inspect each of the activities so I examined only a couple of the Mechanical Engineering ones - kite-making and the small-engine project - under the guidance of Professor Schilling. This short tour gave me a feel for the nature of the hands-on activities that the staff were attempting to provide for the children. Since then, I have examined the lesson plans developed by the teams. As you can appreciate, such "hard-copy" is needed by Northern Telecom as they initiate similar programmes in other

Canadian universities. These plans also serve a historical purpose and, perhaps even more importantly, are invaluable in the annual training of the new team members.

Because the staff knew that they were developing a programme that was to be used at other universities in following years, they did a survey of the children, and of their parents, at the end of each two-week course. For example, 11.6% of the children were girls whereas, for the non-Engineering modules, there were almost equal numbers of girls and boys; and 8.6% of the children came from outside Winnipeg, and the largest group of children had just completed Grade 7.

One of the questions asked the children was: "What career interests you after Mini-U?" Mechanical Engineer headed the list at 20.4%, Electrical came in at 10.9%, and Civil tied with Medicine at 6.8%. Interpreting such replies is difficult, of course. Like I, you may well conclude that the mechanical projects, relating as they did to bicycles and lawn-mower engines, would have a much greater appeal to 11-year-old boys than would the more abstract projects in the Civil and Electrical streams. In general, it appeared that the staff had made a serious attempt to obtain significant feed-back from the children after they had completed their two-week session, so I would assume that the feed-back loop will have functioned for this summer's offerings.

The parents were also surveyed. Those who know me will appreciate why I would dearly love to wrap my hands around the neck of the parent who said "Civil Engineering was boring"; but one must never forget that beauty is in the eye of the beholder. Rough though such comments may be on the egos of the staff, Northern Telecom would have had much less faith in the outcome of this experiment had the opinions of the parents been neglected. As it is, Northern Telecom will continue with its support and, in fact, is planning to start similar programmes at other universities in the near future.

New and exciting things are happening in the "old faculty", and it is not all happening in the "labs". If you do not happen to have children of the right age to participate in this summer's Mini-University, why not slip out to the campus for an hour or two and watch this "experiment" in action? You will come away from your tour as excited about it as am I. □

## Engineering Access Program Reinstated

Applications are now being accepted by the University of Manitoba from Manitoba residents of Native ancestry who are interested in a university engineering degree.

The Engineering Access Program provides access to an engineering education for Aboriginal people who have not had the opportunity by providing academic, personal, and financial support according to need. □

## Thompson News

By: R.J.C. Cotterill, P. Eng.

**O**n April 15, 1992, Thompson Engineers met for their "Chapter's" Annual General Meeting. The evening was a great success with 40 persons in attendance. It was also interesting to note that six of the members present were female. Thompson is quite fortunate to have a large female contingent.

Alex Murchie, our frugal treasurer, presented his unaudited financial statement. Our non-profit balance rose a whopping \$24.50 and we ended 1992 with \$265.95 in the bank.

Cathy Stewart gave a report concerning her activities on Council. Specifically she reported on the following issues:

- 1) Possible registration of Geoscientists by APEM.
- 2) M. Totterham has been asked to help serve on a sub-committee of Council.
- 3) Tardiness of members paying their 1992 APEM dues.
- 4) APEM logo.

We were also very fortunate to have President

Pat Feschuk attend our meeting and give greetings on behalf of Council. Pat also highlighted issues before Council, namely:

- 1) Computerization of the APEM office.
- 2) Present discussions and negotiations with MANSCEET.
- 3) The right to self-governance and how recent discussions may affect professional organizations.

As in the past, the slate of new officers was unchallenged and we have a new Executive for 1992.

The highlight of our evening was the speakers' forum, dealing with the timely issue of Sustainable Development. The first speaker was Dave Shefford, Manager of Safety Health, Inco Ltd., Thompson. Mr. Shefford indicated that Sustainable Development is a philosophical concept that has as many definitions as proponents of the concept. He gave an excellent history of the environmental movement over the last 25 years and ended by showing how major newspapers and magazines were not giving this topic true justice. Dave went on to explain how the mining industry has responded to the challenges presented by the Bruntmann Commission. Finally, Dave explained how Inco has responded with its environmental code of practice, workplace and effluent improvement programs and moves to

meet and exceed environmental regulations.

The second speaker was Mr. Adrian DeGroot. Sr. Adrian is a past City of Thompson Council and he is one of six commissioners to the new Northern Manitoba Economic Development Commission.

