



INCOSE Chesapeake Chapter

International Council on Systems Engineering

May 2014

E-Newsletter

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President's Point of View

Theory vs. Application



Mr. Erik DeVito - INCOSE
CC President
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I recently read through some of the writings of Ludwig von Bertalanffy (please don't ask me how to pronounce his name) as they pertain to his opus work "General Systems Theory"(GST). What became interesting to me is that his "theory" if you call it that, doesn't really seem like a theory at all. It's a theory of everything and nothing, all at the same time. What I got from his writing was that he wasn't necessary looking to find a singular model or equation like Einstein did with his theory of relativity but instead he wanted to find "universal principles" and similar behaviors that could be applied to a wide range of systems or systems of

systems.

Von Bertalanffy started his career as a biologist but was also interested in philosophy, psychology and sociology, all of which, contributed not only to his creating the GST but it being widely accepted and adopted in those fields of study. Before writing GST in 1968 he was part of the group of scientists at Stanford's Center for Advanced Study in the Behavioral Sciences that in 1954 founded what is today known as the International Society for the Systems Sciences (ISSS). ISSS had the four following aims:

- to investigate the isomorphy of concepts, laws, and models in various fields, and to help in useful transfers from one field to another;
- to encourage the development of adequate theoretical models in areas which lack them;
- to eliminate the duplication of theoretical efforts in different fields; and
- to promote the unity of science through improving the communication among specialists.

Systems Science is extremely interesting to me and frankly I'm going to keep stimulating myself in this area. However, as I explored GST and ISSS I noted that the major difference between Systems Science and Systems Engineering is one of

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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 2014 Programs Director, [Dr. Alex Pavlak](#), if you would like the opportunity to speak or can recommend someone.

Theory vs. Application (Perhaps that's stating the obvious). I'm not knocking theory by any stretch of the imagination nor ISSS as an organization. In fact you should check their website www.issss.org for more information. In fact they'll be holding their 2014 annual meeting in our own backyard between July 27th and August 1st at George Washington University, Washington DC.

But as an INCOSE Chapter, Chesapeake is less about theory and more about application. We're less about researching or observing systems and their behaviors and more about rolling up our sleeves and creating them. Our lectures, workshops, and tutorials are mainly focused on the application of tools, techniques, frameworks, and methodologies that facilitate the engineering of Systems. This month is no different.

As noted on our homepage, May is Agile Systems Engineering month for us. We have two extremely great events looking at applying Agile methodologies to Systems Engineering. Suzette Johnson from Northrop Grumman will be holding an Agile Systems Engineering Tutorial on the 10th between 8:30AM and 12:30PM. Suzette's workshops and tutorials are always a great draw and she is extremely talented and conveying complicated concepts and techniques in an entertaining manner. On the 21st for our 3rd Wednesday dinner lecture at APL, Gundars Osvalds will present an Agile SE Framework that scales agile from individual agile software teams with a few members to large projects that require a planned architecture and coordinated efforts. Gundars is a thorough and thoughtful lecturer and he always delivers. You can register to attend both of these events by visiting our registration page [here](#)

Also if you haven't heard, the registration page for the INCOSE 2014 International Symposium has opened. The IS will be held in Las Vegas between June 30th and July 3rd. If you think you'll be going please be sure to sign up before May 18th because after that full registration rate will go up by \$200. To learn more you can visit the INCOSE IS 2014 website [here](#)

I'm always interested to hear from our membership so please feel free to contact me by email erik.devito@incose.org

Regards.

Erik DeVito - INCOSE Chesapeake Chapter President

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[10 May, 2014 \(8:30 AM - 12:30 PM\): Exploring the Role of Systems Engineering in an Agile Environment](#)

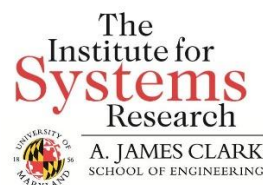


Dr. Suzette Johnson

Presentation: Systems engineering plays a critical role in product and systems development. This role becomes increasingly important as we strive to effectively respond to change and manage uncertainty during the development of software-intensive systems. Through interactive exercises participants explore systems engineering as an integrated component within an Agile framework and the importance of these

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:

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practices in supporting Agile-at-Scale. Tutorial topics include:

- An overview of Agile principles and basic Scrum Framework and systems engineering as an integrated component.
- Systems engineering practices within the levels of planning including requirements analysis and design, the product roadmap, and release planning.
- Systems engineering and the agile team with a discussion on team development and components of a high performing team
- A comparison of validation and verification practices between traditional and agile practices.

