



Institution of Engineering and Technology

IET Ottawa

APRIL 2008 Newsletter

Web Site: www.iee-ottawa.org

Branch email address: ottawa@iee.org

Secretary: Hudson Egbert,

April Technical Meeting:

“Next Generation 911”

Courtside Room A, East Block, RA Centre, 2451 Riverside Drive

Thursday 17 April, 2008, 6.30 p.m. for optional supper - 8.00 p.m. for the meeting

Many changes have been happening in the public safety industry which affect the way that we interact with public safety officials and first responders. IP is playing a critical role in shaping a whole new generation of information retrieval and information sharing which is re-defining the way that we handle 911 calls today. This presentation will cover those changes and discuss how modern day public safety officials are answering the call.

Allan Zander is currently the VP of Business Development at SolaCom Technologies. A Gatineau based Mission Critical Communications company focused on 911 call handling and Air Traffic Control. In his role Allan is responsible for strategic partnerships, and sales of SolaCom's products on a global basis. Allan has spent many years in Mission Critical Communications focusing on key applications and innovative Automatic Call Distribution environments at companies like CML, Mitel

and Nortel. Allan holds degrees in engineering and computer science from the University of Western Ontario, is a Professional Engineer and an active participant in a few local community theatres.

Optional pub supper in the adjacent Field House restaurant at 6.30 p.m. 2 Course specials for \$12.

The presentation is open to all. Reservations for meeting and supper appreciated but not absolutely necessary by contacting Hugh Reekie at max-com@allstream.net or phone 613-728-5343.

Park in the East lot of the RA Centre and enter by the corner door. Dinner reservations appreciated by 14 Apr, but walk-in dinners without reservations are acceptable.

How to get there:

The RA Centre is located near Bronson and Riverside Drive.

May Technical Meeting:

“Canada's Stethoscope on the Sun”

Courtside Room A, East Block, RA Centre, 2451 Riverside Drive

Thursday 1 May, 2008, 6.30 p.m. for optional supper – 8.00 p.m. for the meeting

In 1946, Arthur Covington and his colleagues at the National Research Council in Ottawa used the receiving part of a wartime radar to make Canada's first radio telescope. Its operating wavelength, 10.7 cm, was simply what the radar was designed to operate at. The small antenna and crude receiver meant that the radio telescope was only sensitive enough to detect the Sun. So Canada's first radio astronomers used the instrument to measure the intensity of solar radio emissions and how they changed with time. Completely serendipitously, wavelengths around 10 cm are the best ones for monitoring the general level of solar activity, and Covington's measurements marked the beginning of a programme that has continued for more than 60 years, providing information on the level of solar activity to users in science and industry. In this

talk we will look at the history of the programme, the equipment and how the data are used. The future is bringing increasing numbers of users and applications for the data, which is leading us to the design for the next generation of solar radio monitoring instruments. This small programme has brought Canada worldwide recognition, and the 10.7cm solar radio flux is acknowledged internationally as one of the two most widely used astronomical quantities.

Ken Tapping started radio astronomy as a backyard hobby, and then found it possible to do it for a living. He received a BSc in mathematics and physics from the University of London (UK), an MSc in space science from University College London (UK), and a Ph.D in

astrophysics at the University of Utrecht (The Netherlands). He worked with the Science Research Council in the UK and in 1975 joined NRC in Ottawa. In 1985, when the last of Arthur Covington's group retired, he became Head of the Solar Radio Monitoring Programme. In 1990, following the closure of the Algonquin Radio Observatory, Ken and the programme were transferred to the NRC's Dominion Radio Astrophysical Observatory, near Penticton, BC.

Optional pub supper in the adjacent Field House restaurant at 6.30 p.m. 2 Course specials for \$12.

The presentation is open to all. Reservations for meeting and supper appreciated but not absolutely necessary by contacting David Boteler at boteler@iee.org or phone 613 837 2035.

Park in the East lot of the RA Centre and enter by the corner door. Dinner reservations appreciated by 28 Apr, but walk-in dinners without reservations are acceptable.

How to get there:

The RA Centre is located near Bronson and Riverside Drive.

