SYSTEM SAFETY SOCIETY
Organized 1962
Incorporated 1973
Professionals Dedicated to the Safety of Systems, Products & Services

May 2007

Newsletter
The System Safety Society
Eastern Canada Chapter
Ottawa, Ontario, Canada

http://www.russona.com/ECC-SSS
www.system-safety.org

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System Safety Society Membership

We continue to reach out to people to encourage them to become members of the System Safety Society and our chapter in Canada.

President's Message

Articles and comments for this Newsletter are requested to make it interesting for the system safety professionals throughout Canada who will receive it. Please share your thoughts and experiences.

Readers will notice that we have repeated the two articles on the 2007 and 2008 System Safety Society annual conferences. These are very worthwhile events of considerable interest to all of us. Of course, with the 2008 conference being held in Vancouver, we have a special interest in the success of this event.

Following the two articles on ISSC25 and ISSC26, we provide a brief synopsis of our 19 April 2007 presentation related to Software Verification and Validation and an outline of our annual half-day meeting on 1 June 2007 at which we will address ***Integrating System Safety into Healthcare - a multilevel perspective.***

In keeping with my message in the previous newsletter, we have two very bright student speakers: Ms. Laura Armstrong and Mr. Gregory Zoughbi, who will join three very distinguished professionals: Dr. Lionel Briand (Carleton University), Mr. James Handyside (Consultant in Health Care), and Dr. Sam Sheps (Professor, Department of Health Care and Epidemiology at UBC).

I have included the Abstract for a paper for ISSC25 titled "***Total Organizational Safety***." I am interested in getting readers' reaction to this topic. I would be pleased to discuss it in more detail and to share the complete paper and the presentation slides after the conference. This is an interesting topic for me and your comments are very much appreciated.

Bob Fletcher

International System Safety Society
Conference #25
13-15 August 2007

The International System Safety Society conference in Baltimore will, for the first time, have an International Track. Throughout the conference, attendees will have the option of going to a presentation that will be like a visit to a country outside of the United States. In the early planning stages of the conference, the Conference Chair, Warren Naylor explained that he would like to create opportunities for the participants at the conference to learn about system safety as it is applied in various countries around the world.

Several countries have agreed to contribute either technical papers or tutorial / workshop sessions. Each representative nation or group of nations has been invited to provide a description of their national culture to help the audience understand more about the activities of the society in that part of the world. Each session will include an explanation about how this society is unique in terms of national culture. The presentation will then explain the safety culture within their nation. Most of the material will focus on explaining how system safety is practised in industries, universities, and government in terms of policies, principles, procedures, and practices. Various safety management or system safety analyses examples from industries of each nation will be selected to illustrate system safety practices.

Asian-Pacific countries (Singapore, Japan, and Australia), Austria, Canada, Russia, Sweden, and the United Kingdom will be providing presentations. This promises to be an excellent opportunity to gather knowledge about system safety practices from around the world without having to leave the hotel.

If you have any questions regarding these sessions please contact Bob Fletcher at: rwfletcher@sympatico.ca.

International System Safety Society
Conference #26
25- 29 August 2008

This conference will be held in Vancouver. Early in February, Dr. Jeff Joyce chaired the first meeting of the "virtual ISSC26 conference organizing committee" by teleconference. Jeff is Conference chair, Rod Simmons is Technical Program Chair, Ann Waterman is Publicity chair, Ann Boyer is finance chair, and Bob Fletcher is the International Chair.

Chapter members should plan to attend. If we plan now, we should be able to write a paper to present or organize a tutorial for the occasion.

The conference will showcase Canada in a setting of system safety professionals like never before. It should be one of the best conferences ever.

It should be fantastic. The hotel is a sight to behold and, of course, Vancouver is like a diamond between the sea and white-topped mountains.

To top it off, a group of spouses is already organizing an Alaska cruise to immediately follow the conference.

Recent Meeting: 19 April 2007

"SYSTEM SAFETY REQUIREMENTS: Verification, Validation and Accreditation (VV&A) for Modeling and Simulation Recent Developments"

Speaker:
Major A.J. Masys holds a BSc in Physics and an MSc in Underwater Acoustics and Oceanography from the Royal Military College of Canada. He works at the Canadian Forces Experimentation Centre where he is employed within the Synthetic Environment Coordination Office. Major where he is involved in a number of international VV&A initiatives including: participation as a member of the NATO Modelling and Simulation Group: VV&A of Federations; Simulation Interoperability Standards Organization (SISO) VV&A

Product Development Group (PDG); REVVA 2 (a European VV&A project focusing on the development of a VV&A Guidance manuals); and the Generic Methodology for the Application of Verification and Validation (GM V&V) Study Group.

Abstract:

With the advent of complex coupled systems and the evolutionary introduction of new technology, the application of Modeling and Simulation (M&S) activities has increased throughout industry, academia and military domains. M&S has flourished as an enabling technology providing insights into system safety design and operation. The application of M&S for system design, operation and decision making brings with it an inherent risk associated with the danger of using erroneous or unsuitable models and simulation results. Verification and Validation (V&V) of models and simulations are intended to ensure that only correct and suitable results are used thereby facilitating risk management with regards to system safety design and operation. To address the complexities associated with VV&A, a coordinated effort among various international VV&A working groups has resulted in the development of guidance and reference manuals.

Major Masys' paper introduced contributions to the VV&A body of knowledge from the results of:

- NATO Modeling and Simulation Group (NMSG); Simulation Interoperability Standards Organization (SISO): Verification, Validation & Accreditation Overlay to Federation Development Product Development Group (PDG);
- REVVA 2 Project; and
- SISO Generic Methodology for the Application of Verification and Validation (GM V&V) Study Group

Major Masys explained how the developments are far reaching in terms of its affect on the system safety field and the application of M&S.