Mr. DeGroot explained the history and goals of the Commission and the process that their work will take. The author has heard the eloquent speaker on many occasions, and Adrian followed past tradition by failing to keep to his text and time allotted. He gave many interesting personal opinions concerning Northern problems, and his presentation was good food for thought.

The final presenter was Ray Hoemsen of the APEM Public Relations Committee, who started his presentation by indicating that he had three short topics to present. These were:

- 1) What is Sustainable Development?
- 2) Why should Professional Engineers care?
- 3) How can we as members respond to the challenge of Sustainable Development?

Ray's comments were timely, thought-provoking and challenging.

All in attendance appeared to enjoy themselves, and we look forward to our next meeting, early in the summer. □

## Flin Flon News

### Flin Flon's Octannual APEM Meeting, April 14, 1992

By: G. Gordon, P. Eng.

**T**he informal gathering was warmly received by 25 plus participants. Throughout the talk, given by the APEM President, Pat Feschuk (Grad 62), the intensity was felt like a wave. The President covered several issues: Chapter in Flin Flon, CET's applying for status, NEW LOGO, new Code of Ethics, immigrant credentials, reciprocal agreements, NEW LOGO, self governance, NEW LOGO, etc.

After a lengthy upheaval of thoughts, Pat was cornered by one of the members who had stayed awake for the entire speech (Picture 1)! Their conversation lasted some 20 minutes about-guess what? - The NEW LOGO! "Red colouring may indicate blood and/or a catastrophe caused by one of our brothers... What about blue?"

In the far corner of the room were Flin Flon's "next top five Engineers". Their non-alcoholic talk was generally about how they could improve themselves to be more like Flin Flon's current top five Engineers.

As the crowd thinned out, only a core group of balding men was left (Flin Flon's top five Engineers).

Pat was able to answer many of our questions, but had to research others. However, the promise was made: next time the APEM comes to Flin Flon, all of your questions will be answered. (However, our last visit was eight years ago (I

think). "Does anyone remember the question unanswered from last time?")

On a positive note, we enjoyed having the President of the APEM address the Engineers of Flin Flon. □



Flin Flon's next top five?



Pat and Adam



Flin Flon's top five?

## Have You Paid Your 1992 Dues?

Your 1992 annual dues were payable to this Association by January 1, 1992.

As of March 1, 1992, the late payment penalty was assessed.

If we have not received payment for your dues, complete with late payment penalty fee, by June 30, 1992, your name will be removed from the register and you will cease to be a member of this Association.

## News From Other Associations

By: L.Y. Ganetsky, P. Eng.

### Ontario

#### Wood's Comeback

The covered bridges still in use around the USA, some built more than a century ago, bear eloquent testimony to the durability of wood. That's one reason researchers at Pennsylvania State University figure wooden bridges are due for a comeback.

Working with the Pennsylvania Transportation Department, the researchers designed a sleek oak bridge that opened to traffic in November near the campus. Its 34-foot-long deck is a lamination of boards 8-12 feet in length, a parquet-like technique that could span up to 90 feet, says Harvey Manbeck, Professor of Agricultural Engineering.

The \$260,000 structure proved it could support modern traffic when two trucks, each weighing 37 tons, were driven onto the bridge. If the lumber is treated with creosote, adds Manbeck, wood bridges should outlast steel or concrete designs by as much as 20 years.

Moreover, the northeastern states that produce most of the nation's oak, maple, and poplar are yielding twice as much timber as is being harvested, so the raw materials are in abundant supply.

#### Virtual Reality

Entering a computer-generated world known as virtual reality (VR) is a thrill. Using goggles and gloves, you can explore in 3-D colour and manipulate objects. But there's been no way to share the experience.

Now, Japan's NEC Corp. has designed a prototype that brings up to five people together in a simulated environment so Engineers in different places, for example, can work on a common design problem. Instead of bulky headgear, NEC uses goggles that convert a computer-screen image into three dimensions. When participants wear gloves linked to work-stations in a high-speed network, their hand motions are mirrored by hand-like icons on the screen.

Crunching the data for these moving images strains today's workstations, so the objects are just crude animations; but, within three years, NEC predicts, more powerful computers will enable teams in Europe, America, and Japan to share "virtual workbenches" to design cars and aircraft.

#### Committee Studying "Electronic Seal"

Ontario's Professional Practice Committee (PPC) is investigating the adoption of an "electronic seal" for use on engineering documents in electronic form. In a background report presented on February 14, Council learned that the PPC has become concerned with the integrity of "original" engineering documents, which are now often created and stored in electronic form. Hard copies

of these documents are produced and distributed as needed in the field, or for contractual purposes. Identification of these "originals" is done arbitrarily, the PPC maintains, by applying the required seal to a hard copy, which can easily have been altered without the Engineer's knowledge.