Report on the "December 4 2007 Electric Vehicle Workshop"

Prepared by Hugh Reekie, Ottawa Branch

You may have heard of the General Motors EV-1 project; over a thousand all-electric sedans were leased to Californians in the 1990s; they proved popular as commuter cars - and a set of recharging stations were established statewide. The author became interested when an enterprising leassor decided to drive "coast-to-coast" - Chicago was his destination. Despite careful planning for out-of-state special daily recharging locations, the uphill energy draw was higher than expected: so the occasional lunchtime was spent in small western communities, searching for a suitable 40 Amp clothes drier outlet; only when located was a 2-hour lunch taken nearby!

In October 2007 a chance remark from an engineering colleague identified a movie "Who killed the electric Car" as a good view; a copy was obtained immediately. It transpired that in the late 1990s GM elected to cancel lease renewals; to this day no-one knows why. But the movie - which includes considerable original material - also describes the demise of other brands of electric cars - especially the Toyota RAV-4 electric - all happily trundling along Californian roads.

There is an electric car club in Ottawa - EVCO - the Electric Vehicle Council of Ottawa; IEE/IET has been involved with this group in the past, assisting with the annual Electrathon day trials for EVs. A visit to their monthly meeting indicated not only a detailed awareness of the background to the movie, but a strong determination to proceed with the conversion, deployment and use of EVs in the Ottawa area. A good EVCO speaker was found to place EV development into perspective; also, on-site offers of demonstrations of EVs were made.

With this plethora of resources, an Evening Workshop on 4 December was set up, with an early after-work start for those that wished. An electric assist tricycle, in gleaming finish, greeted arrival at the RA centre. A look at an electric Ford Ranger, a VW Jetta and a Toyota Prius

in the snow, by the entrance, was a challenge, however. After registration, with a 22-page detailed information package, an informal sandwich supper greeted guests; some were from SAE, many from EVCO, with the bulk from IET and IEEE.

Darryl McMahon gave a detailed introduction to electric cars; they were very popular in the 1890s, and electric vehicles have been used for specialist activities over the decades - UK milk delivery floats for example were common in the 1950s. The 90-minute movie outlined the method by which GM disposed the vehicles - with no reasons given, no suitable options offered to leassors, and storage in strange (and secretive) places - no-one knew what was going on, but there was tremendous interest. The California legislature had made various indirect attempts to support EVs - but to no avail; considerable footage in the movie showed the Sacramento debates!

The movie demonstrated the demise of EVs in California; more recently, new all-electric small vehicles are being produced in India and Norway; they now provide battery commuter service - in such places as London, England.

Darryl McMahon's presentation after the movie mentioned many of these up-coming EV "possibles". Hydrogen power with fuel cells was mentioned in some detail. Toyota conducted a proof-of-concept test from Fairbanks, Alaska to Vancouver last summer; Honda have plans to launch a sleek-looking, practical, all-hydrogen vehicle in California in the summer of 2009; the hand-out had details. Will the new hydrogen systems stand up to daily usage? Are they practical? Only time will tell. Chair Jurgen Weichert, Darryl McMahon and their colleagues at ECVO did an excellent job; thanks to all; 55 attended; 16 were IET members. Martyn Delbridge has some photos up on the IET Ottawa web page.

Report on the "Vehicle Infrastructure Integration Workshop - VII -

IEEE VTS Ottawa Chapter - 4 March 2008"

Prepared by Hugh Reekie, Ottawa Branch

Sometimes opportunities for a worthwhile evening presentation appear at short notice; this was the case in December 2007, when a "Google" presentation was offered

by a visiting software engineer. A similar situation occurred in mid-February 2008. Barry Pekilis, a vehicle communications and control expert, offered to assist with

setting up a meeting. He has recently taken a position at Transport Canada, Ottawa, having just completed a thesis at the University of Waterloo, ON. Since 1989 he has been serving IEEE-VTS in various ways: a group of engineers arranged for VNIS '89 – the first Vehicle Navigation and Information Systems Conference in Toronto.