Upcoming Meeting

June 1, 2007 7:30 am to 12:30 pm

The System Safety Society, Eastern Canada Chapter presents:

Integrating System Safety into Healthcare: A multilevel perspective

We are pleased to invite you to **a half day event** to listen to a unique combination of speakers addressing the topic of system safety in the fields of both software engineering and healthcare. The goal of system safety is to stop preventable deaths under all circumstances. The objective is to find common approaches to identifying hazards by taking a macro view of the "system"; whether analysing complex software based systems, hospitals, healthcare or public health systems.

The Society is seeking to encourage young professionals in system safety research and so we will have an opportunity to hear of challenging and interesting work being conducted by post graduate and PhD students in the fields of software engineering, public health and healthcare.

A hot buffet breakfast will be served, followed by the speakers' presentations, ending with a Panel Discussion with all the speakers. Brief Biographies and Presentation Abstracts for each speaker are available on the Eastern Canada Chapter website: **http://www.russona.com/ECC-SSS**

Place: RCAF Officers' Mess,
158 Gloucester Street, Ottaw**a**

Cost: $ 70.00 (includes breakfast) for non-System Safety Society members

$ 40.00 (includes breakfast) for System Safety Society members

$ 10.00 (includes breakfast) for students.

PRE-REGISTRATION:

To ensure entry to the event, please pre-register by mailing a cheque made out to the SSS-ECC for the appropriate amount to Mr. ***G. Einarsson, 24 Wedgewood Drive, Ottawa, Ontario, K1B4B4****.*

If your friends or colleagues ask about attending, please tell them that everyone is welcome to attend and that they should pre-register as soon as possible. Please find the latest details for pre-registration by ***cheque*** or ***PayPal*** ***(*** **ecc_sss@yahoo.ca** ***)*** in this eMail. *On-site registration is available if space permits.*

Main Speakers: Dr. Lionel Briand, Mr. James Handyside, Dr. Sam Sheps

Student Speakers: Ms. Laura Armstrong, Mr. Gregory Zoughbi

Detailed Time Information:

07:30 to 08:35: Breakfast (register)

08:35 to 08:45: Introduction – Lisa Rehak, Eastern Canada Chapter, Program Chair

08:45 to 09:30: 1st speaker - Dr. Lionel Briand, Carleton University

09:30 to 09:45: 2nd speaker - Mr. Gregory Zoughbi, General Dynamics Canada

09:45 to 10:30: 3rd speaker - Mr. Jim Handyside, Consultant in Healthcare

10:30 to 10:45: 4h Speaker - Ms. Laura Armstrong, Doctoral candidate in psychology

10:45 to 11:00: Break

11:00 to 11:45: 5th speaker - Dr. Sam Sheps, Professor, Department of Health Care and Epidemiology at UBC

11:45 to 12:25: Panel, all speakers - Chair, Bryce Fisher, VP of Eastern Canada Chapter

12:25 to 12:30: Closing - Bob Fletcher, Eastern Canada Chapter President

Call for Articles

As we observed in our previous edition, educating others throughout Canada regarding the use of the system safety process is our goal. You can help by sharing your ideas and your experiences from working on safety critical projects. We need several articles of approximately 200 words. We would like you to share your thoughts and your experiences. What "system" have you analysed? How did you conduct the analysis? What were the hazards you identified and the mitigation that was enacted to reduce the level of risk associated with each hazard? What safety techniques did you use? How did you measure the level of risk after the mitigation was completed? We are also interested in receiving articles on Safety Management Systems (SMS). What is the framework or structure that was established for your SMS? What are the key policies and procedures within your SMS?

Please send your articles to Robin Rousham at robin.solange@sympatico.ca. He will review the articles and prepare the newsletter for distribution. Your help is most sincerely appreciated.

An abstract of a draft paper:
An abstract of a draft paper by our Chapter president, Bob Fletcher is attached. He, as well as other readers would be most interested to receive comments on this draft.

Title: Total Organizational Safety

Author: R.W. Fletcher, P. Eng, PMP;

Abstract

Total organizational safety is a comprehensive approach to hazard analyses that seeks to identify and mitigate all hazards throughout an organization and series of organizations which are all committed to the prevention of accidents within a sector of society. The aviation sector will be used as an example in this paper. Hazard analysis normally focuses on equipment design. As we have witnessed large scale accidents like Columbia, Challenger, Chernobyl and others, it has become increasingly important to expand

our vision of system safety analyses to include all sources of contributors to potential accidents. Total organizational safety analyses starts at the point in the series of organizational functions that is able to react most immediately to prevent an accident and works logically through the various organizational functions to the point where the functions are least able to effect an immediate change to prevent an accident. Organizations allow people, procedures, hardware, and software to work together to deliver services and to perform functions. When people, procedures, hardware, and software are viewed at an equal level and as one system, all functioning within a specific area and throughout a series of organizations to prevent accidents; it is possible to pro-actively find weaknesses and deficiencies and to mitigate them before an accident occurs. Weaknesses and deficiencies can be discovered by asking questions to probe each specific functional area. The first question to ask 'what if this function is missing or corrupted in some way' determines whether the weaknesses or deficiencies are safety related and identifies a safety issue or hazard. There are four categories of functions including; internal service applications, internal business operations, national and international. The intent of this paper is to guide our thinking so that we can pro-actively identify and mitigate all hazards before they become accidents within socio-technical systems.