"Public protection requires that the Association adopt a new Professional Engineering seal policy to ensure the integrity of electronically created documents," the PPC report says. Under the proposed policy, APEO would regard engineering documents created in electronic form as "original" documents and all hard copies created from electronic "originals" as working copies. An electronic seal would be used to confirm the authenticity of any electronic document offered as an "original."

The "seal" the PPC proposes is an electronic signature, comprising a sequence of data that verifies that an electronic document was created by the signer and has not been altered. Such electronic signatures are widely used in financial, military and other areas requiring security; but,

until recently, the availability of low-cost computing power has limited their commercial potential.

The PPC is now looking more closely at the costs involved in implementing an electronic seal policy, and has contacted the Canadian Council of Professional Engineers for input on whether other provincial associations are also considering the issue.

### Alberta

#### U of A Students to Develop Hybrid Car

University of Alberta Engineers are collaborating with the Ford Motor Corporation and the United States Department of Energy to build a new car for the 21st century.

The U of A is one of 30 engineering schools across North America participating in a competition to create a hybrid electric vehicle. Brian Jorgensen and Kenny Leung are spearheading the project. "We put together a very solid proposal, even though it was last-minute," said Mr. Jorgensen. "We showed awareness of the

*Continued on Page 12*

## Westman Chapter News

By: R. Menon, P. Eng.

Since our last supper meeting in November 1991, there has been a lull in the activities of the Chapter. But, no activity is not to be confused with no action, because your Chapter executives met once a month to chart the activities for the year. Every two years, the Manitoba Chapter of the American Public Works Association holds a mini-workshop in Brandon. In 1990, the APEM Westman Chapter joined forces with the APWA Manitoba Chapter to provide a speaker for the evening supper. The theme of the APWA workshop this year was Computer Graphics, and the Westman Chapter sought the assistance of Chris Macey, P. Eng., from UMA Engineering Ltd., to be the after-dinner speaker.

Chris, decked out in his usual "colour-co-ordinated business suit", gave an excellent CAD-assisted presentation on the Tylehurst storm sewer system, which encompasses the Polo Park/Stadium catchment area in the City of Winnipeg. Chris was assisted by Messrs. Weber and Nagy from UMA. Chris' presentation was as dazzling as the pair of sneakers he was wearing, and left most of the audience speechless, due to their own inadequacy in the area of CAD technology. I would like to take this opportunity to thank Chris and UMA for the presentation.

The supper was followed the next morning with a breakfast and tours. There was as much discussion at the breakfast table about Chris' presentation as his "sparring session" after the supper. Hey, we all know that a "Civil Engineer" is as much an oxymoron as "colour-co-ordinated suit" is.

The next supper meeting of the APEM Westman Chapter will be held on Tuesday, May 12, 1992, in the small dining room at Brandon University. The guest speaker will be Gil

Mourant, P. Eng., Chief Structural Engineer with ID Engineering in Winnipeg. Gil will give a presentation on the construction of an air strip at the South Pole. We are also planning to hold the ever-popular Texas-scrabble golf tournament later this summer. Look for details in your mail boxes.

One of our executives, Rob Riesz, P. Eng., is leaving the Armed Forces. But, don't be alarmed; Rob is not leaving the Westman area. He has accepted a new position to head the Engineering (civilian) activities at CFB Shilo. Congratulations, Rob.

If you have any news pertaining to any of our members, or wish to assist with the Chapter activities, please call me at 726-6092. See you all at the May supper meeting! □



Speaker Chris Macey (left) with Chapter President Rob Riesz.

## News From Other Associations

Continued from Page 11

many facets involved in the project."

According to Mechanical Engineering Professor Dave Checkel, P. Eng., the engineers involved in the project are in select company. Montreal's Concordia University is the only other Canadian institution involved. The U of A group will be converting a 1992 Ford Escort station wagon to a hybrid electric vehicle. The purpose of the project is to create a vehicle that will run on batteries in the city, then be able to run on gasoline for long distances.

The project was born of the desire to create a personal vehicle that pollutes less. Electric vehicles have been proposed as a solution to the pollution problems of the internal combustion engine, but they have their problems as well. "Electric vehicles are a nice idea for polluted city centers but they're just not practical for commuting" said Dr. Checkel. Mr. Jorgensen said, however, that hybrid electric vehicles are not the answer to the world's pollution problems, especially in Alberta, where most electricity comes from burning coal. "Even if you are plugging your car into the wall, people have to start thinking about where that power is coming from", Dr. Checkel said. Ford and the USA Department of Energy wanted to start some new minds working on the problem.

