



Institution of Engineering and Technology

IET Ottawa

July 2007 Newsletter

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Secretary: Hudson Egbert,

July Technical Visit:

Plasco Plasma Gasification Waste Processing Plant

Trail Road, Ottawa - 10:00 am - 11:30 pm, Saturday, July 21st. 2007

Plasco have now started days of "Trials Mode" for their Plasma Gasification plant situated at the Trail Road location. The selected date for this visit is during a scheduled "Maintenance Mode" timeslot, but this may change, so the trip may be cancelled - but unlikely.

Plasco Energy Group began construction on its plasma gasification demonstration project at the site of Ottawa's Trail Road Landfill in September 2006, in a partnership with the City of Ottawa. The \$27 million plant will divert 85 tonnes of waste a day from the city's landfills - while generating enough electricity to run the facility and power 3,600 homes. A recent CBC page reports an Ontario Funding Announcement: <http://www.cbc.ca/canada/ottawa/story/2007/04/27/plasco-070427.html>

How to get there:

Drive South on Moodie, over Fallowfield. Keep going. Just beyond the top of the hill, you will see Trail Rd on the left. The Plasco building is "straight ahead" where the garbage trucks turn left to the dump; it is unmarked. Park in the side lot after you have gone through the entrance gate. Wait in/near your vehicle until all are assembled. All attending will be issued with CSA metal-toed Wellington boots and CSA helmets. Bring your own metal-toed boots and SCA helmets if you have them. You will get to see the site, including the process area and the power generation island. It is likely that we will also tour the control room and electrical room, unless maintenance work schedules preclude it.

Lunch in Bells Corners afterwards at the Irish pub, D'Arcy McGee's - please reserve with Stan Xavier at stanxavier@sympatico.ca or by phone at (613) 592-7581

July Technical Visits:

Tours of the David Florida Labs to see Radarsat II

3701 Carling Ave. Ottawa – 1:00 pm, Tuesday July 17th and 24th. 2007

In conjunction with the Friends of CRC, a tour of the David Florida Labs with a specific focus on Radarsat II has been arranged. We will be sharing the tours with members of the Friends of CRC. Numbers are limited and each of the visits can accommodate no more than 14 people.

Please contact Stan Xavier and stanxavier@sympatico.ca or by phone at (613) 592-7581 to reserve your place. You will be required to provide your name and nationality to Stan at least four working days prior to the meeting that you are planning to

attend as the lab will need this information for security screening purposes.

How to get there:

The David Florida lab is located on Carling Avenue between Moodie Drive and March Road. Some of the internal roads at the CRC location are being repaired and there may be some parking issues

July Technical Meeting:

SuperDARN - an HF Radar to Investigate the Northern Ionosphere.

George Sofko, University of Saskatchewan

The Crowsnest, Naval Officer Mess - 78 Lisgar St.

Wednesday 25 July 2007 - 7.30 pm - 9.30pm - bar available

SuperDARN is an International Radar Network of 12 specialist HF Radars used for Studying the Earth's Upper Atmosphere, Ionosphere, and Connection into Space. see <http://superdarn.jhuapl.edu/index.html> Prof Sofko is responsible for radars at Rankin Inlet, Prince George BC and Saskatoon; he will give an overview of the entire program. The web page shows some real-time results. The initial part of Prof Sofko's research career in radar studies of the ionosphere was done at VHF; however, it was realized that, at HF, there is enough refraction to allow the ionospheric rays to reach perpendicularity with the magnetic field (i.e. perfect magnetic aspect sensitivity) over a considerable range interval from a few hundred km away from the Tx to thousands of km away. Since the scatterers are believed to have their greatest cross-section when observed perpendicular to the source, the return to HF began in the late 80's and the 8-18 MHz range has been used since.

Prior to the presentation, Hugh Reekie will give a brief overview of some other general aspects of HF Radar. The Nostradamus HF Radar, installed near Paris France and reviewed in AESS Systems Magazine, Oct 2006, will be described, together with newer CODAR Radars, developed in part by the University of Maine, and installed worldwide for sea state measurements.

Dr. Sofko is the leader of the Canadian SuperDARN (Super Dual Auroral Radar Network) team, funded by an NSERC CSP

for which he is the Principal Investigator and including collaborators at the Universities of Alberta, Western Ontario and New Brunswick. SuperDARN is an international network of HF radar pairs. Each pair of these Doppler radars is capable of measuring a large-scale map (about 4 million square kilometers in size) of the two-dimensional convection, the electric field and the field-aligned currents (FACs) in the F-region of the ionosphere. These electric fields and FACs are generated in the outer regions of the earth's magnetosphere where the solar wind interacts with the earth's magnetic field, and they are a direct measure of the transfer of energy from the solar wind to the earth. As of March, 1997, the SuperDARN network encompasses 12 radars in total, half each in the northern and southern hemispheres. The SuperDARN project includes direct participation from scientists in Canada, the US, Britain, France, Japan, South Africa, and Australia, and associates in many other nations. Dr. Sofko was the Head of the Auroral Processes Team of the Canadian Network for Space Research (CNSR). Earlier, Dr Sofko employed radars to measure the signature of field crops - part of the RADARSAT program. RADARSAT can be used to assess the status of Canada's crops relative to those in the rest of the world - for marketing purposes etc.

How to get there:

The Naval Officers Mess is located on Lisgar Street close to Ottawa City Hall

Chairman's Annual Report

When elected in May 2006, I said I would try to arrange good technical meetings with an optional social aspect and arrange some field trips; I also planned to stay on top of proposed changes at IET-HQ. We have done most of what was planned. For the technical meetings - attendance was higher, typically 20-30, but speaker availability occasionally led to rescheduling. All meetings have been reported in previous issues of this newsletter. We also ran the three field trips, in addition to the midsummer '06 "Dinner & canal show" at Burrits Rapids; these were: NEPTEC space cameras, Kanata May 06; RBR Oceanic Instruments Feb 07 and Diesel Engine Testing, May 07.

Two of the events for July '07, listed in this newsletter, were "opportunities waiting to happen" - they have been tracked for quite some time, and July happens to be a suitable time for the presenters; so if eager engineers miss due to vacation plans - well, that's just the way of things. For two years I have served my time as Chair, and I have (not surprisingly) met some frustrations; I have obtained support from various Exec members, and others, over the 2 years - and I thank them. It is time to pass on the gavel to another; I am glad that Martyn has taken on the job.

- - - Hugh Reekie Past Chair

The 2007/2008 Ottawa Branch Committee consists of:

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