



# INCOSE Chesapeake Chapter

International Council on Systems Engineering

## E-Newsletter

October 2012

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**IMPORTANT NOTICE:** We are in the middle of our annual election cycle. Please consider running for the Board. Why should you run for Our Chesapeake Chapter Board of Directors?? [Read an excellent article from our past-president George Anderson wrote last year, which answers that very question.](#) It's worth a read and worth considering getting more involved with one of the best local INCOSE chapters in the world. If you are a ASEP or CSEP, let me add two more reasons to seriously consider running for office: 1) Unlimited PDUs in renewing your certificate 2) Leadership points toward an ESEP. Benefits you and the Chapter. It's a win/win for everyone. [Read about the process and timeline <HERE>.](#)

~~ Paul B Martin, *ESEP*; INCOSE Chesapeake Communications Officer

**Dinner/Lecture 17 October 2012 (6:00 – 8:00 pm)**

## [Rigorous Framework for Model-based Systems Engineering and Applications](#)



Speaker: John S. Baras,  
Lockheed Martin Chair  
in Systems Engineering

**Presentation:** Advances in Information Technology have enabled the design of complex engineered systems, and systems of systems with large number of heterogeneous components and capable of multiple complex functions. These advances have at the same time increased the capabilities of such systems and have increased their complexity to such an extent that systematic design towards predictable performance is extremely difficult if not unfeasible today. Mr. Baras will describe a rigorous framework he and his team are developing for model-based systems engineering (MBSE), a system level design methodology that addresses these challenges. He will describe the three fundamental challenges for MBSE within this framework: (a) An integrated systems modeling hub built around SysML; (b) A methodology to link this modeling hub with tradeoff analysis tools for design space exploration; (c) Representation and management of requirements. He then will next describe applications of the framework to a few important current technological problems.

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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.



The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our 2012 Programs Director, [Mr. Erik DeVito](#), 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:

Booz | Allen | Hamilton

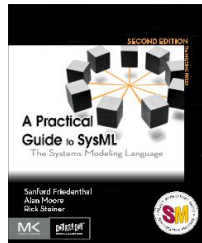
**Location:** [Applied Physics Laboratory, Johns Hopkins University](#); 11100 Johns Hopkins Rd Laurel MD 20723 (Main Entrance – Lobby 1) **Join us for**

**Dinner:** Curried Chicken Served over Basmati Rice Fresh vegetable of the day, rolls and butter, dessert, including a small Fruit Plate, coffee, iced tea.

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

**Reservations:** Purchase a ticket to this event by Credit card via PayPal, go to our [Registration Page](#)

**Presentation ONLY: FREE at 7pm in Parsons Auditorium** But please [register](#) for Lecture Only Option: There could be a big turnout for this event, for planning purposes please RSVP via our registration webpage even if you don't plan on joining us for dinner.



Oct. door prize:

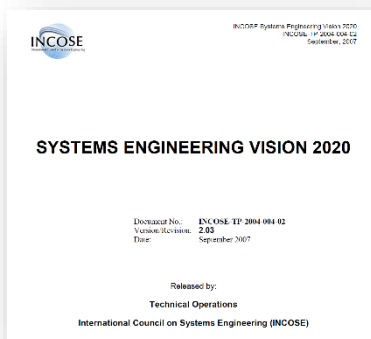
[A Practical Guide to SysML: The Systems Modeling Language](#) by Sanford Friedenthal, Alan Moore, Rick Steiner

