# INCOSE Chesapeake Chapter
## International Council on Systems Engineering
# E-Newsletter

**March 2014**
• Back Issues
• Forward to Friend

## President's Point of View
## Opportunity Knocks

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

Be prepared for a famous quote and an old cliché. That's right it's that time again, time for the INCOSE Chesapeake Chapter Newsletter. Now for the famous quote I promised. Thomas Edison is quoted with saying: "We often miss opportunity because it's dressed in overalls and looks like work". So ok, I've buried the lead…Being a member of the Chesapeake Chapter offers a multitude of opportunities for our members. Sure you have our monthly dinner lectures held every 3rd Wednesday between January and November at Johns Hopkins Applied Physics Laboratory which provide the opportunity for networking, fellowship and to hear great lectures. There are also our Saturday workshops and tutorials which offer the opportunity to increase your knowledge of important and emerging Systems Engineering topics such as Agile and Model-Based Systems Engineering. I also want to tell you about other opportunities…the ones that are "dressed in overalls".

- We offer outreach opportunities where members of the Chesapeake Chapter can contribute to local science fairs working as judges. This year we're sponsoring both judges and project awards for the Anne Arundel County Regional Science and Engineering Fair on March 8th at North County High School in Glen Burnie and the Baltimore Science Fair on March 22nd at Towson University. Opportunities like these are both a great way to represent the chapter and get a glimpse at the great things our future engineers are working on.
- Of all the opportunities that being a member of the Chesapeake Chapter offers, the most fulfilling, enlightening, and enriching activity our members can take advantage of is working with the Board of Directors as a committee volunteer. Being a committee volunteer allows one to gain new skills or hone those they already possess.All of our committees; Membership, Communications, and Programs are in continuous need of good volunteers who are willing to spend some of their own time contributing to our success. Attracting new members allows one the

### In Vol. 5 Issue 3
- President's POV
- March Dinner/Lecture
- March MBSE Symposium
- April Dinner/Lecture
- Upcoming Events

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

opportunity to help the chapter remain vibrant. Membership activities can be analytical and often require great analysis. This helps one exercise their skills of deduction. Why did we lose members last month? Where are new members sprouting up? What are the demographic of our members? What other ways can we attract new members? These are the types of questions that our Membership Committee is constantly addressing. If you're more technical in nature and are interested in new technologies then the Communications committee offers the opportunity to help enhance our internet presence via our website, social media and streaming video webcasts. Additionally, if you think you might be able to help us spread the word where you work the Communications committee definitely offers that opportunity as well. We post posters and flyers within the lobbies of various companies and organizations throughout the area but we need people to maintain those every month. Our Programs Committee also offers a very valuable opportunity to learn great organization skills by helping to arrange and host our events. You'll learn how to recruit speakers, submit proposals, craft MOAs, and manage event execution. Often when an event goes off there are always nits and minor emergencies but after doing it enough you learn how to remain cool, calm, and collected. An additional, yet infinitely valuable opportunity that one has by working as a committee volunteer is that it gets them onto the path of leadership. After working long enough as a committee member one can feel confident in taking it to the next level. During our yearly elections you'll more often than not see that our candidates did not just appear magically out of thin air but had already been serving for a few years as a committee volunteer.
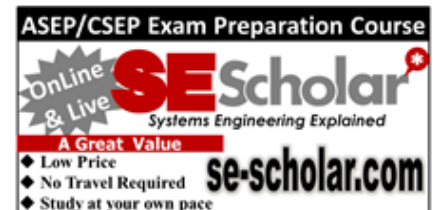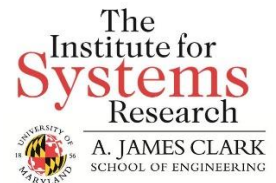
It's often said that when opportunity knocks you have to answer it. Okay I got the cliché out of the way. But on a serious note we need volunteers and that's just a fact. You all have the opportunity to help us remain the best chapter in the world. If this has compelled you to take advantage of these great opportunities or you just want to share your thoughts with me please feel free to contact me by email erik.devito@incose.org Also be sure to visit www.incose-cc.org and check out all of the great events we have planned over the next few months. Notably the Model-Based Systems Engineering (MBSE) Symposium we are co-hosting with Johns Hopkins Applied Physics Laboratory on March 29th. The keynote will be Sam Seymour, Director of Systems Engineering, JHU/APL and 2013 winner of the INCOSE Chesapeake Chapter Carol Hutchinson Systems Engineer of the Year Award. Regards. *Erik DeVito - INCOSE Chesapeake Chapter President*

