INCOSE Chesapeake Chapter
International Council on Systems Engineering

E-Newsletter

January 2014
• Back Issues
• Forward to Friend

President's Point of View

Happy New Year Chesapeake!!!

Mr. Erik DeVito - INCOSE CC President
erik.devito@incose.org

If you've visited the chapter webpage recently you probably noticed our 20 year commemorative banner integrated into our logo. Last year one of Chesapeake's Past Presidents Mark Walker reminded us of this major milestone. Thanks Mark!

How does the old saying go??? *You can't know where you're going if you don't know where you've been.* Over the last 20 years, chapter volunteers elected to serve on the board have established a heritage of exemplary service to the membership. While it's prudent to celebrate our recent achievements we must humbly recognize that they would not be possible without the enduring legacy established by our predecessors. Thanks to all who have served Chesapeake either as a board member or as a volunteer.

Since its inception the INCOSE Chesapeake Chapter has had ˜1300 members with a current roster of over 400 active members. Last year we averaged 8 new members a month with a total of ˜100 new members for the year. We have a really great track record of attracting new members. But I think we can do better.

One of my goals this year is to double the number by reaching 200 new members for 2014. I'll be working hand and hand with our Membership Director Bob Lecorchick to reach this goal. Over the next few months we'll be communicating ways in which you can help. In the meantime we're interested in any and all ideas that might help us increase new membership. If you have any, please direct them to Bob at robert.lecorchick@jhuapl.edu

As our Past President, Bill Ewald noted last month, regardless of our 2013 accomplishments "we do not intend to rest on our laurels". He's right and despite my declaring a vigorous focus on new members, my colleagues on the Board and I will be executing new as well as strengthening existing initiatives that will help to develop and promote our Systems Engineering community even further. For instance, we'll be increasing our outreach across industry by engaging with

In Vol. 5 Issue 1

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.

The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our 2014 Programs Director, Dr. Alex Pavlak, if you would like the opportunity to speak or can recommend someone.

companies and offering them the opportunities to sponsor events, workshops, as well as tutorials. We're going to be honing our webcasts and improving our offerings in terms of both quality and availability. Within the community we'll be engaging K-12 students through our support of Science Fairs and Robotics Teams.

Also we've started the ball rolling on a new chapter initiative called *Women in Systems Engineering* or WISE for short. Women have traditionally been underrepresented in the field of Systems Engineering. WISE will be dedicated to actively encouraging a greater representation of women within our chapter. These are just a few of the things we're doing this year. You'll be hearing more about these and other initiatives every month at our chapter meetings and here in the newsletter. If you want to get involved or just want to share your thoughts please feel free to contact me by email erik.devito@incose.org Here's to the next 20 Years of Chesapeake!!! Regards.

Erik DeVito - INCOSE Chesapeake Chapter President

Return to top

Return to top

15 Jan 2014 (6:00 - 8:00 PM): There is Plenty of Room at the Bottom: Applying Systems Engineering Methodologies to the Micro and Nanoscale Realm

Ms. Ann Garrison Darrin, The Johns Hopkins University, Applied Physics Laboratory

Presentation: On December 29, 1959, physicist Richard Feynman gave a lecture entitled, "There's Plenty of Room at the Bottom", now considered a seminal event in the foundation of Nanotechnology. Today, micro scale and nano scale technology developments have the potential to revolutionize smart and small systems. The application of systems engineering methodologies that integrate standalone, small–scale technologies and interface them with macro technologies to build useful systems is critical to realizing the potential of these technologies. This talk covers the expanding knowledge base on systems engineering principles for micro and nano technology integration starting with a discussion of the drivers for applying a systems approach. Technology development on the micro and nano scale has transitioned from the laboratory curiosity to the realization of products in the health, automotive, aerospace, communication, and numerous other arenas. **Bio:** Ann Garrison Darrin has worked at The Johns Hopkins University Applied Physics Laboratory for more than 15 years. She is the Managing Executive of the Space Department at the Laboratory and a member of the principal staff. She is the author of numerous papers and an author and editor of the book MEMS and Microstructures for Aerospace Applications and on Micro and Nano Structures Systems Engineering. As a technologist, Ann has participated in numerous exciting technology "firsts" in space. Ann is the founder and co-chair of the MEMS Alliance Mid-Atlantic and holds degrees from the Pennsylvania State University and the University of Maryland, University College. Ann sits on the board of the Maryland Space Business Round Table and the Science Council of

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:

Booz | Allen | Hamilton

The Institute for Systems Research
A. JAMES CLARK SCHOOL OF ENGINEERING

clovis
A Division of Eliassen Group

serco
Bringing service to life

Camber
Customer Focused, Employee Driven

CyberCore TECHNOLOGIES

APL
The Johns Hopkins University

the Maryland Science Center. Ms. Darrin is the 2005 recipient of the Women's Leadership Award the Johns Hopkins University Women's Network and has authored or coauthored over 40 papers, numerous book chapters and holds several patents.

