

# Friends of CRC

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## APR 2013 Newsletter

### The Annual General Meeting and Call for Nominations

The Nineteenth Annual General Meeting of the Friends of CRC will be held in the CRC auditorium on April 25, 2013 at 1 pm. Anyone who is interested in serving on the Executive Board for the 2013-14 season is asked to contact the Secretary to be put on the list of nominees, or be nominated during the AGM. In addition we are always looking for volunteers to help with social events, newsletter mailing and office work. This is your association; you can help to make it work.

Neville Reed  
Secretary ([nev\\_reed@yahoo.ca](mailto:nev_reed@yahoo.ca))

### April 25th Meeting

**1.00pm in the Auditorium or join us for an informal lunch at noon in the cafeteria**

***Our speaker for this month will be Dr. George Leblanc from the National Research Council (NRC). Dr. Leblanc will talk about Unmanned Aircraft Systems (UAS).***

***Unmanned Aircraft Systems (UAS) have already been proven as a viable and reliable option in the defense sector; however it is currently in its infancy in the civilian sector. UAS are expected to make tremendous progress in the coming 10 years as a viable option to some manned applications. As a result, NRC in consultation with the general Canadian UAS sector at-large, has decided to begin development of a program with the objective of***

***increasing the Canadian capacity to deliver UAS related products and services to the civilian market – remote sensing of all types are prominently included in this work.***

***NRC expects that the UAS solution will be particularly useful in situations that are dull, dirty or dangerous. Considerable technological hurdles remain to be solved but a world-wide momentum toward an integrated UAS solution in the civilian airspace is clearly evident.***

***Dr. George Leblanc received a B.Sc. in physics at McMaster University (93'), an M. Sc. in Geophysics at the University of Western Ontario (95') and a Ph.D. in Geology (Geophysics) at McMaster University (99'). For the past 12-years he has worked for the NRC at the Flight Research Laboratory in the fields of hyperspectral imaging and potential field analysis. Recently Dr. Leblanc has been asked to lead NRC's efforts to create a program in Civilian Unmanned Aircraft Systems.***

### *FRANK. T. DAVIES PAPERS by Doris Jelly*

As most Friends probably know, the founding father of DRTE/CRC was Frank Davies, a jovial, rotund, Welch scientist/adventurer (see CRC's Pioneers on the website, [friendsofcrc.ca](http://friendsofcrc.ca)). For years, 2 boxes of papers from his office have been drifting around CRC. They were known to include draft material related to a history of DRTE that he worked on but never finished. Stu McCormick in his role as Web Master has added several sections to the website; in fact, the opening article of the site, "The Foundations of DRTE", is F.T.'s draft introduction to the book. Other topics that have been added are "Doppler Navigation", "Microwave Fuze", and "Radio Warfare" by Roy Dohoo and Frank Smith. These historical articles will be of particular interest to those CRC alumni who were involved in the projects (if there are any left?) We hope to have more of the material added to the website.



But what of the rest of the stuff in the boxes? The Board agreed that it has archival value and that it should be preserved. And perhaps we might find a home for it at the Museum of Science and Technology where they already have a large collection of his papers. But it has to be itemized before they will consider it so I took on that job and have found an interesting mixture of treasures - documents, reports, photos, etc. I will mention just a few of them here.

- Reports related to radio propagation and the ionosphere during the 1940s;

e.g. NRC reports describing an early manually-operated ionosphere recorder (1944) followed in 1946 by an automatic model plus ionospheric observers' instruction books written by J. Meek and F. Davies.

- Visual aurora carefully plotted by FTD at Churchill in 1943-47 and in the Antarctic in 1929 when he was part of Admiral Byrd's party and flew over the South Pole.

- AGIWARN (Annee geophysique internationale), (IGY), telexes with orbital information for the early satellites launched during the IGY. These came from Fort Belvoir, Va. for DRTE via Transport Canada. Of most interest were telexes for 1957 Beta which was the second Russian satellite, Sputnik II, launched 3 Nov. 1957 with the dog, Laika, aboard and a couple of months later, 1958 Alpha (Explorer), launched 2 Jan. 1958, the first US satellite that discovered the Van Allen radiation belts.

- Report and photos related to CRC's 1967 effort in assisting the military to reach a record altitude by aircraft.

### ***Friends Spring Luncheon 2013***

A most enjoyable Friend's luncheon gathering was held April 17 at the Bistro 54 at Amberwood Golf Club in Stittsville, with about 35 attending. Special thanks are given to Colette Cole who did a marvellous job of organizing the event. Three of our long-time board members, Hazel Baskin, Colette Cole and Hugh Reekie have retired from the Board, and were presented with tokens of our appreciation.



A box of Alouette commemorative T-shirts was discovered during cleaning at CRC, thanks to Karey Mulcaster, and these were distributed to the Friends. The remaining few shirts are in the Friends' Office at CRC, and are available on a first-come basis. We distributed an informal survey to gauge interest and preferences for next years' roster of talks, the results of which will be announced at the AGM to be held April 25th, after our final speaker of the year, in the CRC auditorium.

Now that many of you have returned from your southern homes, I hope to see you all at the meeting.

John Brebner

## *EDITOR'S CORNER*

This month's meeting on "drones", defined as pilot-less flying machines, promise to be very interesting. However, their inevitable widespread deployment is raising a myriad of socio-political issues in addition to the technical. Drones are already in relatively widespread use for non-military purposes and it is expected they will become commonplace. However, this growth is likely to be limited by regulation and work has already begun on this aspect. Needless to say, such a new concept falls across some jurisdictional boundaries, particularly in Canada and the USA where it seems that there will be Provincial, State and Federal regulation. We can presumably expect an yet another outbreak of regulatory turf wars.

Views on drone regulation, vary from 'none at all' to 'ban them outright'. Major concerns include safety, invasion of privacy, unconstitutional surveillance, illegal searches and numerous other reasonable and even looney concerns. A bill before the U.S. Congress entitled the "Freedom from unwanted surveillance act" is already being considered. It seems likely to be setting up yet another lawyer gold mine because it is riddled with vague exceptions. Add to this the emerging outright conflicts in draft regulations between the Federal Governments and individual Provinces and States and we are heading for another bureaucratic nightmare of conflicting regulations and interminable lawsuits.

Clearly there are many valuable civilian uses for drones in areas like searching for missing persons, search and rescue, assistance to firefighters and natural disasters, hot pursuit, emergency measures and the like. Heavy regulation of applications would therefore seem to be foolish but it is going to be a nightmare coming up with agreeable regulations which take advantage of drones without breaching our rights.

If I'm not sure what is motivating some of the objections to their use in things like simple surveillance as this seems to me to be no more than what we already do with technologies like wire taps, binoculars, satellites, eavesdropping devices, etc., except perhaps drones can sometimes do it more efficiently.

On the safety side, it is important to consider how to merge them safely into civil aviation. This is clearly a complex and serious matter as they have the power to bring down passenger aircraft in a collision. However, the model aircraft hobbyists have some knowledge of this issue and they've been around a very long time. The problem with drones is they can have very long ranges and some will fly autonomously.

Some of you may have been involved with the CRC SHARP project some years ago where we were looking at using super high altitude, continuous-flying, platforms to provide line-of-sight radio relay services over areas of about 600mi diameter. You can read about this project on our website

Personally, I'm rather intrigued with the idea of bug-sized devices observing my barbecue. I intend to get a very large fly swat as they may carry a significant sting!

*Colin Billowes*