**Return to top**

## 19 March, 2014 (6:00 - 8:00 PM): Lessons from Revolutionary Systems

**Presentation:** The most famous systems, the ones with revolutionary effect, were developed against a background of fairly similar systems. Moreover, the reasons for their great success were often not fully anticipated by their designers. In this talk we will examine several particularly famous systems whose architectural histories are well enough known to extract major lessons. The two major systems to be considered will be the DC-3 and the Global Positioning System, although we'll also relate the lessons to several other famous successes. The most important lessons are:

- There are threshold levels of capability, rarely known in advance, that produce non-linear effect.
- Finding the threshold is not exactly accidental, but neither is it a certain choice.
- Revolution requires a co-evolution of user CONOPS and system technology.

**Bio:** Dr. Mark W. Maier is an author and practitioner of systems architecting, the art and science of creating complex systems. He is co-author, with Dr. Eberhardt Rechtin, of The Art of Systems Architecting, Third Edition, CRC Press, the mostly widely used textbook on systems architecting. He has also authored more than 50 papers on systems engineering, architecting, and sensor analysis. Since 1998 he has been employed by The Aerospace Corporation, a non-profit corporation that operates a Federally Funded Research and Development Center with oversight responsibility for the U.S. National Security Space Program, where he holds the position of Distinguished Engineer.

*Dr. Mark W. Maier, The Aerospace Corporation, Distinguished Engineer*

**>>Check out the Event Flyer Here<<**

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

**Return to top**

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.**

# 29 March, 2014 (9:00 AM - 3:30 PM): 2014 Model-Based Systems Engineering (MBSE) Symposium, *Co-hosted by the Johns Hopkins University Applied Physics Laboratory and the INCOSE Chesapeake Chapter*

**Symposium Theme**: "Model-Based Systems Engineering: Challenges and Opportunities"

**Abstract**: While much progress has been made in the standardization and adoption of MBSE, its practice has yet to become ubiquitous. Many challenges to widespread practice of MBSE still exist, and Systems Engineering is at a tipping point between traditional document-based techniques and new model-based techniques. Nevertheless, new methodologies, ever-improving tools, maturing standards, lessons learned, and success stories continue to emerge to support and

drive the practice of MBSE. This symposium will provide attendees with a look at the current state-of-practice for MBSE through the eyes of four experts who are "on the front lines" in the fight to make MBSE the de-facto way we do business.

**Program:**
- **Welcome Address** Sam Seymour, Director of Systems Engineering, JHU/APL
- **Keynote Address** Dr. Richard Soley, CEO and Chairman of the Object Management Group
- **Matthew Hause** Chief Architect, Atego; Co-Chair, UPDM Working Group **Topic:** Modeling Systems-of-Systems and Management of Design Variations
- **Tamara Valinoto** System Architect, Northrop Grumman; Chairperson, Northrop Grumman Corporate Model-Driven Engineering CoP **Topic:** Application of MBSE Theory in a World of Practical Deadlines and Deliverables: Lessons Learned
- **Tom Capelle** President, Sodius Corporation **Topic:** Interoperability between Models using Emerging Tools, Techniques, and Standards
- **Manas Bajaj** Chief Systems Officer, InterCAX LLC **Topic:** Synergy between Model-Based Systems Engineering and Product Lifecycle Management
- **Roundtable Discussion: Topic:** "What do you see as the most critical challenge to the ubiquitous practice of MBSE?"

