Chesapeake Chapter
INCOSE
International Council on Systems Engineering

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June 2011 E-Newsletter

We are announcing two local events for the month of June. So be sure to scroll down furthur into the Newsletter for all the details. And don't forget June 20 - 23, 2011 is the 21st Annual International Symposium. Hope to see you there.
~~ Paul Martin, Communications Officer

EVENT 1) Tutorial - Saturday, 11 June 2011 (8:30 - 11:30 am)
Cyber Warfare: The Proper Perspective
Dr. Julie E. Mehan, Vice President of Cybersecurity; Lunarline, Inc

Presentation: The media is rife with the prospect of Cyber Warfare. The US Government and industry is concerned that it is under constant assault by nations committed to benefiting their own national economies through the theft of intellectual property and sensitive data from the US and preparing for cyber conflict by pre-positioning bots and other malware designed to wreak havoc on military and civilian targets. This session is unlike any other because it addresses the dangers of sensationalizing the concept of cyber war. This session offers a unique perspective for government and non-government entities on the various forms of cyber conflict and will offer insights and best practices for your organization to prepare, detect, and defend your organization in cyber space.

Speaker: Dr. Mehan has over 25 years of experience in Information Assurance, Information Operations, and Intelligence. She has been a career Government Service employee, a strategic consultant, and an entrepreneur. She has led business operations, as well as the information technology governance and information assurance-related services, including certification and accreditation, systems security engineering process improvement, and information assurance strategic planning and program management. Her most recent book, *The Definitive Guide to Certification and Accreditation*, co-authored with Lunarline's CEO, Waylon Krush, was published in 2009. In 2008, Dr. Mehan authored and published *CyberWar, CyberTerror, CyberCrime: A Guide to the Role of Standards in an Environment of Change and Danger*.

Location: Applied Physics Laboratory, Johns Hopkins University; 11100 Johns Hopkins Rd Laurel MD 20723 (Kossiakoff Center)

>>Download the Tutorial Flyer Here<<

Cost: $90 (members), $110 (non-members), and $30 (student).

Reservations:
  - **By website:** Credit card via PayPal, go to our **>>Registration Page<<**

Corporate Sponsor: We wish to thank the Applied Physics Laboratory for supporting the systems engineering profession through use of their facilities.

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This is the monthly newsletter for INCOSE Chesapeake, a local chapter of INCOSE International. We are a not-for-profit organization dedicated to providing a forum for professionals practicing the art and science of Systems Engineering in the Northern & Central Maryland & Southern Pennsylvania area.

Join INCOSE Today!
INCOSE
Apply Online Now

The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our Programs Director, Mr. Donald York, if you would like the opportunity to speak or can recommend someone.

The Chesapeake Chapter of INCOSE is proud to recognize the following organizations for sponsoring our endeavors to expanding the understanding and appreciation of Systems Engineering in the local area:

EVENT 2) Dinner Meeting - Wednesday 15 June 2011

Systems Engineering & the Unified Profile for DoDAF and MODAF (UPDM)

Matthew Hause; Chief Consulting Engineer, Atego

Presentation: : The Unified Profile for DoDAF and MODAF, (UPDM) initiative was started by members of INCOSE and the OMG. UPDM provides a consistent, standardized means to describe DoDAF 1.5 and MODAF 1.2 architectures in SysML/UML-based tools as well as a standard for interchange. The concepts found in the Systems Modeling Language (SysML) such as parametrics, blocks, complex ports, enhanced activity modeling, and cross-cutting constructs improve the state of the art for systems engineers and architects. The formal meta-model basis of UPDM also provides a basis for trade-off analysis, model execution, requirements traceability, and the transition to systems development and implementation. Finally, the interconnections between views can help combat stovepipe development and improve communication. This lecture looks at the current direction of UPDM, how it is improving the state of the art for system architects, and enables interchange of architectural information. We will also examine some of the latest concepts found in DoDAF 2.0 and how the UPDM Group is addressing these.

Speaker: Matthew Hause is Atego's Chief Consulting Engineer, the co-chair of the UPDM group and a member of the OMG SysML specification team. He has been developing multi-national complex systems for over 30 years. He started out working in the power systems industry, and has been involved in military command and control systems, process control, communications, SCADA, distributed control, and many other areas of technical and real-time systems. His roles have varied from project manager to developer. He has written a series of white papers on architectural modeling, project management, systems engineering, model-based engineering, human factors, safety critical systems development, virtual team management, systems development, and software development with UML, SysML and Architectural Frameworks such as DoDAF and MODAF. He has been a regular presenter at INCOSE, the IEEE, BCS, the IET, the OMG, DoD Enterprise Architecture and many other conferences. Matthew studied Electrical Engineering at the University of New Mexico and Computer Science at the University of Houston, Texas.

