



THE OTTAWA

AFCEAN Summer 2003

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**New Luncheon Program Starts September
9th, 2003 at Air Force Officers Mess.**

See Page 4 for Details

SPONSORSHIP

The Ottawa Chapter of AFCEA wishes to thank Computer Associates for sponsoring the May PD Meeting, and Nexinnovations for the June Meeting.

DNA Identification and Mass Disasters, Swissair Flight 111 Aircraft Disaster

**Dr. Ron M. Fourney
Officer in Charge National DNA Data Bank of Canada,
Forensic Lab Services Directorate, National Police Services, RCMP**
Reported by Dave Edmunds

Dr. Fourney opened his presentation with a summary of the circumstances surrounding the crash of Swissair Flight 111 (SR111) into the Atlantic Ocean off Peggy's Cove, NS, on the evening of 2 September 1998, taking the lives of all 299 persons on board. He outlined the general response actions.
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Membership

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Chapter website <http://www.afcea.ca/ottawa.htm>

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Portal.

An *SR111 DNA Typing Task Force* was formed as part of the disaster identification and investigation effort the next day. It was assigned a mandate, objectives, responsibility and accountability, defined points of contact, line authority and a budget. Efforts were to be focussed on effective use of personnel and materials resources. This Task Force was at that time largest DNA identification effort in Canadian history. More samples were to be processed for this DNA analysis than for any previous disaster. A precedent was set for future large-scale identification of human remains. The aim of the DNA identification was to identify individual victims, and to associate the various human remains with each individual. The approach was to form teams with complementary abilities, applying all convention means of identification using open and direct communications. The process was to gather human remains, collect family reference samples to establish identity, and to obtain personal effects to establish the identity of discrete members of a family. From these, a closed system of DNA profiles, which accounted for all individuals on SR111, was to be derived, enabling identification and re-association of the human remains. The main DNA identification challenge was the mixture of relationships: 14 families (groups which could be associated through DNA commonalities), a set of identical twins (same DNA), and 42 sets of spouses (no DNA commonality). Other considerations included 16 nationalities, various religions, maintaining genetic privacy, obtaining identification statements and reference samples (e.g., hair, skin flakes, nail clippings, body fluids, etc.), forwarding report statements suitable for issuing death certificates.

Identification was required to aid the accident investigation, to meet legal requirements, and to associate the human remains appropriately for humanitarian purposes. *SR111 Identification Teams* operated at a hangar in CFB Shearwater in Halifax, NS. A team normally consisted of a pathologist, pathologist's assistant, RCMP identifications specialist, scribe (RCMP documents), with additionally a DNA specialist and an exhibit custodian, and other experts as required during the course of the investigation. A universal numbering system was adopted which was simple to interpret, yet located the source and tracked the movement of remains and personal property throughout the investigation and could be used for all work sheets and could be integrated into all reports. Identification methods used were: visual, radiography, dental analysis, fingerprints, and DNA analysis. X-rays helped sort out prostheses and commingled remains with aircraft pieces, dental records enabled very fast identification where possible, while the use of the new, faster, more discriminating Short Tandem Repeat (STR) method of DNA analysis gave results from incredibly small samples within a day. Three DNA data bases were established: samples from the crash site, biological relatives, and personal effects of victims.

... Continued on Page 3.

<p>ADDRESS CHANGE ?</p> <p>Please make changes through AFCEA International at www.afcea.org. Click on “Join/Renew” or the Portal.</p> <p>If you encounter problems, call 703-631-6158 or email services@afcea.org.</p>	<p>DNA Identification and Mass Disasters</p> <p style="text-align: right;"><i>Reported by Dave Edmunds.</i></p>
	<p>Dr. Fournery reported that the results were impressive. All 229 victims were identified except that identical twins could not be separated. One hundred and two identities were established by dental records, 89 by DNA analysis, 33 by fingerprints, and four using X-rays. In fact, 218 individuals could be directly identified through the use of DNA alone. Identification was completed in 104 days, and announced publicly the following day. He attributes the success to teamwork, using thoroughly trained teams having excellent communication, and who understood how to avoid contaminating sources. Much effort was put into determining genetic probabilities, and in simplifying reports to satisfy both coroner and victims’ families. Special computer programs were used for tracking, analysis, matching, counting, and probability calculations. A special FTA™ paper greatly facilitated sample collection, handling, analysis, and safety.</p> <p>Dr. Fournery stated that future considerations should be based on design principles to include scientific integrity, sample integrity, genetic privacy (keeping genetic information separate from an individual’s personal identity), efficiency, cost reduction, and incremental change.</p>
<p>The AFCEA Ottawa Chapter would like to express its continuing gratitude to TIME ICR for providing its voice message system.</p>	<p style="text-align: center;">Upcoming Events</p>
	<p>Upcoming Luncheons:</p> <p>October 7th, C& E Centennial Presentation, Multiple Speakers, Army Officers Mess</p> <p>December 2nd, Peter Hillier – HTCIA : Computer Ethics Air Force Officers Mess</p> <p>Please note location for upcoming events.</p> <p>WATCH FOR WEBSITE FOR FULL DETAILS OF THIS YEARS SCHEDULE</p>

September 9th, 2003

TIME & LOCATION

RCAF Officers' Mess, 158 Gloucester Street, Ottawa

SPEAKER

**Michael Turner,
Assistant Deputy Minister Telecommunications and
Informatics: Secure Channel Infrastructure**

BOOKING ARRANGEMENTS

**Please check the Chapter website promptly for details and
booking arrangements. Space is limited.**

**Cost: \$15.00/person for industry or \$5.00/person for
government employees. Pay by credit card (see below) or by
cash or cheque at the door. Deadline for registrations is
Friday, September 05.**

METHODS OF PAYMENT FOR LUNCHEONS & EVENTS

There are three methods of payment available for your use at:

<http://www.afcea.ca/ottawa.htm>.

Members who wish to pay in advance for their chapter luncheon or for a table using their credit card (Visa, MasterCard or AMEX) can download the form, sign it and fax it to the AFCEA Ottawa Chapter - Administration Services: (613) 594-8717.

Payment will be acknowledged by email and a receipt will be mailed.

YOUR INPUT-NEWSLETTER SUBMISSIONS

In keeping with the Chapter direction to bring more discussion to the areas of professional development and to broaden the scope of the AFCEAN newsletter, we would welcome your articles, comments and contributions. Letters to the Editor are most welcome.

Please feel free to submit your items of topical or general AFCEA interest (contracts and awards, promotions, upcoming events and courses) to the Editor for publication. Original articles which you the members may wish to submit comment upon for publication are most welcome. **Please take advantage of the opportunity to let AFCEAN's worldwide know what you and your Chapter are doing** If you have any questions concerning the appropriateness of a submission please do not hesitate to contact the AFCEAN Editor. **James McGibbon @940-4401** or mail to James.McGibbon@consulting.fujitsu.com