Continental Breakfast and Catered Lunch will be provided

**Cost:** $50 Registration and Payment via the INCOSE Chesapeake Chapter website (www.incose-cc.org/registration)

**Date and Time:** March 29th, 9:00 AM – 3:30 PM

**Location:** Building 200 Main Auditorium, JHU/APL Main Campus, Johns Hopkins Road, Laurel, Maryland

**For More Information:** Please contact Sean McGervey (Sean.McGervey@jhuapl.edu) or Terri Wolfrom (Terri.Wolfrom@jhuapl.edu).

**>>Check out the Event Flyer Here<<**

**Return to top**

# 16 April, 2014 (6:00 - 8:00 PM): The Architectural Roots of Failures of Large Systems

**Presentation:** This presentation addresses the three most common causes of large system failures. Those causes are that the systems architecture (1) is not designed to support scalability, (2) does not support incremental performance testing, and (3) increases complexity in system applications by failing to isolate them from the specific characteristics of external systems. We will discuss:

*Mr. Richard Taylor, Sr. System Architect, Evolver, INC*

- Why do so many large systems fail to perform as required?
- What are the specific common causes that make large systems more prone to performance failure?
- How can these roots of failure be avoided or overcome?

**Bio:** Mr. Taylor is an experienced systems architect who has designed many large, complex systems in highly diverse domains, including banking systems, the GPS ground system, the 2000 and 2010 Decennial Censuses, and Classified Intelligence Systems. He has made numerous presentations on systems architecting at international conferences and has published several articles on systems architecting in trade journals. Mr. Taylor presently works for Evolver Inc. in Reston, Virginia and is also an Adjunct Professor for the UMBC College of Engineering and Information Technology, where he teaches Systems Architecture and Design.

**>>Check out the Event Flyer Here<<**

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

**Return to top**

---

# Volunteer Opportunity:

The annual Anne Arundel County Science & Engineering fair is scheduled for the morning of Saturday March 8th at North County HS. INCOSE Chesapeake Chapter has, in the past, provided judging at this event. We would like again offer our expertise by becoming a Judge at this event. Last year we gave out three Certificates with small monetary gifts. It is very rewarding to see the breadth of projects covering many science, technology, engineering, and math areas of interest, and to be able motivate students to continue studying in these fields. If anyone is interested in supporting this event, please contact Don Gantzer, 410-956-1562, or dongantzer@comcast.net If anyone knows of similar technical activities that we might be able to support in our efforts to enhance knowledge and rewards of those pursuing future SE type careers, please also contact dongantzer@comcast.net or any of our officers

---

# Upcoming Events

- **March 8** Anne Arundel County Science & Engineering Fair at the North County HS.

- **March 19** Dinner/Lecture: Lessons from Revolutionary Systems, *Dr. Mark W. Maier, Distinguished Engineer, The Aerospace Corporation*
- **March 29** Model-Based Systems Engineering (MBSE) Symposium, *Co-hosted by the Johns Hopkins University Applied Physics Laboratory and the INCOSE Chesapeake Chapter*
- **April 16** The Architectural Roots of Failures of Large Systems *Mr. Richard Taylor, Sr. System Architect, Evolver, Inc*
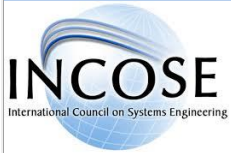
Keep up with the latest news and events. Find out about our new Board of Directors. Explore our extensive library of previous lectures from our Monthly Dinner Meetings. Learn of the Benefits of Joining INCOSE. Check out Systems Engineering education in the local area. All this and more awaits you at 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.**

INCOSE Chesapeake Chapter © 2014