Location: Applied Physics Laboratory, Johns Hopkins University; 11100 Johns Hopkins Rd Laurel MD 20723 (Main Entrance – Lobby 1)

Meal: *Taco nite* - Soft flour tortillas and corn tortillas; Seasoned ground beef; guacamole; salsas; Tomatoes, lettuce, etc…; Black Beans and Rice, dessert, including a small Fruit Plate, coffee, iced tea.
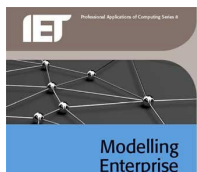
>>Download the Meeting Flyer Here<<

Reservations:
   - **By website:** Credit card via PayPal, go to our **>>Registration Page<<**

Presentation ONLY: FREE (no reservations necessary)

The purpose of the Chesapeake Chapter is to foster the definition, understanding, and practice of world class systems engineering in industry, academia, and government. In light of that goal, every month at our dinner meeting we have a drawing for the latest in Systems
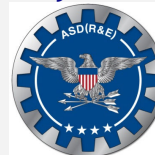
Engineering literature. So come on out for a chance to win.

June's door prize is:

Modelling Enterprise Architectures
By Jon Holt and Simon Perr

The President's Table

Is Process Modeling the Breakthrough? Pick a viewpoint! Come Ready to Rumble!!!!

2011 is another outstanding year for INCOSE programs. The next three are:

-- June 11: Dr. Mehan (Tutorial on Cyberwarfare)
-- June 15: Matthew Hause (after dinner presentation on DoDAF/UPDM), and
-- July 20: Mr. Stephen Welby (Deputy Assistant Secretary of Defense for Systems Engineering)

Our speakers will be telling us about hot topics in DoD policy, the DoD Architecture Framework (DoDAF), and the emerging Cyberwarfare domain. Details about signing up are in the first page of the web site www.incose.org/chesapek. We look forward to seeing you.

Buried in these presentations is a side issue. We all know that Model Based Systems Engineering (MBSE) is going to enable a breakthrough in systems engineering. We expect that moving the focus from *computerized paper diagrams* to *computerized models* will make systems engineering models far easier to create, review, update, and exploit. The only remaining questions are the HOW and the WHEN.

The Chesapeake Chapter Object Oriented Systems Engineering (OOSEM) group has been working this issue for more than ten years. The chapter has already heard presentations from Mr. Osvalds (SysML and architecture) and Mr. Laymon (Status of MBSE).

There is a lot of activity in process modeling. In DoDAF, the major process models are OV-5, SV-4, and SV-10. The CORE tool has always favored the **Enhanced Functional Flow Block Diagram (EFFBD)**. The evolving BPMN standard is the basis for a large number of specialized tools. More powerful general purpose tools are also available: IBM System Architect, Rational Rose, Rational Rhapsody, Magic Draw, Atego's Artisan, and MS Visio. Mr. Hause will be demonstrating Artisan capability.

Is BPMN 2.0 the emerging star of business process modeling? Is simulation/scripting a critical component? Is BPEL the answer? Or just PYTHON?

What do you think? Join us at the Presidents table! Bring your questions for the group and the speaker. See if we can get some clarity on this issue.

Regards,
John Lewis, CC President,
john.lewis@incose.org

Feature Article

- **Membership**
  Contact: Bhanu Sunkara
  We need help in growing our membership by reaching out into the local SE community.

If any of these activities sound interesting to you please contact the Committee Director to find out how you can get involved.

Local SE Training

Preparing for the Certified Systems Engineering Professional (CSEP) Exam

Obtaining a CSEP is not easy, but that's what makes it so valuable. You have to demonstrate your real world experience via a lengthy application and three references. Then you need to pass a two-hour, 120-question, multiple-choice exam. The courses listed below will help prepare potential candidates for this demanding process by becoming familiar with the INCOSE SE Handbook version 3.2 which is the basis for the examination.

UMBC Training Centers

UMBC
Training Centers
offer an on-line
CSEP Prep Course
Dates: 4 Saturday Mornings,
July 9th - 30th

>>Register Here<<

Up Coming Conferences

June 20 - 23, 2011
21st Annual International Symposium
The INCOSE International Symposium is the premier international forum for Systems Engineering. Participants network, share ideas, knowledge and practices, and learn more about the most recent innovations, trends, experiences and issues in Systems Engineering. Paper authors, panelists and tutorial presenters are encouraged to address ways in which Systems Engineering principles and perspectives are performed today and how Systems Engineering may influence our future. Topics of value

Keeping Your Balance

By George Anderson

Figure 1. Wreckage on Milam Dairy Rd, Miami, FL

System engineers often encounter superhuman resistance to recommendations that if properly followed might curtail much human misery.