Barry had arranged for two engineers from the University of California, Berkeley, to come to Ottawa for a couple of days for meetings with Transport Canada; a suggestion was made that one of them could be invited to give an evening presentation on Vehicle Infrastructure Integration - VII. After discussions, both speakers agreed to give talks, with Barry to do an introduction and summary. So a "Workshop" was set up: the overall duration suggested an early start – 7pm. So, with financial support from two IEEE Ottawa Chapters - Vehicular Technology Society and the "Robotics and Control Systems joint Chapter", together with the IET-UK Ottawa Network, resources were made available to run the whole event.

Bill Johnson, who is very involved with "ITS Canada" – a professional organization concerned with advanced aspects of Information Technology as it applies to road vehicles – kindly offered assistance; so publicity was sent out on a broad front, by various methods. At the outset, it was thought that his very narrow topic would not appeal to many; as it turned out, specialists appeared from many directions, including research students from Carleton University. One attendee flew in from Toronto, especially for the evening; attendance was 41.

After registration – and informal greetings and

introductions over sandwiches – Barry Pekilis started the formal proceedings by introducing the topic. Both invited engineers are part of the PATH Program – the California Partners for Advanced Transit & Highways. The project highlights the opportunities – in both safety and efficiency – that can be gained if information is transferred to and from road vehicles in an appropriate and efficient manner, with suitable displays and devices on the vehicles. Steve Shladover gave a detailed overview; as an example, he mentioned that there are now 12 million vehicles in Japan that receive information with short-range 5.8 GHz radio links – with frequencies and protocols to fit the circumstance. Also, two million Japanese vehicles can transmit information using similar technologies. The Japanese implementation (called VICS – Vehicle Information and Communications System) is derived from the RACS and AMTICS projects, which started in 1984.

The Europeans have had a similar system on the go for a while; a Programme for European Traffic with highest Efficiency (and unprecedented safety) – PROMETHEUS – was proposed as early as 1986.

The received data includes road traffic and weather summaries, (including alternate routes due to accidents) and local traveler information – which can be used for vehicle fleet management for example. With transmit as well, toll collection and other opportunities become feasible. Over time, the passage of the vehicle (with acquired pertinent data) can be gathered to improve traffic planning; road use efficiency is a major factor when considering these systems. Traffic pattern trends can also be obtained.

Report on the "January 2008 MEOSAR technical meeting by Jim King"

Prepared by Martyn Delbridge, Ottawa Branch

I was recently cast adrift on an open sea in a rubber dinghy. Fortunately for me this experience took place from the comfort of my armchair as I followed the exploits of Caroline Carver's heroine, Georgia Parish, in her excellent novel Dead Heat. However should this ever (heaven forbid) happen to me for real, Jim King's talk on MEOSAR will be uppermost in my mind.

First off, I'll need a well maintained 406MHz beacon. However, this is my only expense. Once I've set this beacon off my rescue will come from outer space at no additional cost to me. This is all thanks to the Cospas-Sarsat programme; a joint USA-Canada-France-Russia initiative with a mission to assist search and rescue activities on a worldwide basis by providing accurate, timely, and reliable distress alert and location data.

My beacon's signal will first be picked up by a geostationary satellite called GEOSAR. It will alert ground stations that there is an emergency situation in progress but unfortunately, since there is no Doppler effect on the received signal it cannot provide location data. I'm going to

have to wait for about 20 minutes as some aging LEOSAR satellites come lolling around their orbits. These are low-orbit jobbies with a limited "field of view". This explains why it takes them a while to get around to you. However, once they've locked on to your beacon they use Doppler (since they are moving) to triangulate your position and relay it to the ground stations. Hey presto help is on its way and I'll be in the bar by nightfall, (By the way Georgia Parish didn't have a beacon but had to rely on old fashioned flares to attract the attention of a passing yacht).

Jim concluded his talk with a description of MEOSAR which is the modern replacement for LEOSAR.

The event was well attended with some delegates enjoying a preliminary dinner in the excellent Fieldhouse Restaurant of the RA Centre.

To date the Cospas-Sarsat programme has saved 22,000 lives.

