INCOSE Chesapeake Chapter
International Council on Systems Engineering

E-Newsletter

April 2013

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President's Point of View
Systems Engineer as a Leader - A potpourri of thoughts

Dr. William Ewald - INCOSE CC President
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As a long-time member of INCOSE, I have observed numerous situations in which systems engineers not only demonstrated wide ranging technical competence but also a keen sense of the value of effective leadership. By virtue of our discipline, we are more likely to be in a unique leadership position to shape and influence critical decisions related to fielding complex systems and systems of systems. Yet, one rarely sees a reference to the importance of leadership in the professional literature on systems engineering.   However, there are lots of references to failures resulting from poor human system engineering. A classic example is referenced in the INCOSE Systems Engineering Handbook. It cites the Three Mile Island accident that was due to a combination of personnel error, design deficiencies and component failures. I would also add leadership failure. I offer that someone or persons in the leadership hierarchy tolerated or unwittingly supported a working environment that resulted in this and other catastrophes such as Chernobyl and Challenger.

Frequently, organizational priorities can dramatically affect decisions at every step of the system life cycle process. Technical integrity can be trumped by political exigencies and power dynamics, ill-advised cost cutting initiatives, intellectual arrogance, and a lack of technical competence. These and other human systems deficiencies can best be countered by strong informed leadership. But it takes courage to tell truth to power when you are advocating an approach that is technically correct but unpopular with senior decision makers. Many of us have been there at one time in our careers or know of colleagues who have. Some have caved to the pressure. Most have not, despite the potential threat or at times, realized negative consequences.

My bet is that systems engineers find themselves in these situations more than most because of the complex nature of our work. To its credit, the INCOSE Board has recognized the value of leadership development among systems engineers and

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.

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Mark your Calendars with these upcoming events:

has wrestled with how to address the issue over the past several years. It was a particular passion with the late David Wright who was serving as President-elect when he passed away. My perception is that David Long, the new President-elect shares this passion, and intends to move forward in implementing a strategy that focuses on building leadership skills among our membership. David will be visiting with our BOD in June, and I'm sure this will be one topic area for discussion.

A few more words about leadership. I believe that every systems engineer has the potential to be a leader no matter where they sit in an organization or how long their tenure. The ingredients for effective leadership were perhaps captured by anthropologist Angeles Arrian who studied successful leaders around the globe. There are just four tenets:

- Show up - physically, mentally, emotionally, and spiritually
- Tell the truth without blame or judgment
- Pay attention to what has heart and meaning
- Be open to outcome, not attached to it

When you think about it, not a bad leadership prescription for systems engineers - as well as the rest of us. I'd be curious to know your thoughts.

Bill Ewald - INCOSE Chesapeake Chapter President

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Dinner/Lecture 17 April 2013 (6:00 – 8:00 pm)
Radical Leadership: Practices for Building Innovative and Adaptive Environments

Suzette Johnson, Northrup Grumman

Presentation: Improving innovation and increasing productivity are critical for survival in today's fast-paced working environments. To remain competitive engineering teams must deliver a continuous flow of value desired by our customers. The challenge we often face is the ability to modify culture and change behavior to exploit the practices that develop an innovative and adaptive organization focused on meeting mission success. This presentation identifies principles and practices that have been proven successful and build the foundation for innovation and adaptability. **Speaker:** Dr. Suzette Johnson is a systems engineer, project manager and Certified Scrum Coach for Northrop Grumman. She has an interest and passion for promoting and implementing Agile engineering in large-scale software systems environments. For over 7 years Dr. Johnson has actively engaged in leading, coaching, training, and advising programs, customers, and organizations in their transition to or maturity of their Agile practices. Dr. Johnson has over 15 years of experience in software/IT industry and has given over 60 presentations and workshops on Agile Engineering. She received a Doctorate of Management at the University of Maryland with a dissertation focused on leadership and agile practices.
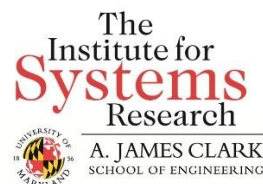
Location: [Applied Physics Laboratory, Johns Hopkins University](#); 11100 Johns Hopkins Rd Laurel MD 20723 (Main Entrance – Lobby 1)