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## Presidents POV

# A Vision for Systems Engineering



Do you remember George Orwell's book *1984*? That book, published in 1948, portrayed a future where society is tyrannized by [The Party](#) and its totalitarian ideology. While this was required reading in my high school English class, probably some of you reading this had not been born yet. What about the year 2020? That's eight years away and doesn't seem that far into the future. What will the year 2020 be like? What will systems engineering be like

in 2020? What will be the drivers of the systems engineering profession? INCOSE Technical Operations created a *Systems Engineering Vision 2020* ([members can log-in into Connect and download it >>HERE<<](#)) in an attempt to answer these and other questions. It is projected that a key driver for systems engineering in 2020 will be "the continued evolution of complex, intelligent, global systems that exceed the ability of the humans who design them to comprehend and control all aspects of the systems they are creating" The role of modeling will mature to respond to this need. In fact, one long-time INCOSE member says that "In many respects, the future of systems engineering can be said to be "model-based." Some studies show that the

average teenager today sends between three and four thousand text messages each month. What will 2020 bring in terms of information, data, storage and access? Will everything be in the cloud? The INCOSE vision says that “management of product data throughout the lifecycle will be enhanced by improved support in the logistics and operations and maintenance phases using design data retained in common repositories governed by data exchange standards” What about platform based engineering? Capability on demand, systems embedded with organic adaption capabilities? Trusted systems design, design methods and tools for system assurance that detect malice or enable self-awareness? And the list goes on. What about you? What is your vision for systems engineering in 2020 and beyond? Regards, *Dr. Don York*, CC President, [donald.york@incose.org](mailto:donald.york@incose.org)

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## Announcements

### Get involved: Two new Working Groups to Consider

#### 1) [Future of Energy working group](#)

Dr. Alex Pavlak is setting up a Future of Energy (FoE) Working Group. This Working Group will focus on whole systems, the delivery of energy that is cheap safe sustainable and secure. It will consider on the destination, the long term goal of proposing technically feasible alternatives. Through publications and lectures, the FoE working group will raise public awareness of these factual constraints on social value choices. If you are interested in participating, please email Dr. Pavlak at [alex@pavlak.net](mailto:alex@pavlak.net).

#### 2) [Systems Engineering – Project Management \(SE – PM\) Working Group](#)


Dave Fadeley, ESEP, is forming a Systems Engineering - Project Management (SE - PM) Working Group with the intent of working with PMI Baltimore chapter members in order to enhance overall program success through the improved integration of practices between the two communities. If you are interested in participating, please send Mr. Fadeley an email at [dbfadeley@verizon.net](mailto:dbfadeley@verizon.net).

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## Did You Miss Last Month?

### [Complexity and the Systems Engineer](#)



CENTER FOR  
SYSTEMS ENGINEERING TRAINING



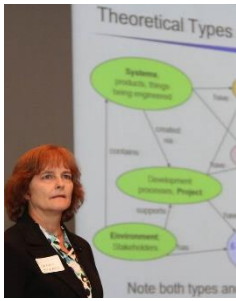
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This Newsletter is to serve our members and is open to all for contributions. Do you have an interesting idea for an article? A review of a new book related to engineering? [Let us know.](#) We'd love to hear about. It may wind up in a future issue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

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*Dr. Sheard speaks to INCOSE Chesapeake Chapter on Complexity and its effect of Systems Engineering*

Dr. Sheard presented, once again, a fascinating tour of the complex world we live in. From her research she showed the genesis, along with a timeline, of the engineering realm's view of complexity. Now, this is not the V-model that most Systems Engineers are used to, but the areas that confound designers when involved with the development of new system. She pointed out that the definition alone is elusive, however, with her analysis, one walks away with a more concise view of what are the attributes a complex system.

[>>Check out the complete write-up on the event as well as Pictures and Dr. Sheard's presentation..>>](#)

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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, Don York](#) or our [Communications Officer, Paul Martin](#). We value your feedback.

#### **Board of Director Officers, 2012**

- President: Dr. Don York
- Past President: Dr. John Lewis
- President Elect: Dr. William Ewald
- Treasurer: Mr. David Alldredge
- Secretary: Mr. Mark Kaczmarek

#### **Directors at Large**

- Communications: Mr. Paul Martin
- Programs: Mr. Erik DeVito
- Membership Committee: Ms. Janet Deery

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Thanks in advance.**

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