Chairman's Column – Web Page, the AGM and Membership events

Web Page

Since revamping the Ottawa Network web page at www.iee-ottawa.org in December of 2007 we have garnered 606 hits to date. This is quite a respectable number given that we are a Network of about 300

members. If you are one (or more) of the 606 we thank you and encourage you to check back regularly, as the page is updated quite frequently. If you have yet to drop by please take a look the next time you're out surfing the web. The Activities page is always being updated with our latest talks

and visits. You can also find the most recent newsletters along with some photos of previous events and a list of committee member contacts. Further information will be added in due course.

AGM

This year's committee is almost at the end of its tenure. This session we have arranged some amazingly interesting talks; recruited some students to our ranks; published a number of newsletters and updated the web page. We also sent a representation to the North American Forum in Boston and have kept our finger on the pulse of IET HQ. We invite members to show up to the AGM in May and elect the committee for the next session (or maybe even join this committee). As always there will be a delicious BBQ and this year we plan on having speaker to replace the customary Faraday Lecture DVD, (which is no more). Please feel free to bring a guest.

Volunteer Members Conference

This month IET London is hosting a conference for members who sit on Local and Professional Networks. We are sending Hugh Reekie, David Boteler and Hudson

Egbert. A report of their experiences at this conference will be made in a subsequent newsletter. Also Hugh will be making a presentation on this subject at the AGM.

Younger Members Section

The Ottawa Network now has a Younger Members Section currently comprising of about 8 Carleton University students. Our Secretary, Hudson Egbert, who also sits on the Younger Members Board in London is largely responsible for setting this up and we thank him for his efforts. For a significantly reduced annual subscription each student will receive all 20 issues of the Engineering and Technology magazine and the Members News magazine. The Ottawa Network will also be arranging some events that are of specific interest to students. We encourage other engineering students to sign up. The Younger Members Section also has plans underway to hold a Science and Engineering Fair at a local school and a North American younger member's conference, later in the year. We will also be giving away some prizes to school pupils and university students who demonstrate original work in the field of engineering.

- - - Martyn Delbridge Chair

The 2007/2008 Ottawa Network Committee consists of:

NAME	ROLE	TEL NO(H)	TEL NO.(W)	EMAIL
Allen Baldwin		613 224 7805		a.baldwin@iee.org
Colin Billowes	Overseas 35+ plus representative	613 592 9026		billowes@magma.ca
.... (winter)		239 432 0117		
David Boteler		613 824 6474	613 837 2035	boteler@iee.org martyn.delbridge@gdcanada.com
Martyn Delbridge	Chair	613 599 4297	613 596 7724	egbert@nortelnetworks.com
Hudson Egbert	Secretary	613 270 0978		eofanthome@sympatico.ca
Ernest Fanthome		613 828 2003		dfarmer@cyberus.ca
David Farmer		613 832 2611		mcfoster@theiet.org
Matthew Foster		613 599-5414	613 592-0200	thenics@cyberus.ca
Nicholas Homan		613 692 9309		fjohnson@iee.org
Frank Johnson		613 563 8159	613 233 1621	bjoshi@iee.org
Bhagvat Joshi	Treasurer	613 599 8134	613 482 1546	emorton@iee.org
Edwin Morton		613 216 9483	613 233 1621	max-com@allstream.net
D Hugh Reekie	Past Chair	613 728 5343		jr@sage.ca
John Rivenell		613 843 0058	613 225 4404	rtolley@iee.org
Robert Tolley		613 542 9626		jvines@iee.org
John Vines	International Professional Registration Adviser	613 729 5458		
Stan Xavier		613 592-7581		stanxavier@sympatico.ca

YOUR EMAIL ADDRESS

For some time we have been sending notices to members by Email. This is to save the cost of paper and postage, but also provide updates and reminders that you would not receive in time from Canada Post. You are receiving this paper copy of the newsletter because we do not have your Email address. If you wish to receive notices and newsletters by Email, please send your Email address to jvines@iee.org

Note: If you change your home address, telephone number or Email address, please inform the IET in London. The change may be made by letter or sending an Email to membership@theiet.org, or by entering the change directly via the IET WEB page. Notification to jvines@iee.org will also help locally.