[**>>Download the Meeting Flyer Here<<**](#)

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.... Also with Dr. Johnson, 4 May, Agile Workshop
Agile Workshop

Abstract: DoD, Federal Agencies, and commercial companies facing a high rate of requirements volatility, changing mission needs, and the need for more frequent releases of capabilities are making the Agile transition. As systems engineers and program managers we need to know how the Agile framework and major systems engineering practices can work together. Agile practices are a highly disciplined yet light-weight and flexible approach to the historical scope-driven paradigms. This hands-on workshop takes participants through the Agile framework, transitional practices for change, vision and roadmap planning, requirements and release planning, execution and release progress reporting with a discussion on V-Model components throughout these phases. Emphasis is placed on the necessary collaboration needed between customers, stakeholders, systems engineering, and development teams to enable a well-managed process. These concepts and practices are taught through games and interactive team exercises to help participants better understand and visualize how the process works. A primary objective of this workshop is to provide systems engineers with basic skills for planning, leading, and contributing to Agile projects.

Location: Kossiakoff Classrooms
Time: 8:30 AM – 2:30 PM
Cost: $199 Registration will be available at [Event Registration](#) shortly

Check the web-site in the coming weeks for a flyer about the workshop!

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Don't Miss next month's Dinner/Lecture 15 May
Maryland Greenhouse Gas Reduction Act

Dr. Robert Summers

Presentation: Maryland's Greenhouse Gas Reduction Act of 2009 set a goal of a 25% reduction in GHG emissions by 2020. Building on an initial report by Governor O'Malley's Climate Change Commission published in 2008, the current 2013 plan, will support a green economy, improve air quality, aid in restoring the Chesapeake Bay and promote renewable energy. The Plan's 150-plus programs and initiatives will also aid in expanding the State's economy. The Regional Economic Studies Institute (RESI) analysis of the Plan finds positive economic results for both jobs and

economic output for the period of analysis from 2010 through 2020 for an additional net benefit of $7.1 billion in economic output and roughly 42.7 thousand jobs. RESI uses the discipline of "Environmental Economics" to assign value to external costs that may not be included in free market analysis. **Bio:** Robert M. Summers, Ph.D. was appointed Secretary of the Maryland Department of the Environment by Governor Martin O'Malley on April 28, 2011. Dr. Summers leads the Department's planning, regulatory, management and financing programs to protect public health, ensure a safe and reliable water supply, restore and protect air quality, water quality, wetlands and waterways, clean up contaminated land and ensure proper management of hazardous and solid wastes. Dr. Summers has served the citizens of Maryland for 28 years in various capacities within Maryland's progressive and nationally recognized environmental programs, with emphasis on scientific and technical issues related to water pollution control, drinking water protection and federal, State and local government environmental laws and regulations

>>Check out the Event Flyer Here<<

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Did you miss last month's lecture?
Modern Requirements Verification

Testing is usually the preferred verification method but it is expensive. Real-world case studies, practical advice, and emerging trends of requirements verification to show the relationship between financial constraints and confidence needs applied to a program will be discussed. Requirements testing can be viewed as "confidence per dollars"; that is, for every dollar spent, how much confidence is gained that the system is performing as required? It's an important question, the goal being to maximize the amount of confidence in a system while staying within financial constraints. How verification relates to test event planning will also be discussed. Bill will also present why "tight traceability", in which the sum of the requirements equals the whole system, is a critical concept in large-scale system development where requirements number in the thousands.

Mr. William Fournier

>>Check out the complete write-up on the event<<

>>Download Presentation Here<<

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Upcoming Events

- April 9: President Elect Erik DeVito will present a lecture on INCOSE and the Chesapeake Chapter for the PMI Baltimore Chapter. Click here for details

- April 17: Radical Leadership: Practices for Building Innovative and Adaptive Environments. *Dr. Suzette Johnson, Northrup Grumman Corporation*
- May 15: Maryland Greenhouse Gas Reduction Act *Dr. Robert Summers, Secretary, Maryland Department of the Environment*

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, William Ewald or our Communications Officer, Oren Eisner. We value your feedback.

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