>>Check out the Event Flyer Here<<

Go to www.incose.org/registration/ to register

View live at www.incose-cc.org

Return to top

Systems Research at University of Maryland, College Park, 19 Feb 2014 (6:00 - 8:00 PM)

Speakers: Mr. Petnga and Ms Delgoshaei are PhD candidates, Mr. Block a Masters candidate, all doing research at the UMCP Institute for Systems Research

Leonard Petnga

Ontologies and Time-based Reasoning for Model-Based Systems Engineering (MBSE) of Cyber-Physical Systems (CPS) CPS are characterized by a tight integration of software and physical processes, the need to satisfy stringent constraints on performance, safety and a reliance on automation for the management of system functionality. We'll discuss semantics and their central role in the development of MBSE procedures for behavior modeling and design of CPS and, especially a new reasoning framework. Meta domain ontologies and semantics, temporal ones, are found to be critical in understanding and modeling the behavior of such systems.

Parastoo Delgoshaei

Semantic Platforms for Requirements Traceability and System Assessment This presentation describes a new approach to requirements traceability and system assessment through the use of semantic platforms. The platform is an integration of software design patterns supporting traceability mechanisms and associated sets of rules. This platform will enhance systems engineering practice by filling in the gap between system requirements and system models, by allowing for rule checking early in design and by providing support for performance assessment during the system operation.

Peter Block

All Elastomer Tactile Sensors for Robotic Skins While development has improved robot-human interaction, and general sensing capability, the ability to provide a material akin similar to human skin has still proved troublesome because either the skin would be too expensive or require complex wiring, making any sort of scale-up to full coverage of a humanoid robot impractical. A cheap and scalable solution to robotic skins can be realized by combining conductive polymers with simple low-power micro-controllers to make tactile systems.

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.

Return to top.

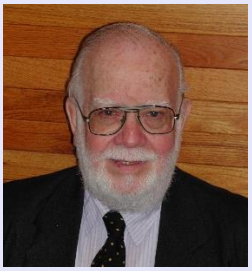
>>Check out the Event Flyer Here<<

Go to www.incose.org/registration/ to register

View live at www.incose-cc.org

Return to top

Thinking Outside the Box in Systems Engineering and Integration, 15 Feb 2014 (9:00 AM - 1:00 PM)



Dr. Howard Eisner, GWU Professor Emeritus

Tutorial: Building large and complex systems continues to be a significant challenge for today's systems engineers and integrators. This tutorial sets forth new ways of thinking that could lead to improvements in how systems engineering and integration are carried out. In particular, nine new perspectives are suggested for "thinking outside the box". Examples are provided for each along with a discussion of how they may be applied and their potential benefits. In addition, thinking in groups as well as historical thinking patterns are examined. A summary provides an overview of the several notions that represent departures from current mainstream approaches.

Bio: Dr. Howard Eisner has retired as professor emeritus of engineering management and distinguished research professor in the Engineering Management and Systems Engineering Department at the George Washington University. He spent 30 years in industry and 24 years in academia. In industry he served as research engineer, manager and executive at ORI, Inc. and the Atlantic Research Corporation. At the George Washington University he introduced and taught courses in systems engineering, architecting, and technical enterprises and issues. Dr. Eisner has written seven books on various aspects of systems engineering and related technical and management areas. He is a Life Fellow of the IEEE and a Fellow of INCOSE and the New York Academy of Sciences. He received BEE, MS and Doctor of Science degrees from CCNY (1957), Columbia University and The George Washington University.

>>Check out the Event Flyer Here<<

Go to www.incose.org/registration/ to register

Return to top

Upcoming Events

- January 15, Dinner/Lecture: There's Plenty of Room at the Bottom*Ms. Ann Garrison Darrin*
- February 15, Tutorial: Thinking Outside the Box in Systems Engineering and Integration *Dr. Howard Eisner, Professor Emeritus, The George Washington University*

- February 19 Dinner/Lecture: Systems Research at University of Maryland, College Park

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, Erik R. DeVito or our Communications Director, Oren Eisner. We value your feedback.

Board of Director Officers, 2014

– President: Mr. Erik DeVito
- Past President: Dr. William Ewald
- President Elect: Mr. George Anderson
- Treasurer: Mr. Kent DeJong
- Secretary: Mr. Mark Kaczmarek

Directors at Large

- Communications: Mr. Oren Eisner
- Programs: Dr. Alex Pavlak
- Membership Committee: Mr. Bob Lecorchick

Please use the Forward email link below so we can invite your friends to join our mailing list. Thanks in advance.