Over 200 students showed up at an organizational meeting. They will help to design, build and ready the project for competition in June, 1993. Dr. Checkel said the students will have to raise over \$40,000.

## Engineers in Health Care

Continued from page 4

Rehabilitation Engineering, from Biomechanics and Biomaterials to Neural Networks. The IEEE Engineering in Medicine and Biology Magazine provides exposure to the politics of clinical and biomedical engineering, to systems development, and to reviews of subspecialties. The more technical IEEE Transactions on

## Coming Events

### WOMEN OF INVENTION

Now until June 21, 1992  
Manitoba Museum of Man and Nature  
Exhibit and Workshops  
Contact: Heather Anderson  
Telephone: 988-0626

### INTERNATIONAL SYMPOSIUM ON STORED GRAIN ESCOSYSTEMS

June 7-10, 1992  
Winnipeg, Manitoba  
Contact: Digvir Jayas, P. Eng.  
Dept. of Agricultural Engineering  
University of Manitoba  
Telephone: 474-6292  
Fax: 275-0233

### ARCTIC AND MARINE OILSPILL PROGRAM (AMOP)

15th Technical Seminar  
June 10-12, 1992  
Edmonton, Alberta  
Contact: Susan Clarke  
Telephone: (819) 953-5227  
Fax: (819) 953-9029

### DATABASE WORLD & CLIENT/SERVER WORLD

Conference and Exposition  
June 29-July 1, 1992  
Boston, Massachusetts  
Telephone: (508)470-3880

Biomedical Engineering reports on basic research and development in the field.

An Engineering in Medicine and Biology Society (EMBS) chapter is active in Manitoba, as part of the Winnipeg Section of IEEE. Its membership includes hospital-based engineers, researchers, consultants, university students, and affiliates from other professional organizations with technical health care interests.

### ALTERNATIVE-FUELED VEHICLES CONFERENCE

June 30-July 1, 1992  
University of Wisconsin-Madison  
Contact: John P. Klus  
Telephone: (800) 462-0876

### ESTABLISHING AND IMPLEMENTING THE PRODUCT SAFETY PROGRAM

August 24-27, 1992  
University of Wisconsin-Madison  
Contact: Richard Moll  
Telephone: (800) 462-0876

### ENVIRONMENTAL ISSUES AND MANAGEMENT 1992

2nd International Conference  
September 1-4, 1992  
Calgary, Alberta  
Contact: Margaret-Anne Stroh  
Telephone: (403) 220-6229  
Fax: (403) 284-5696

### COLD REGIONS ENGINEERING - A GLOBAL PERSPECTIVE (ISCORE '94)

7th International Conference  
March 7-9, 1994  
Edmonton, Alberta  
Telephone: (403) 450-3300  
Fax: (403) 450-3700

### CONSTRUCTION SPECIFICATIONS CANADA (CSC)

Home Study Course for Construction Specifiers  
Telephone: (416) 777-2198  
Fax: (416) 777-2197

This brief overview of organizations to which APEM members with health care interests also belong would be incomplete without the inclusion of RESNA. The designation RESNA is taken from the original name of the organization: The Rehabilitation Engineering Society of North America. It is now known as an interdisciplinary association for the advancement of rehabilitation and assistive technologies; the official journal is Assistive Technology. Local members of RESNA are drawn from rehabilitation technology facilitation, university, hospital and industrial settings. This society is a prime example of the independent development of specialty groups.

### Epilogue

When you next meet one of us, remember that we can trade acronyms with the best!

### Enforcement Action

Continued from page 3

However, these representations had occurred side of the limitation provided for in the Act, and no charge could be laid.

Prior to laying the charge, the Association had approached the Department of Justice with a request to have the Minister prosecute the charges. The request was denied.

### ROSTER UPDATE/CHANGE OF ADDRESS NOTIFICATION

Full Name \_\_\_\_\_  
New Address \_\_\_\_\_  
City \_\_\_\_\_ Province \_\_\_\_\_  
Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Employer \_\_\_\_\_  
Position/Title \_\_\_\_\_  
Bus. Tel. \_\_\_\_\_ Date Effective \_\_\_\_\_

Mail to: A.P.E.M., 530-330 St. Mary Ave. Winnipeg, Manitoba R3C 3Z5 or FAX (204) 942-3718