In my previous article dealing with the human factors influence on the design of aircraft clocks, I included an aircraft wreckage picture as a pointer to this follow-on article. I felt that there was more to say about the consequences of poor human interfaces. Figure 1 shows the burning remains of the Fine Air DC-8 that crashed near Miami International Airport on August 7, 1997. Let the Miami Sun Sentinel introduce this tragic event:

"Maria Alvarez still has nightmares about her husband, Renato, being crushed and trapped in his burning car. He had parked in a busy warehouse district just west of Miami International Airport when a Fine Air DC-8 cargo jet dropped out of the sky. The plane crashed into a field, plowed across Milam Dairy Road, slammed into a row of computer outlet stores and Renato Alvarez's vehicle. Alvarez and the four people on board the plane were killed. 'To this day, she has sought professional help for this,' said Barry Meadow, Maria Alvarez's attorney." <Ref. 1>

The regrettable and sorrowful details of this fatal flight are readily available online from the National Transportation Safety Board web site. I wish to suggest two lessons that systems engineers can learn from the event. The first lesson is the risk management aspect of locating a number of stores within feet of the takeoff end of one of the busiest airport runways in the world. The second lesson addresses why we continue to experience fatal crashes due to improper loading.

Maria Alvarez was also present at the accident scene that day as she was working in one of the stores or buildings located within approximately 700 feet of the takeoff runway at the time her husband's car was struck by the aircraft as it skidded across Milam Dairy Road -a six lane highway at the time. While the idea of driving past an active runway may seem a small risk, working daily in a store that is in line with the runway centerline seems to be more of a risk. If the Alvarez couple had known and understood the details of what was later reported in the press about the seemingly inadequate treatment of aircraft loading by the operator, the flight crew, the FAA, and finally, the NTSB in their investigation report, they may have been less comfortable with working or driving under the flight path at Miami International Airport.

Read More.

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**Did You Miss Last Month?**

Lessons in Cloud Philosophy
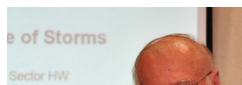
On May 18th 2011 Harry J. Foxwell, Ph.D.; Principal Consultant; Oracle Corp -- a self proclaimed Cloud Philosopher -- explained why he titled his lecture

include technology insertion, process improvements, and organizational governance of the systems we make, manage, operate and maintain over their life cycle, to the benefit of mankind.

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Discover *Systems Engineering*
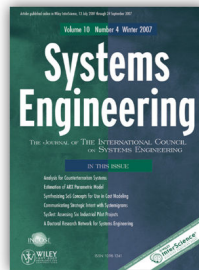
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With Connect you can also download the April 2011 Issue of INSIGHT *Special Feature on Knowledge Management*

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This Newsletter is to serve our members and is open to all for contributions. Do you have an interesting idea for an article? A review of a new book related to engineering? Let us know. We'd love to hear about. It may wind up in a future issue of our Newsletter.

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â€œInternet Weather Report: Increasing Cloudiness, Chance of Storms.â€ The Cloud is inevitable, however trouble will come as well, as we struggle to define and implement the framework. Itâ€™s almost like going back to the 1950â€™s Mainframe concept however this time around NIST is leading the way in defining Cloud Computing as well setting standards but itâ€™s still in its infancy. NIST is trying to explain Who is in Control and Who can see What, all within a provider/customer relationship. This leads to an acronym soup-du-jour surrounding the Cloud -- SaaS, PaaS, IaaS -- all based on Services. Even as this ground work is being laid the specter of Security is a driving concern. As hard as these challenges are to address, the Cloud phenomena cannot be stopped. The energy savings benefit alone makes this a worthy endeavor. The Government is insisting on its use through their IT contracts. Customers can start using Cloud services today, available through a plethora of companies. Standards still need to be set, Security needs to be strengthened and a faster Internet must be built, but the Cloud is here to stay.

Get more details by downloading Dr. Foxwell's presentation slides here >> <<.

By the way CyberCore Technologies graciously provided office/warehouse space as well as catered the event with appetizers and food. Chris Mills, President of CyberCore Technologies welcomed everyone. The attendance was more than double our normal number with over 80 friends, family and colleagues joining us to hear one of the premier experts in Cloud Computing.

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Keep up with the latest news and events. Find out about our new Board of Directors. Explore our extensive library of previous lectures from our Monthly Dinner Meetings. Learn of the Benefits of Joining INCOSE. Check out Systems Engineering education in the local area. All this and more awaits you at our INCOSE Chesapeake Chapter Website.

For any comments or suggestions about this newsletter please e-mail our President, John Lewis or our Communications Officer, Paul Martin. We value your feedback.

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