Participants are requested to read the Scrum Guide at www.scrum.org. This guide defines some of the concepts used during this workshop.

Bio: Dr. Suzette Johnson works for Northrop Grumman Information Systems. As a systems engineer and Certified Scrum Coach she has a passion for promoting Agile engineering in large-scale systems environments. Her experience with Agile-related practices began over 15 years ago for a commercial company where rapid delivery was the norm. She has spent over 10 years streamlining systems engineering and Agile practices on government programs. Dr. Johnson works with programs and organizations as they seek to transition to or mature their Agile practices. She leads Northrop Grumman's Agile Center of Excellence and speaks at multiple conference engagements each year. She received a Doctorate of Management at the University of Maryland with a dissertation focused on investigating the impact of leadership styles on software project outcomes in traditional and agile environments.

We would like to acknowledge our sponsors for this event



[>>Check out the Event Flyer Here<<](#)

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

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[21 May, 2014 \(6:00 - 8:00 PM\): The Role of Systems Engineering in Large Agile Software Development Teams](#)

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. It may wind up in a future issue of our Newsletter.

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Mr. Gundars Osvalds, CSEP, Principal Systems Engineer, Praxis Engineering

Presentation: Traditional systems engineering coordination is challenged when software development teams apply agile software methodologies such as Scrum, test driven development and continuous integration. This talk presents an Agile SE Framework that scales agile from individual agile software teams with a few members to large projects that require a planned architecture and coordinated efforts and is based on the paper *Systems Engineering for Software Intensive Projects Using Agile Methods*. The Framework describes the role of the Systems Engineer in aligning agile software development with traditional systems engineering methodology. The Framework involves an iterative approach to development aspects that are relevant to systems engineering practices including frequent releasable products that result in ability to absorb changes in mission requirements.

Bio: Gundars Osvalds, CSEP and Certified Scrum Master is a Principal Systems Engineer at Praxis providing systems engineering support to DoD programs ranging from Research and Development to large scale reengineering and transformation programs. As a member of the INCOSE Agile Systems Engineering Working Group he is the co-author of the paper, *Systems Engineering for Software Intensive Projects Using Agile Methods*. This paper was accepted by SEDC, IS 2014, and the INSIGHT magazine.

[>>Check out the Event Flyer Here<<](#)

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Leading Technical Teams 18th



Dr. Michael Ryschkewitsch, JHUAPL

Presentation: When we talk about systems engineering, we mostly talk about the science of systems engineering as captured in books, policies and courses. We rarely talk about the art of systems engineering and even less often about what it takes to lead a team through a complicated systems engineering problem and delivering a product that meets the customers needs and balances those needs with all of the constraints. This talk will focus on the “other” attributes and work that has been done in the NASA Office of the Chief Engineer to establish an objective basis for developing the “soft” skills.

Bio: Dr. Michael Ryschkewitsch, formerly chief engineer at NASA, currently leads the Space Sector at the Johns Hopkins Applied Physics Laboratory in Laurel, Md. As Chief Engineer Ryschkewitsch, was responsible for the technical readiness of all NASA programs. He previously served as the Deputy Director for NASA’s Goddard Space Flight Center and Director of Goddard’s Applied Engineering and Technology Directorate. Ryschkewitsch began his career at NASA working on the Cosmic Background Explorer and subsequently led and contributed to many other science missions, including the Wilkinson Microwave Anisotropy Probe

(WMAP), the Swift Gamma-Ray Burst Mission, the Terra satellite, and the Corrective Optics Space Telescope Axial Replacement (COSTAR) for the first Hubble Space Telescope servicing mission.

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

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Upcoming Events and Announcements

- **May 10th** Exploring the Role of Systems Engineering in an Agile Environment, *Dr. Suzette Johnson*
- **May 21st** The Role of Systems Engineering in Large Agile Software Development Teams *Gundars Osvalds, CSEP, Principal Systems Engineer, Praxis Engineering*
- **June 18th** Leading Technical Teams *Dr. Michael Ryschkewitsch, JHUAPL*
- **Interested in Jobs Networking? Look [here](#)**



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.

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